CATALOG OF THESES AND DISSERTATIONS

POSTGRADUATE STUDIES IN COMPREHENSIVE HEALTHCARE

1993 - 2024

IMIP

Ensino, Pesquisa e Inovação

CATALOG OF THESES AND DISSERTATIONS IN COMPREHENSIVE HEALTHCARE

POSTGRADUATE STUDIES IN COMPREHENSIVE HEALTHCARE

1993 - 2024

ORGANIZED BY:

João Guilherme Bezerra Alves

José Roberto da Silva Junior

Lívia Barboza de Andrade

INTRODUCTION

Dear Readers,

It is with great pride and satisfaction that we present the CATALOG OF THESES AND DISSERTATIONS – Postgraduate Studies in Comprehensive Healthcare: 1993-2024, a special edition celebrating over three decades of the Stricto Sensu Graduate Program in Comprehensive Healthcare at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). This publication not only highlights the program's academic achievements over the years but also reaffirms the institution's ongoing commitment to excellence in training professionals and advancing scientific knowledge in the field of healthcare.

The program began in 1993 with the creation of the Master's Degree in Maternal and Child Health, a pioneering initiative that transformed the national academic landscape. Inspired by the high standards of the Institute of Child Health in London, this was the first stricto sensu graduate program in Brazil specifically focused on this area. Since then, IMIP has played a crucial role in qualifying professionals, developing innovative research, and applying knowledge in public health.

Initially focused on child health, the program gradually expanded its scope, becoming a reference in Comprehensive Healthcare. Over the years, it has contributed to groundbreaking research, including studies on infant mortality patterns in the Americas, maternal and child nutrition, women's health, and more recently, oncology and cardiology. Furthermore, the program has actively participated in global health challenges, such as the response to the Zika virus outbreak, helping to improve diagnostic methods and therapeutic protocols, as well as during the COVID-19 pandemic, with research of national and international impact.

Today, with over 30 years of existence, IMIP's graduate program is recognized as a center of academic and scientific excellence in Brazil and abroad. The institution remains committed to training highly qualified professionals and developing solutions for emerging health challenges, including new diseases, technological advancements, and the pursuit of more efficient and equitable healthcare systems.

This catalog brings together a valuable collection of the theses and dissertations defended over the past three decades, reflecting the tireless efforts of students, faculty, and alumni of the program. Additionally, it highlights the fundamental role of interinstitutional partnerships, which strengthen collaboration between educational, research, and innovation institutions, fostering an increasingly significant academic impact.

Recognizing the importance of making its knowledge accessible to a global audience, IMIP invests in translation as a key enabler in the dissemination of scientific information. The publication of this catalog in English reflects this commitment, broadening the visibility of the institution's academic output and fostering international connections. This initiative reinforces IMIP's mission to democratize knowledge and contribute to global scientific exchange, ensuring that its research reaches an ever-growing audience.

Finally, this catalog is a tribute to all those who have contributed to this successful journey and a celebration of IMIP's ongoing commitment to innovation and excellence in healthcare education and research. We extend our gratitude to everyone who has been part of this story and hope that this publication will inspire future generations of researchers and professionals dedicated to promoting comprehensive healthcare.

José Roberto da Silva Junior
Coordinator of the Postgraduate Programs in Comprehensive Healthcare

Lívia Barboza de Andrade
Director of Education at IMIP

SUMMARY

MASTER'S DEGREE IN MATERNAL AND CHILDHEALTH

ETIOLOGY AND ANTIMICROBIAL SENSITIVITY PROFILE OF INFECTIONS IN CHILDREN HOSPITALIZED AT THE GENERAL PEDIATRICS HOSPITAL OF IMIP

MARIA JÚLIA GONÇALVES DE MELLO

Advisor: Prof. Vera Magalhães
Defense date: 1995 apr. 24

Objectives: To determine the etiology and antimicrobial sensitivity profile in infections among children hospitalized at the General Pediatrics Hospital (HGP) of the Instituto Materno Infantil Prof. Fernando Figueira - IMIP. **Methods**: In a descriptive study, 3,573 bacteriological test results were analyzed from newborns and children under 16 years old who were hospitalized between January 1993 and December 1994 at IMIP, Recife, Pernambuco. The 3,573 bacteriological test results were analyzed. Laboratory techniques were standardized by the World Health Organization, and the antibiogram was performed using the Kirby-Bauer disk diffusion method. **Results**: Staphylococcus aureus, resistant to penicillin but sensitive to oxacillin and cefalothin, was the bacterium most frequently associated with community infections. Klebsiella sp and Escherichia coli, recovered from urine cultures, were resistant to cotrimoxazole, a drug widely used in the treatment of urinary infections. However, these bacterial species were sensitive to nalidixic acid and nitrofurantoin. Pneumococci isolated from blood cultures and pleural fluid were sensitive to penicillin (7% resistance), ampicillin, and chloramphenicol. Reflecting a global trend, Shigella flexneri was resistant to cotrimoxazole, ampicillin, and chloramphenicol. Regarding hospital-acquired infections, the most frequently isolated microorganisms were Gram-negative bacteria, particularly Klebsiella sp and Pseudomonas aeruginosa. Klebsiella sp predominated in 36% of positive blood cultures. The sensitivity profiles of bacteria such as Klebsiella sp, Enterococcus faecalis, and non-fermenting Gram-negative bacilli were concerned, as they demonstrated multi-resistance to aminoglycosides and third-generation cephalosporins, such as cefotaxime, cefoperazone, and ceftazidime. Hospital-acquired Staphylococcus epidermidis and S. aureus showed resistance to oxacillin, significantly differing from community-acquired staphylococci (p<0.01). Delaying the development of bacterial multi-resistance is a complex and globally significant challenge. In hospitals, a simple yet proven prophylactic measure is handwashing before and between patient examinations. However, few healthcare professionals adhere to this practice. **Conclusions**: Basing treatment on epidemiological studies and advocating for the development of clinical microbiology laboratories allows for etiological clarification and the selection of appropriate antimicrobials, avoiding the use of broad-spectrum drugs. These actions and attitudes are within reach for all, including low-income countries.

Keywords: bacterial infections; hospitalized child; drug resistance.

RISK FACTORS FOR HOSPITALIZATION DUE TO ABORTION – CAM – IMIP, RECIFE

ARIANI IMPIERI DE SOUZA

Advisor: Prof. José Guilherme Cecatti
Defense date: 1995 dec. 18

Objectives: To identify risk factors associated with hospitalization due to abortion among women hospitalized at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, in Recife, Pernambuco. **Methods**: A case-control study in which 230 women who were hospitalized for abortion between August 1994 and June 1995 at the Women's Care Center (CAM) of IMIP were selected as cases. Four controls were randomly selected for each case, totaling 920 women who were hospitalized for childbirth at the same maternity hospital. Data for both cases and controls were collected through interviews and a standardized questionnaire. For each potential risk factor, the estimated relative risk (OR) and its respective 95% CI were calculated. Multiple regression analysis was also used to control confounding factors. **Results**: Among the potential risk factors studied, those significantly associated with hospitalization due to abortion were: older age of the partner, higher education level of the woman, absence of a partner, negative/indifferent attitude of the partner, woman's paid employment, use of contraceptive methods, desire for the pregnancy, higher number of pregnancies, living children, and previous abortions. **Conclusions**: Multiple regression analysis revealed that the most important risk factors associated with hospitalization due to abortion in this population were a negative/indifferent attitude of the partner, woman's paid employment, education level beyond the fourth grade of primary school, absence of a partner, and having at least one living child.

Keywords: abortion; risk factors; pregnant women; hospitalization

EVALUATION OF FETAL LUNG MATURITY IN PREGNANCY-SPECIFIC HYPERTENSIVE DISEASE – PSHD

MELÂNIA MARIA RAMOS DE AMORIM

Advisor: Prof. Aníbal Faúndes.
Defense date: 1995 dec. 18

Objectives: To determine if there is a significant difference in the incidence of hyaline membrane disease (HMD) between fetuses of pregnant women with pregnancy-specific hypertensive disease (PSHD) versus normotensive women, controlling for potential confounding factors such as labor, ruptured membranes, growth retardation, and perinatal hypoxia; to calculate the relative risk of HMD according to the severity of PSHD and different gestational age strata; and to determine if there is a difference in the results of biochemical prenatal tests for fetal lung maturity between pregnant women with and without PSHD, including an evaluation of the sensitivity and specificity of the Clements test. **Methods**: A retrospective and prospective cohort design was used, analyzing 271 cases with a confirmed diagnosis of PSHD and 271 normotensive controls, all with preterm deliveries between 28-34 weeks. Only patients with well-documented gestational age were included in the study, while cases with amniorrhexis, associated maternal diseases, multiple pregnancies, and prior corticosteroid use were excluded. Amniocentesis results for the Clements prenatal test for fetal lung maturity were also analyzed. Statistical analysis included mean difference tests, chi-square tests for association, determination of relative risk and 95% confidence intervals, stratified Mantel-Haenszel analysis, and multiple logistic regression. **Results**: There was no significant difference in the incidence of HMD between the two groups, regardless of the severity of PSHD: the relative risk of HMD for fetuses in the PSHD group was 0.96 (95% CI: 0.78-1.17). There was no significant modification of the calculated relative risk across different gestational age subgroups (<30, 30-32, >32 weeks). However, positive results from the Clements test were more frequent in the PSHD group (p=0.03). In the multiple regression analysis, the variables most strongly associated with the presence of HMD were gestational age, fetal distress, and low birth weight for gestational age. The diagnosis of PSHD did not show a significant correlation with the dependent variable. **Conclusions**: Preterm infants of mothers with PSHD have the same likelihood of developing HMD as preterm infants of normotensive mothers, although they show a higher percentage of positive Clement's test results. Lung maturation is likely not accelerated in PSHD.

Keywords: hyaline membrane disease; pregnant women.

DEATHS DUE TO DIARRHEA IN HOSPITALIZED CHILDREN AT THE INSTITUTE OF MATERNAL AND CHILD HEALTH OF PERNAMBUCO (HGP/IMIP): CLINICAL AND EPIDEMIOLOGICAL STUDY

ANA RODRIGUES FALBO

Advisor: Prof. Giselia Alves Pontes da Silva
Defense date: 1995 dec. 28

Objectives: To understand the profile of children with diarrhea who were hospitalized at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, analyzing various socioeconomic and demographic, clinical, laboratory, and therapeutic management before and during hospitalization, and length of hospital stay. **Methods**: A descriptive cross-sectional study was conducted involving 350 children at IMIP in Recife, Pernambuco. These children, who died during hospitalization, were admitted with diarrhea from January 1984 to December 1993. A comparison was also made between children in the acute phase and those in the persistent phase of the diarrheal episode through two-dimensional analyses. **Results**: Most of the children were six months old or younger (80.4%). Of the total, 56.9% resided in Recife or other cities in the metropolitan region. Regarding basic sanitation, only 36.3% had an in-house water source, and 21.0% had sewage systems. Only four children (1.1%) were breastfed for more than six months, and 48.5% were weaned by the second month of life. Most of the children were severely malnourished (74.0%), falling below the 3rd percentile (National Center for Health Statistics - NCHS). Diarrhea was watery in 75.7% of cases, and 30.3% of the children died in the persistent phase of the disease. Hyponatremia and hypokalemia were observed in 23.7% and 15.4% of the children, respectively. Metabolic acidosis was present in 33.7% and anemia in 49.7% of cases. In the therapeutic management before hospitalization, we found a low use of oral rehydration salts (16.9%) and high use of symptomatic drugs (41.2%). Regarding management during hospitalization, records showed that 78.9% of the children had their diet suspended, with 50.3% of them experiencing this for more than 12 hours. Additionally, intravenous therapy was used in 98.3% and antibiotics in 93.7% of the children. The length of hospital stay varied from one to 53 days, with 53.7% of deaths occurring within the first 48 hours after admission. Most of the children (80.4%) aged six months or younger were in an acute phase of diarrhea. Among children with previous hospitalizations, 61.2% were in the persistent phase, with dysentery accounting for 30.1% of cases in that phase of the disease. **Conclusions**: Most children were six months old or younger, lived in poor housing conditions, were weaned early, were severely malnourished, and experienced inadequacies in several important aspects of therapeutic management before and during hospitalization.

Keywords: childhood diarrhea; death; hospitalized child.

PROGNOSTIC FACTORS FOR BACTERIAL MENINGITIS IN CHILDREN IN THE STATE OF PERNAMBUCO

RUBEN ROLANDO SHINDLER MAGGI

Advisor: Prof. Giorgio Tamburlini
Date defense: 1996 feb. 06

Objectives: To identify the most severe cases of bacterial meningitis (BM) early and investigate prognostic factors at the time of hospitalization through clinical and laboratory data. **Methods**: A cross-sectional study was conducted involving a group of 226 patients aged between 1 month and 14 years, admitted to the Instituto Materno Infantil Prof. Fernando Figueira - IMIP in Recife, Pernambuco, from July 1, 1994, to August 31, 1995. These patients were followed until hospital discharge. Patients who were discharged without apparent sequelae were classified as having a good or favorable prognosis, while those who died or were discharged with sequelae were classified as having a poor or unfavorable prognosis. **Results**: Hospitalizations did not show seasonal variation, and a significant percentage of the children (48%) were under one year of age. A high number of mothers were illiterate (34%), and 57% of the families lived in municipalities far from the reference hospital. The main characteristics at the time of admission included a short duration of illness (<24 hours) in 41% of cases, a high percentage of children below the 10th percentile for weight/age (29%), and 82% of patients without significant altered consciousness. Among the laboratory characteristics, absent glycorrhachia was observed in 38% of patients. The case fatality rate was 9.7%, and 80.1% of patients were discharged without apparent sequelae. Significant associations with poor prognosis included: stupor or coma (OR=13.83), age under twelve months (OR=8.48), seizures (OR=6.98), and glycorrhachia <10 mg% (OR=3.31). **Conclusions**: There was a concentration of patients in younger age groups, with those under one year of age at greater risk for unfavorable outcomes. Patients presenting stupor and coma at admission had the highest risks of sequelae and death. Malnutrition was not associated with poor prognosis in the group studied. In the evaluation, extreme hypoglycorrhachia and very high proteinorrhachia were associated with poor prognosis. Preventive strategies, such as health education and specific immunization, should be intensified and improved, as they could have a significant positive impact on the incidence of this disease in childhood.

Keywords: bacterial meningitis; prognosis; hospitalization.

STUDIES ON SCHOOL CHILDREN AGED 6 TO 8 YEARS IN THE CITY OF CAJAZEIRAS - PB

CONSTANTINO GIOVANE BRAGA CARTAXO

Advisor: Prof. Emanuel S. C. Sarinho.
Defense date: 1996 feb. 09

Objectives: To evaluate tuberculin hypersensitivity post-BCG vaccination in school children from the public school system in a city in the Northeast. **Methods**: A study was conducted involving 501 school children aged six to eight years from municipal public schools in Cajazeiras, Paraíba, in 1995, using a retrospective cohort design. **Results**: No statistical association was found between tuberculin hypersensitivity and BCG vaccination (p=0.2603), indicating that tuberculin hypersensitivity in children vaccinated with BCG was associated with positive epidemiology for tuberculosis. **Conclusions**: These findings suggest the possibility of interpreting the tuberculin hypersensitivity test in children vaccinated with BCG more than six years ago as indicative of infection with wild Mycobacterium tuberculosis.

Keywords: delayed hypersensitivity; school health; BCG vaccine.

PREVALENCE OF ASTHMA IN SCHOOL CHILDREN IN RECIFE

MURILO CARLOS AMORIM DE BRITTO

Advisor: Prof. Otelo Schwambach Ferreira
Defense date: 1996 apr. 03

Objectives: to describe the prevalence of asthma among schoolchildren in Recife, Pernambuco, to outline aspects of severity, and to evaluate the relationship between maternal education and disease prevalence. **Methods**: using a cross-sectional design, a probabilistic sample of 1,410 schoolchildren aged six to seven years and 3,086 students aged 13 to 14 years were studied. In terms of gender, 46.31% of the first group and 45.10% of the second group were male. This study is part of an international multicenter research project, International Study of Asthma and Allergies in Childhood (ISAAC). **Results**: 38.10% of mothers in the first group and 32.34% in the second group did not complete primary education. In the groups of six to seven years and 13 to 14 years, respectively: a) the cumulative prevalence of asthma was 44.18% (95% confidence interval: 41.60%-46.80%) and 37.30% (95% confidence interval: 35.10%-39.50%); b) the annual prevalence was 27.16% (95% confidence interval: 24.86%-29.46%) and 18.10% (95% confidence interval: 16.40%-19.80%). The annual prevalence of asthma was significantly higher in males when stratified by sex in the group aged 13 to 14; c) the cumulative prevalence of diagnosed asthma was 20.43% (95% confidence interval: 17.83%-23.03%) and 19.73% (95% confidence interval: 19.44%-22.24%); d) the prevalence of secretory asthma was 34.61% (95% confidence interval: 32.11%-37.11%) and 28.61% (95% confidence interval: 26.53%-30.73%); e) the prevalence of exercise-induced asthma was 12.99% (95% confidence interval: 11.19%-14.79%) and 16.91% (95% confidence interval: 15.20%-18.60%); and f) the prevalence of asthma according to severity was distributed as follows: mild - 68.92% and 81.25%, moderate - 24.28% and 13.49%, and severe - 6.80% and 5.26%. The frequency of crises disrupting sleep in the past year was: 23.19% and 12.99%. The frequency of crises with speech alterations in the past year was: 9.64% and 4.83%. There was a significant relationship between maternal education and the cumulative and annual prevalence of asthma in both groups. **Conclusions**: asthma is a common condition that can lead to significant morbidity among schoolchildren in Recife. The results suggest a relationship between lower maternal education and, possibly, poverty and a higher prevalence of asthma.

Keywords: asthma; school health; education; mothers.

EVALUATION OF THE PROGRAM FOR CONTROL OF ACUTE RESPIRATORY INFECTIONS IN THE PUBLIC AMBULATORY SERVICES OF RECIFE

SUELY ARRUDA VIDAL

Advisor: Prof. Ricardo Arraes de Alencar Ximenes
Defense date: 1996 apr. 17

Objectives: To evaluate the implementation of the Acute Respiratory Infection Program of the Ministry of Health in the city of Recife. **Methods**: A cross-sectional study was conducted, in which 222 mothers/caregivers were interviewed in Recife, Pernambuco, from December 1994 to February 1995. The respiratory rate and breathing effort of 222 children under five years old with Acute Respiratory Infection (ARI) were observed immediately after consultations with 111 pediatricians, who were interviewed at the end of their working hours. Questionnaires were also administered at health units to verify compliance with the program. **Results**: It was found that 55.5% of the total doctors had received training, 56.4% reported being familiar with the guidelines, and 91.7% applied the program's criteria to a limited extent. There were 49% prescriptions of antibiotics for the observed children, contrary to the guidelines. Just over half (59.9%) of the mothers fully understood the medical prescriptions, 91.4% knew some of the care to be given at home to children with ARI, and 68% recognized some of the warning signs recommended by the program. **Conclusions**: The health units are inadequate for the development of the program, as less than 30% have standardized guidelines, only 1% carry out educational activities, and just over 30% have the minimum essential medications for the program throughout the month without running out. It was observed that training did not lead to changes in daily medical practice and that the health system is not equipped to adequately assist children with ARI.

Keywords: respiratory infections; evaluation of health programs and projects; maternal health services.

NUTRITIONAL STATUS AND REPRODUCTIVE ASPECTS OF TEENAGER WOMEN IN BRAZIL

HELENITA AFONSO VILGOLVINO

Advisor: Prof. Malaquias Batista Filho
Defense date 1996 May 23

Objectives: To evaluate the nutritional status and some aspects of reproductive health of teenager women (10 to 19 years) in Brazil, based on data from the National Survey on Health and Nutrition (PNSN). **Methods**: In the first stage, a descriptive study was conducted using a basic sample of 6,921 teenagers. Nutritional status was determined by the height-for-age ratio (National Center for Health Statistics - NCHS standard) with a cutoff point at the 3rd percentile to identify cases of height deficit, and by the body mass index (BMI) with a cutoff point at 18.5 for classifying underweight. A comparative study of the anthropometric deficit situations was performed according to the macro-regions of the country, urban and rural areas, age distribution, personal and household income per capita per month, education of parents and teenager, sanitation conditions, demographic and housing characteristics of families, occurrence of menarche, pregnancy and childbirth, and some data from children of teenager who had been pregnant at least once in the last five years. Based on descriptive data, an association study was conducted between nutritional status and independent variables, developing a predictive model for height deficit in teenagers through logistic regression analysis. **Results**: 37.5% of the teenagers were underweight (BMI <18.5), excluding those who were pregnant at the time of the interview. Of the total sample, 21.9% presented height deficit, with higher prevalence in the Northeast (30.8%) and North (27.3%) regions, compared to 18% in the Southeast and 15% in the South and Central-West regions of Brazil. The average age of menarche was 12.3 years; 12.1% of teenager (553) reported a history of pregnancy. According to multivariate logistic regression analysis, the main variable related to growth delay in teenagers was the occurrence of pregnancy (almost twice the risk), followed by income, maternal education, and sanitation conditions. In the worst-case scenario (income below $42.50, illiterate mother, lack of sanitation, and history of pregnancy), the probability of an teenager being below the 3rd percentile for height-for-age was 26.6%, while in the best-case scenario, the risk of stunting was 5.7%. **Conclusions**: 1) About 22% of Brazilian teenager have height deficits and 37.5% have low body mass index (BMI) values. 2) The prevalence of anthropometric deficits is significantly higher in the North and Northeast regions of Brazil compared to the South, Southeast, and Central-West regions, and is significantly higher in rural areas compared to urban areas. 3) The average height of Brazilian teenager is well below the anthropometric normality chart, with a difference of nearly 8 centimeters at age 18. 4) The average weight was similar to reference population values until age 13, progressively decreasing from age 14. 5) The average age of menarche was 12.3 years, with the highest frequencies recorded in the 12 to 14 age range, representing 57.6% of cases. 6) About 12.1% of Brazilian teenager aged 10 to 19 have a history of one or more pregnancies, resulting in 25% of abortions or fetal deaths. 7) Income, educational level of the mother and teenager, history of pregnancy, lack or inadequacy of water and sewage services, and the occurrence of pregnancy were statistically associated with stunting. 8) The use of alcohol, smoking, and history of pregnancy were risk markers for "acute or recent malnutrition," as expressed in BMI <18.5. 9) Pregnancy was the main factor related to the occurrence of stunting in teenager mothers, according to the results of the multivariate analysis.

Keywords: nutritional status; reproductive medicine; teenager.

NUTRITIONAL STATUS OF CHILDREN FROM THE NORTHEAST: A STUDY OF SOME VARIABLES USEFUL FOR NUTRITIONAL SURVEILLANCE

ÁLVARO ANTÔNIO CABRAL VIEIRA DE MELLO

Orientador: Prof. Roberto Nunes
Defense date: 1996 jun. 20

Objectives: Based on the data file from the 1989 National Health and Nutrition Survey, this study aims to profile malnourished children in the Brazilian Northeast, assess the risk of malnutrition associated with certain socio-economic and environmental variables, considering both urban and rural settings, and compare the nutritional status of children in the Northeast with those in the Southeast region of Brazil. This analysis seeks to contribute indirectly to nutritional surveillance. **Methods**: The study included 2,103 children from the Northeast and 1,407 children from the Southeast, aged 0 to 5 years. **Results**: In the Northeast, the prevalence of malnutrition was 30% for the <3rd percentile and 46.2% for the <10th percentile according to the National Center for Health Statistics (NCHS) standards. For urban situations, the figures were 23.4% and 36.9%, while for rural situations, they were 34.6% and 52.6%, respectively. The variables associated with nutritional status that may be useful for nutritional surveillance included: per capita household income, access to water supply, sewage disposal, maternal literacy, and the number of residents per household. Variables that did not show an association included maternal employment, single-mother households, and electricity access. The typical profile of a malnourished child from the Northeast was identified as follows (percentage below the 3rd and 10th percentiles): a) Age: between 1 and 2 years (36.1% - 51.3%); b) Location: rural (34.6% - 52.6%); c) Per capita household income: <0.5 minimum wage (35% - 52.8%); d) Illiterate mother (50.8% - 73.1%); e) Household characteristics: i) Without piped water (35.5% - 53.5%); ii) Without sewage or septic tank (34% - 51.3%); iii) More than four residents (33.3% - 48.8%). **Conclusions**: Malnutrition in the Brazilian Northeast is a serious public health problem, with regional differences between urban and rural areas. Given the identified profile, being born in a rural setting, where nearly 80% of children have a per capita household income below half a minimum wage, more than half of the mothers are illiterate, and where 95% of households lack piped water and 97% lack sewage disposal, significantly increases the likelihood of being malnourished.

Keywords: nutritional status; child.

NANISM IN SCHOOL-AGE CHILDREN IN THE STATE OF PARAÍBA: AN ECOLOGICAL APPROACH

ALICE TELES DE CARVALHO ROCHA

Advisor: Prof. Malaquias Batista Filho
Defense date: 1997 dec. 22

Objectives: To assess the magnitude and spatial distribution of stunting among students aged six to nine enrolled in public schools in the State of Paraíba. **Methods**: An ecological study was conducted on stunting (dwarfism) in the State of Paraíba and its four geographical mesoregions (Sertão, Borborema, Agreste, and Mata), utilizing: 1) the Height Census Database of Schoolchildren in Paraíba, conducted in 1991; 2) prevalence estimates of stunting in children under five years old obtained through a statistical prediction model of nutritional status, based on the National Health and Nutrition Survey (PNSN-1989); 3) census information from the Brazilian Institute of Geography and Statistics (IBGE) in 1991 regarding socioeconomic and environmental conditions. A cutoff point of –2 standards deviations from the National Center for Health Statistics (NCHS) reference table was adopted. **Results**: It was found that 14.5% of students aged six to nine enrolled in the first year of elementary school in public schools in the State were classified as stunted. The highest prevalences of stunting were found in the Sertão (18.7%), while the lowest were in the Mata mesoregion (10.9%). Three municipalities (1.8% of the political-administrative units in the state) had 30% or more of their schoolchildren classified in the stunting category. Regarding children under five years old, 86 municipalities (50.3%) had prevalence levels equal to or above 30% (very high). Another 81 municipalities (47.4%) were classified in the high prevalence range of stunting (20 to 30% stunting). The results of the two assessments (schoolchildren and those under five) were substantially different in epidemiological terms regarding the problem of malnutrition in the State of Paraíba, with a more disadvantaged situation for children under five. Concerning socioeconomic and environmental conditions, only 23.5% of households had adequate sanitation services in urban areas. On the other hand, 75.3% had adequate water supply. In the state, 50.9% of household heads had less than one year of schooling. In urban areas, 54.1% of household heads earned up to one minimum wage, a proportion that increased to 83.9% in rural areas. The expected correlation between the prevalence of stunting among schoolchildren and that of children under five was not found. Likewise, the correlation measures between the prevalence of stunting in schoolchildren and the socioeconomic conditions of the mesoregions and municipalities did not reach the theoretically predicted values. **Conclusions**: This situation can likely be explained by the fact that school, even public, still represents a socially selective institution in the State of Paraíba. Thus, the results of nutritional evaluations of schoolchildren enrolled in public educational institutions cannot be assumed to be representative of the overall growing population.

Keywords: stunting; child; socioeconomic factors.

NUTRITIONAL STATUS OF CHILDREN UNDER FIVE YEARS OLD: AN EPIDEMIOLOGICAL ANALYSIS IN BRAZIL AND, PARTICULARLY IN THE NORTHEAST, AS A REFERENCE FOR THE FOUNDATION OF NUTRITIONAL INTERVENTION PROGRAMS

ANETE RISSIN

Orientador: Prof. Malaquias Batista Filho
Defense date: 1997 dec. 22

Objectives: To investigate nationally, and particularly in the Northeast, the relevance and degree of rationalization between the epidemiological picture of protein-energy malnutrition and the intervention scheme designed by the Ministry of Health to address the situation. This was done using data from the National Health and Nutrition Survey (PNSN, 1989) and the guidelines and norms of the Program for the Care of Malnourished Individuals and Pregnant Women at Nutritional Risk, according to the proposal of the National Institute of Food and Nutrition for the period 1990-1995. **Methods**: The data set from the PNSN (7,511 children under five years old and 5,140 mothers nationwide) was analyzed, considering the nutritional status of children based on weight/age, height/age, and weight/height indices, as well as the nutritional status of mothers according to body mass index (BMI). Additionally, for the Northeast region, the number and nutritional status of "contacts" (children aged 24 to 59 months living in the same household as malnourished children aged 6 to 23 months) were studied, along with some risk factors for malnutrition. **Results**: It was found that 21.8% of Brazilian children under five years were below the 10th percentile of the weight/age ratio, while in the Northeast, this prevalence was 33.3%. The age group of 12 to 23 months showed the highest prevalence of weight deficits across all regions. In the Northeast, where 48% of the total "malnourished" children in the country were concentrated, there were 1.9 (or practically 2) "contacts" for each "index" child. The prevalence ratio of malnutrition in the "contacts" of malnourished "index" children was more than three times higher than in the "contacts" of normal "index" children. The operational guidelines of the Program for the Care of Malnourished Individuals and Pregnant Women at Nutritional Risk (PADERN) were justified in indicating the age group with the most manifest vulnerability (6 to 23 months) and estimating the number of "contacts" (two for each malnourished child). However, there was evident inconsistency in estimating the magnitude of the problem using the Gomez classification (II and III degrees) and addressing it through the percentiles of the weight/age ratio. The occurrence of weight/height deficits in children under six months constitutes information that has not yet been adequately valued. **Conclusions**: The evidence that, although the prevalence of weight/height deficits in the "contacts" of malnourished children is much higher compared to the "contacts" of normal children (prevalence ratio = 3.3) suggests that the inclusion of "contacts" in the program could be more selective, given the reduced risk dimension, rather than generalized as previously recommended. It would also be highly advantageous to incorporate well-defined risk concepts (mother's education, sanitation conditions) as complementary selection criteria for the beneficiaries of the program.

Keywords: nutritional status; protein-energy malnutrition; child.

INFANT MORTALITY AND LIVING CONDITIONS: AN ANALYSIS OF SPATIAL INEQUALITY IN RECIFE

MARIA JOSÉ BEZERRA GUIMARÃES

Advisor: Prof. Neusa Maria Marques
Defense date: 1998 jan. 30

Objectives: to characterize the profile of infant mortality in Recife, Pernambuco, in 1995, and its relationship with living conditions, aiming to identify intra-urban inequalities. **Methods**: the study design was ecological and census-based, using neighborhoods as the smallest unit of data disaggregation. As a proxy for the population's living conditions, data from the 1991 census of the Brazilian Institute of Geography and Statistics (IBGE) were utilized, focusing on housing, education, and income. Information on the 770 infant deaths and 27,965 live births was validated and obtained from non-fetal death certificates of children under one year old and live birth declarations. Through factor analysis, a synthetic indicator of the neighborhoods' living conditions was constructed, grouped (using cluster technique) into four strata corresponding to the units of analysis. Stratum I incorporated neighborhoods with "high living conditions"; Stratum II included those with "intermediate living conditions"; Stratum III comprised neighborhoods with "low living conditions"; and finally, Stratum IV included neighborhoods with "very low living conditions." **Results**: the infant, neonatal, and post-neonatal mortality rates in Recife were 27.53, 18.84, and 8.69 per thousand live births, respectively; in Stratum I, 23.94, 17.66, and 6.28; in Stratum II, 27.15, 18.79, and 8.37; in Stratum III, 30.25, 19.46, and 10.68; and in Stratum IV, 32.04, 20.24, and 11.80. Therefore, it was found that the risk of death in the first year of life increased as the living conditions of the strata worsened. In Recife, the main causes of infant mortality were perinatal conditions (14.95%), congenital malformations (4.08%), intestinal infectious diseases (2.68%), and bronchopneumonia (2.68%). The risk of death from perinatal conditions, bronchopneumonia, and intestinal infectious diseases in Stratum IV was, respectively, 42%, 61%, and 274% higher than in Stratum I. In Recife, the infant, neonatal, and post-neonatal mortality rates for preventable causes by health care measures were 21.85, 14.80, and 7.04 per thousand live births, respectively; in Stratum I, 17.96, 13.32, and 4.64; in Stratum II, 22.29, 15.28, and 7.00; in Stratum III, 23.95, 15.18, and 8.77; and in Stratum IV, 28.67, 18.55, and 10.12. By approximately transposing the living conditions of Stratum I to Recife and the other strata, an excess of 101 infant deaths was observed in the municipality, with 33 neonatal and 68 post-neonatal deaths. In Stratum IV, it was found that 26.3% of infant deaths, 16.7% of neonatal deaths, and 42.9% of post-neonatal deaths were excesses. Regarding the causes, an excess of 4.8% of deaths due to perinatal conditions, 22.7% due to bronchopneumonia, 49.3% due to intestinal infectious diseases, and 17.8% due to causes preventable by health care measures was recorded in Recife. **Conclusions**: considering the more complex dimension of the determinants of infant mortality, an inverse relationship between its magnitude and living conditions was observed in all four strata, thus revealing the inequalities and hidden inequities in the average indicators of the municipality of Recife.

Keywords: infant mortality; socioeconomic factors.

QUALITY OF BODY MASS MEASUREMENT IN MUNICIPAL HEALTH CENTERS IN THE CITY OF RIO DE JANEIRO, 1996

JANE DE CARLOS SANTANA CAPELLI

Advisor: Prof. Luiz Antonio dos Anjos
Defense date: 1998 mar. 30

Objectives: to evaluate the quality of body mass measurements of children under five years old attending Municipal Health Centers (CMS) in the city of Rio de Janeiro. **Methods**: 38 health professionals were observed while measuring the body mass of 292 children during one service shift at each of the 21 CMS, and 41 calibrated weighing devices were assessed. **Results**: it was noted that the support of the mechanical pediatric scales were mostly inadequate, and the mechanical platform scales were incorrectly positioned in more than 90% of cases. The procedures of "leveling the scale beam" and "waiting for the scale arm to align with the beam" were frequently not followed with mechanical equipment, or when they were, they were performed incorrectly by the health professionals. The step of "undressing the child" was skipped in 29.9% of cases with platform scales, and of those, 42.3% were done improperly. All procedures of "moving the kilogram and gram weights" and "recording the body mass value" were carried out, but more than half were done incorrectly. These results were similar regardless of whether the professional had been trained or not. Ninety-eight percent of the equipment was calculated, with the majority showing a correlation coefficient of 0.999. The difference between the body mass values measured by health professionals and those read by the observer mostly fell within the proposed adequacy range. The Kappa coefficient showed perfect agreement (k=1) when comparing nutritional classifications. **Conclusions**: although some results were not satisfactory for obtaining accurate body mass measurements in routine services, the values produced by the health professionals did not compromise the nutritional classifications of the children assessed in this study.

Keywords: anthropometry; equipment failure; quality of health care; health centers; child.

ACCURACY OF ENDOMETRIAL THICKNESS MEASUREMENT BY TRANSVAGINAL ULTRASOUND IN DETECTING ENDOMETRIAL LESIONS IN WOMEN WITH POSTMENOPAUSAL UTERINE BLEEDING

ANA PAULA GUIMARÃES BARBOSA

Advisor: Prof. Luis Guillermo Bahamondes
Defense date: 1998 jun.29

Objectives: To determine the diagnostic accuracy of endometrial thickness measurement via transvaginal ultrasound in detecting endometrial lesions in women presenting with postmenopausal uterine bleeding. **Methods**: A diagnostic test validation study was conducted, including 51 women with postmenopausal uterine bleeding who underwent endometrial thickness measurement (double layer) by transvaginal ultrasound, followed by hysteroscopy and biopsy under direct vision for histopathological study of the endometrium. According to the results of the endometrial study (hysteroscopy/histopathology), patients were divided into two groups: Group I (atrophic endometrium, insufficient material/clots/fibrin) with 22 patients, and Group II (endometrial polyp, endometrial hyperplasia, endometrial cancer) with 29 patients. Data analysis was performed using Epi-Info 6.04b, employing tests for mean differences and chi-square for association. The accuracy of the endometrial echo measurement at three cut-off points (3, 4, and 5 mm) was analyzed in terms of sensitivity, specificity, positive predictive value, and negative predictive value. An alpha error of less than 5% was considered statistically significant. **Results**: The average age, age at menopause, weight, body mass index, and the percentage of patients with hypertension were significantly higher in Group II. When comparing the measurements of endometrial thickness with the endometrial study (hysteroscopy/histopathology), the average endometrial thickness was significantly higher in Group II (12.6+2.9 mm) compared to Group I (4.1+0.5 mm). In terms of accuracy, the sensitivity, specificity, positive predictive value, and negative predictive value were respectively 100%, 36.4%, 67.4%, and 100% for the 3 mm cut-off point; 89.6%, 72.7%, 81.2%, and 84.2% for the 4 mm cut-off point; and 82.8%, 81.8%, 85.7%, and 78.3% for the 5 mm cut-off point. No cases of endometrial hyperplasia or cancer were found with endometrial echo thickness equal to or less than 5 mm. **Conclusions**: The measurement of endometrial echo thickness by transvaginal ultrasound is a highly accurate method for investigating patients with postmenopausal uterine bleeding, allowing for the selection of those who will require invasive procedures for the endometrial cavity.

Keywords: endometrium; ultrasound; post-menopause.

CHILDCARE FOR CHILDREN UNDER 2 YEARS OLD AND MATERNAL CHARACTERISTICS IN LOW-INCOME COMMUNITIES OF OLINDA AND RECIFE

ELIANE SIQUEIRA CAMPOS GONZÁLES

Advisor: Prof. Neuza Maria Marques
Defense date: 1998 sep. 24

Objectives: To investigate the associations between childcare for children under two years of age and certain maternal characteristics. **Methods**: A total of 904 "mother-child" pairs from four low-income communities in the cities of Olinda and Recife, Pernambuco, were studied. The study design was cross-sectional, with data obtained from household survey questionnaires conducted in April and May 1992. The selected maternal characteristics were age, education, and occupation, representing the main independent variables. Four synthetic variables were created to assess childcare in terms of breastfeeding, immunizations, and the management of diarrheal diseases and acute respiratory infections, with the latter represented by the mother's knowledge for properly addressing these conditions. The sampling was systematic at random. Statistical analysis was performed using Epi-Info software, with the chi-square test used to compare frequencies, and a significant level of 5%. **Results**: There was a predominance of young adult mothers (aged 20-29 years) with four to seven years of education in both cities, although a higher proportion of mothers in Recife worked outside the home compared to Olinda (p<0.001). A larger percentage of mothers in Recife provided adequate care for their children compared to those in Olinda. Maternal education and occupation did not influence breastfeeding duration, but adult mothers breastfed for longer than teenager mothers (p=0.014). Adequate care for vaccinations (up-to-date schedule for age) was provided by a significantly higher percentage of young mothers, under 30 years old (p=0.002), and was directly proportional to maternal education years (p<0.01). Knowledge for adequate care during diarrheal and respiratory diseases was also positively influenced by higher maternal education (p<0.01). A greater proportion of mothers who worked outside the home had better knowledge for providing adequate care during respiratory illnesses compared to those who performed household tasks. In general, it was observed that higher proportions of mothers at extreme ages (14-19 years and 30 years and older), with low education (0-3 years of schooling), and who worked within their homes tended to provide inadequate care for their children. **Conclusions**: Health education strategies should be planned at the household and community levels, with educational techniques tailored to the characteristics of different maternal groups, aiming for better maternal understanding and thus increasing the likelihood of providing adequate care for improved child survival.

Keywords: childcare; health education; mothers.

EVALUATION OF PRENATAL AND FAMILY PLANNING SERVICES AT THE WOMEN'S CLINIC OF CAM-IMIP

SÔNIA REGINA F. LEITE FIGUEIREDO

Advisor: Prof. Maria do Carmo Leal
Defense date: 1998 oct. 20

Objectives: To evaluate the quality of care provided at the Prenatal and Family Planning clinics of the Women's Care Center (CAM) at Professor Fernando Figueira Maternal and Child Institute (IMIP), from the perspective of both users and healthcare professionals. The study focused on access, adequacy, and personal satisfaction with the services, and compared some perinatal outcomes between groups of postpartum women who received prenatal care at IMIP and those who did not but gave birth in its maternity ward. **Methods**: A total of 300 pregnant women attending the Prenatal and Family Planning clinics at CAM-IMIP, located in Recife, Pernambuco, were interviewed. **Results**: Among the sample, 34.3% of women were classified as high-risk, with 57% coming from municipalities in the metropolitan area and the interior, and 54.3% starting prenatal care in the second trimester, even though they had identified the pregnancy early. Maternal education was the most discriminative variable for outcomes. There was a lack of awareness regarding pregnancy risk among patients, as the frequency of prenatal care initiation by trimester was similar between high- and low-risk groups. In 71.7% of high-risk cases, pregnant women received either no explanation or only brief explanations about the risks of their pregnancies. Continuity of care was also lacking, with only 31.6% of patients consistently seeing the same prenatal care provider. Educational practices regarding prenatal care were found to be insufficient, and the review of prenatal cards and medical records revealed high percentages of imprecise information. The postpartum sample included 504 women, of whom 174 had received prenatal care at IMIP, and 33 were admitted to the High-Risk sector. The total cesarean rate was 40.1%. Approximately 93% of women had prenatal care, with 52.9% attending six or more visits. The low birth rate was 21%. Among women receiving prenatal care at IMIP, only 21.9% began care in the first trimester. Cesarean rates were 51.8% for high-risk pregnancies and 40% for low-risk ones. In 27.1% of pregnancies, vaccination was considered incomplete, although there were no cases of neonatal tetanus or neonatal syphilis. Family Planning users were generally older and had higher levels of education compared to the prenatal care group. Parity was inversely related to education level. The most used contraceptive method was the oral contraceptive pill (OCP), with 73.3% of women having used only this method, usually based on personal choice. The intrauterine device (IUD) was preferred by more educated women, and in half of these cases, it was recommended by a doctor. A high percentage of women were unaware of the contraindications for the contraceptive methods they used. More than 50% of patients had pre-scheduled appointments for their next consultation during their current visit. Medical records showed low rates of breast examinations, weight monitoring, and blood pressure checks. **Conclusions**: The perceptions of healthcare professionals involved in the services were described, highlighting both positive and negative aspects. Suggestions from the group were also provided to improve the quality of services offered.

Keywords: health services evaluation; maternal health services; family planning services; pregnant women.

RISK FACTORS FOR POST-CESAREAN SURGICAL WOUND INFECTION

MARCELO PONTUAL CARDOSO

Advisor: Prof. Dr. Edmundo Machado Ferraz
Defense date: 1998 dec. 10

Objectives: To identify some risk factors associated with the development of surgical wound infection in patients undergoing cesarean section at the Women's Care Center (CAM) of the Materno Infantil Prof. Fernando Figueira Institute - IMIP. **Methods**: A case-control study was conducted, including 69 patients who underwent cesarean section at the IMIP maternity hospital in Recife, Pernambuco, from February 1 to July 31, 1997, and developed surgical wound infection. The control group included all patients who underwent cesarean section at the service during the same period and were diagnosed as not having developed a surgical wound infection. Data for both cases and controls were collected from a questionnaire before the infection developed. For each potential risk factor analyzed as a categorical variable, the estimated relative risk (OR) and its respective 95% confidence interval (CI) were calculated. For risk factors analyzed as a quantitative variable, the *Mann-Whitney* test was applied to verify the differences in scores found between the groups. Logistic regression analysis was also performed to assess the interrelationship between risk factors. **Results**: Among the potential risk factors studied, those that were significantly associated with the risk of developing surgical wound infection were: ruptured amniotic sac at the time of cesarean section, longer duration of ruptured membranes, postoperative fever, puerperal endometritis, greater number of vaginal examinations, and prolonged surgical time. Performing prenatal care, prior hospitalization in the high-risk pregnancy ward of CAM, and the use of prophylactic antibiotics were shown to be protective factors against the development of surgical wound infection. Logistic regression analysis identified the following factors significantly associated with the probability of developing surgical wound infection from cesarean section: ruptured amniotic sac at the time of cesarean section and duration of cesarean section exceeding 55 minutes. The use of prophylactic antibiotics was negatively associated with the probability of developing surgical wound infection. Since this was the first study specifically evaluating a hospital-acquired infection at CAM, a cross-sectional study was also conducted to describe the bacteriological profile of surgical wound infections from cesarean sections during the case-control study period. The most frequently isolated bacteria in the cross-sectional study were: Staphylococcus aureus, Klebsiella sp., Enterococcus sp., Group B Streptococcus, and Escherichia coli. **Conclusions**: As the first study conducted at CAM-IMIP aiming to investigate a type of hospital infection, the results provide important insights for managing cases and consequently improving the quality of care for women's health, as well as raising new questions for future research.

Keywords: risk factors; surgical wound infection; obstetric delivery.

PREVALENCE OF SCHISTOSOMIASIS MANSONI IN STUDENTS AGED 7 TO 14 ENROLLED IN SCHOOLS IN THE RURAL AND URBAN AREAS OF PALMARES MUNICIPALITY IN THE STATE OF PERNAMBUCO

JOAQUIM ANTÔNIO CURCHATUZ DE GODOY

Advisor: Prof. Roberto Moreira Nunes da Silva
Defense date: 1999 mar. 02

Objectives: to evaluate the prevalence of schistosomiasis mansoni in students aged 7 to 14 in the rural and urban areas of Palmares municipality, Pernambuco. **Methods**: a descriptive, cross-sectional study was conducted to assess the prevalence of schistosomiasis mansoni in 1,280 students aged 7 to 14 years residing in the rural and urban zones of Palmares, Microregion of Mata, and some of their socioeconomic, environmental, and demographic relationships. **Results**: the overall prevalence for the municipality was 11.48%, with 24.69% in the rural area and 5.55% in the urban area. Regarding the degree of infection, the municipality showed 66.67% of mild cases and 33.33% of moderate cases. In the rural area, 61.22% were mild and 38.78% were moderate; in the urban area, 79.59% were mild and 20.41% were moderate. Except for the variable of sex, all other variables showed an association with the prevalence of schistosomiasis: age, low parental education, lack of knowledge about the disease and its mode of transmission, residence in poorly constructed homes, high number of residents per household, students residing in the rural area, inadequate water supply, rudimentary sewage disposal, and absence of proper waste collection and disposal. **Conclusions**: it is recommended to reformulate educational content, implement field operations within the criteria of the Ministry of Health, and improve sanitation, as well as conduct similar surveys reaching other population samples.

Keywords: schistosomiasis mansoni; school health.

RISK FACTORS FOR HOSPITALIZATION DUE TO ACUTE DIARRHEA IN CHILDREN UNDER TWO YEARS OLD: A CASE-CONTROL STUDY

LYGIA CARMEN DE MORAES VANDERLEI

Advisor: Prof. Gisélia Alves Pontes da Silva
Defense date: 1999 mar. 09

Objectives: To investigate the association between socioeconomic-demographic (SED), biological, and cultural determinants and hospitalizations due to complicated acute diarrhea (AD) in children under two years old, and to determine which of these factors condition a higher risk, starting from the hypothesis that the main factors involved are SED. **Methods**: A case-control design was chosen, using a descriptive study for cultural variables. All children hospitalized for AD in the Emergency Department of the Materno Infantil Prof. Fernando Figueira Institute (IMIP) in Recife, Pernambuco, from May to October 1997, were selected as cases. Controls were comprised of children with outpatient diseases who did not present AD, recruited at a ratio of 1:1, in the same location and period. A total of 370 children were studying. **Results**: An association was found between hospitalization for AD and unsatisfactory SED conditions, as indicated by higher hospitalization risks among cases related to their precarious living situations. Infants under six months malnourished, and with severe episodes also showed higher hospitalization risks. Previous diarrhea episodes served as a protective factor, likely due to the mother's prior knowledge of the disease. Cultural variables highlighted the extent of maternal ignorance regarding AD and its management in worsening the episode. **Conclusions**: A synergy seems to exist among the involved factors, dependent on the interaction between severe diarrhea episodes, young age, and unfavorable SED conditions, which influence cultural patterns and the utilization of primary health care services. However, further studies are needed to determine which variables condition higher risks.

Keywords: childhood diarrhea; diarrhea; risk factors; socioeconomic factors; child.

MORTALITY FROM EXTERNAL CAUSES IN CHILDREN AND TEENAGER RESIDENTS IN RECIFE, TREND ANALYSIS IN THE TIME SERIES FROM 1979 TO 1995 AND AN ASSESSMENT OF THE MORTALITY INFORMATION SYSTEM

MARIA DILMA DE ALENCAR BARROS

Objectives: To analyze the mortality trends and the completion of death certificates for external causes among children and teenager residing in Recife from 1979 to 1995, and to validate variables from those certificates for the year 1995. **Methods**: An exploratory ecological design of a time series was used, followed by a descriptive analysis for the 1995 data, which included a nested validation study. The trend for mortality coefficients due to external causes and their specific groups by sex and age group was analyzed through simple linear regression. The completion behavior of the selected variables was assessed using the Chi-square test for trend. To validate the variables in the 1995 death certificates, existing documents at the Institute of Legal Medicine were investigated. Given the methodology employed, the research data were considered more reliable and thus taken as the standard. Concordance was analyzed using the Kappa index and sensitivity. The underlying causes were compared in groups and individually up to the fourth digit. **Results**: In the studied time series, the mortality coefficients for external causes showed an increase, especially among male teenager and homicides. A shift in the mortality pattern was observed, where external causes surpassed infectious and parasitic diseases, taking the second position as a cause of death for the study group since 1994. Deficiencies in the quantity or quality of completion were noted for many of the analyzed variables. The validation study revealed that the concordance of official data with research data for the underlying causes distributed across five groups was high, with sensitivity above 80%, except for the category of other violence, and the Kappa index for these groups was classified as excellent. This concordance significantly decreased when analyzed up to the fourth digit. The persistence of deaths with underlying causes categorized as unspecified, even after investigation at the Institute of Legal Medicine, indicated that the forms for transferring bodies from hospitals and police stations were not adequately completed. The supplementation of data in death certificates with unknown types of violence, conducted by the Health Service at that Institute since 1990, significantly reduced the percentage of these deaths classified as other violence. In all levels of comparison, these deaths produced the greatest discrepancies. All these results suggest that while data supplementation at the Institute of Legal Medicine is important, it needs to be temporary. A definitive solution would be the proper completion of death certificates by that Institute, according to appropriate standards. The validated data for 1995 showed that among external causes, for children, traffic accidents were the leading cause of death, followed by drownings, while for teenager, homicides were the leading cause, followed by traffic accidents and drownings.

Keywords: violence.

CLINICAL PROFILE OF PATIENTS ADMITTED TO THE MATERNAL CHILDREN'S INSTITUTE OF PERNAMBUCO IN THE ACUTE PHASE OF RHEUMATIC DISEASE

MARIA GORETTI LINS MONTEIRO

Advisor: Prof. Lurildo Ribeiro Saraiva
Defense date: 1999 jun.08

Objectives: To understand the clinical presentation of rheumatic disease and the most common cardiac valve lesions found, and to establish their correlation with sex, age, and origin. **Methods**: A descriptive cross-sectional study was conducted involving 132 rheumatic patients, comprising 74 males and 58 females, with a male-to-female ratio of 1.2:1. The patients were admitted to the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, in Recife, Pernambuco, from January 1994 to December 1996. The cases were classified based on the presence of carditis, arthritis, or chorea, either isolated or associated. **Results**: The age range of the patients varied from three years and five months to sixteen years and one month (Mean ± SD = 123 ± 34.2 months). 130 rheumatic patients came from the five regions of Pernambuco, while only two were from other states. There was no predominant sex, although a higher number of cases of Sydenham's chorea were observed in females. The majority of rheumatic patients were aged between 5 and 15 years. Isolated carditis affected 61 patients, and mitral insufficiency was present in all lesions identified by echocardiogram. 25% of the patients experienced recurrences during the study period, 31% developed congestive heart failure (CHF), and 2.3% resulted in death. **Conclusions**: Rheumatic disease is presented as a significant health concern for children. Among the clinical forms identified, carditis occurs most frequently. The high percentage of patients with recurrences highlights the importance of early diagnosis and prophylactic measures aimed at reducing the prevalence of rheumatic disease complications.

Keywords: rheumatism; cardiac trauma.

INTESTINAL CONSTIPATION IN CHILDHOOD: PREVALENCE IN THE OUTPATIENT GENERAL HOSPITAL OF PEDIATRICS OF THE MATERNAL INFANTIL INSTITUTE FROM PERNAMBUCO (HGP/IMIP)

MÁRCIO FERNANDO TAVARES DE SOUZA

Advisor: Prof. Gisélia Alves Pontes da Silva
Defense date: 1999 sep. 21

Objectives: To determine the prevalence of functional chronic constipation (FCC) in the General Pediatrics Outpatient Clinic of the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco. **Methods**: The study design was descriptive and cross-sectional. A total of 289 children aged from 1 month to 14 years participated in the study. Data was collected using a previously tested structured questionnaire administered to mothers. These mothers sought medical care for their children in the outpatient clinic. After consultation with the attending physician, mothers were invited to participate based on inclusion and exclusion criteria. A child was considered to have FCC if they exhibited at least two of the following parameters for a minimum of thirty days: painful elimination or straining with increased stool consistency and/or a frequency of fewer than three times per week. **Results**: The prevalence of FCC was 15.9%. There was a statistically significant difference in associated signs and symptoms, including fear of defecation and retention maneuvers; other more frequent signs and symptoms included poor appetite (50%), abdominal pain (43.5%), blood in the stools (37%), vomiting (19.6%), urinary symptoms (9.6%), and fecal incontinence (17.4%). Among constipated patients, 71.3% had undergone prior treatment, primarily with suppositories, laxatives, and dietary changes. The most common sources for treatment recommendations were the physician and the child's mother. A family history of intestinal constipation was associated with FCC. The mother's opinion was found to be useful for diagnosing FCC. A significant difference in prevalence rates was observed compared to other studies. **Conclusions**: FCC was a prevalent symptom in the General Pediatrics Outpatient Clinic, prompting healthcare professionals to actively seek its identification during routine pediatric consultations and to focus on prevention.

Keywords: intestinal constipation; prevalence.

NUTRITIONAL STATUS OF CHILDREN UNDER 5 YEARS OF AGE ACCORDING TO WEIGHT AT BORN IN THE STATE OF PERNAMBUCO – 1997

ROSA MARIA FERREIRA DE SOUZA

Advisor: Prof. Pedro Israel Cabral de Lira
Defense date: 1999 dec. 21

Objectives: To evaluate the nutritional status of children under five years of age according to birth weight and some possible risk factors for malnutrition, based on information from the database of the II State Health and Nutrition Survey conducted in Pernambuco in 1997 (II PESN-PE/97). **Methods**: The II PESN-PE/97 included 2,078 children under five years of age, of which 1,906 (91.7%) had information on birth weight, forming the sample for this study. Birth weight records were obtained through the child's card (80.5%) or from information provided by the mother or guardian (19.5%). Birth weight classification was determined according to the criteria set by the World Health Organization: low birth weight (LBW <2500 grams), insufficient weight (2500-2999 g), and adequate weight (>3000 grams). Nutritional status classification was performed using the indicators height-for-age (H/A), weight-for-age (W/A), and weight-for-height (W/H) according to the National Center for Health Statistics (NCHS) standards recommended by the World Health Organization, with cutoff points of <-2 SD (moderate/severe malnutrition), -2 SD to <-1 SD (mild malnutrition), and >-1 SD (eutrophic or overweight). For the association of nutritional status with socioeconomic, demographic, maternal, and child variables, the H/A indicator was chosen. Data processing and analysis were conducted using Epi-info 6.0 and ANTHRO software with NCHS standards, according to the z-score. For the statistical analysis of the data, Pearson's Chi-square test and a 95% confidence interval (p<0.05) were used. **Results**: A prevalence of 7.9% for LBW and 19.7% for insufficient weight was observed among surviving children. Overall malnutrition (W/A), chronic malnutrition or stunting (H/A), and acute malnutrition (W/H) according to birth weight presented prevalences of 3.7%, 9.4%, and 1.4%, respectively. Children aged 12-23 months and those with diarrhea exhibited higher percentages of nutritional compromise. No significant association was found between nutritional status and sex. Lower maternal education and low maternal weight were associated with higher percentages of chronic malnutrition (p<0.001 and p=0.045, respectively). Similar results occurred with family income and basic sanitation variables (p<0.001). Children with low birth weight and insufficient weight at birth showed the highest percentages of malnutrition for all anthropometric indicators analyzed (H/A "p<0.001"; W/A "p<0.001"; W/H "p=0.008"). **Conclusions**: The prevalence of malnutrition decreases as birth weight increases, thus confirming the central hypothesis of the study.

Keywords: nutritional status; malnutrition; risk factors; child.

THE MOTHER'S PSYCHOLOGICAL IDENTITY AND BREASTFEEDING

HELENA PEDROSA DE O. LEITE

Advisor: Prof. Ivan Correa
Defense date: 2000 feb. 29

Objectives: To investigate the relationships between the mother's psychological identity and breastfeeding. The study was longitudinal in design. **Methods**: The study involved 40 women, aged 20 to 40, with low-risk pregnancies who were receiving care at the Women's Clinic of the Women's Care Center (CAM) at the Instituto Materno Infantil de Pernambuco (IMIP). Data were collected through individual interviews with the pregnant women and home visits when they became postpartum mothers. To investigate the psychological identity of the women, the following variables were considered for pregnancy: self-image, body image, recognition by others, pregnancy timing, relationship with the baby's father, idea of exclusive breastfeeding, breast as a provider function, and the opinion of the mother of the pregnant woman. For the postpartum period, the variables investigated were: self-image, body image, recognition by others, ideas about the baby's sucking ability, ideas about the sufficiency of breast milk, mother-baby interaction, and feeding behaviors defined as exclusive breastfeeding, complementary breastfeeding, and non-breastfeeding. Four sociodemographic variables were included: age, gestation length, education level, number of children, and source of information about breastfeeding. The data analysis was conducted in two forms: quantitative and qualitative. The quantitative analysis used Pearson's Chi-square test to compare response frequencies between groups and McNemar's test to verify agreement between the women's responses during the interview and home visit. The significance level adopted was 5%. The qualitative analysis followed Minayo's thematic analysis. **Results**: 1. Among the gestational identity variables, only the breast's provider function showed a significant association with feeding behavior. 2. Changes were also observed related to: a) the idea of exclusive breastfeeding and the opinion of the baby's father, b) body image, c) the idea of pregnancy timing and the relationship with the baby's father. **Conclusions**: It can be affirmedthat, concerning the woman's psychological identity, there were changes between the gestational and postpartum experiences, which influenced breastfeeding. The decision to breastfeed involves unconscious motivations and depends on emotional implications. It is emphasized that merely providing idealized information about breastfeeding does not guarantee breastfeeding success.

Keywords: breastfeeding.

FACTORS ASSOCIATED WITH CONTRACEPTIVE USE IN ADOLESCENCE

SYLVIA MARIA OLIVEIRA DA CUNHA CAVALCANTI

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2000 feb. 29

Objectives: To analyze the factors associated with contraceptive use among female teenagers. **Methods**: A cross-sectional prevalence study was conducted using a publicly available database from the 1996 National Demographic and Health Survey, which included 2,415 sexually active women aged 15 to 19 years. The dependent variable was contraceptive use, and the independent variables were age, knowledge of contraceptive methods, access to media, residential area, education, and religion. The variable "level of knowledge of methods" was also treated as dependent when its association with other variables was tested. Statistical analysis was performed using Chi-square and Fisher's exact tests, with a significance level of 5%. **Results**: There was a significant association between age and contraceptive use, with the 19-year-old group (46.9%) showing the highest percentage of contraceptive use. In contrast, the 15-16-year-old group showed a 13.2% usage rate, with the overall contraceptive use rate in the sample being 27.8%. The knowledge rate was 99.3%. There was no difference between maximum and intermediate levels of knowledge concerning contraceptive use, but it was significantly lower at the minimum level of knowledge. When considering the variables age, education, religion, residential area, and access to media, a significant association was found with the level of knowledge, but not with contraceptive use, except for age and residence. Contraceptive use was higher in the 19-year-old group and among urban residents (28.9%). **Conclusions**: There was broad knowledge of contraceptive methods among teenagers, with a statistically significant association between the level of knowledge and variables such as age, religion, education, access to media, and residential area. However, only 27.8% of the teenagers reported using contraceptives, and this was associated with the level of knowledge of methods but not with the other factors mentioned, except for age and residential area.

Keywords: contraceptives, teenager.

POTENTIAL YEARS OF LIFE LOST BY HOMICIDE VICTIMS AMONG CHILDREN AND TEENAGERS RESIDING IN THE CITY OF RECIFE IN 1997

MARIANNE WEBER ARNOLD

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2000 mar. 02

Objectives: To analyze the potential years of life lost (PYLL) due to homicides among children and teenagers aged between one month and 19 years in Recife, Pernambuco, in 1997, and to outline the profile of these victims. **Methods**: A cross-sectional descriptive study was conducted, selecting death certificates from 1997 of residents in Recife aged between one month and 19 years to identify homicides and the three other most frequent causes of death in this age group, to outline the profile of homicide victims. PYLL calculations were performed for homicides and, for comparison, for the other three most frequent causes. For this study, the age limits of one month and 70 years were used for the PYLL calculation. **Results**: Homicides accounted for 36.6% of all deaths in the age group analyzed, followed by pneumonia (9.4%), transport accidents (6.3%), and other accidents (6.0%). The majority of those murdered were between 15 and 19 years old, male, and students, although the level of education was unknown in 96.6% of cases. Firearms were used in 93.2% of the homicides. Only 30.3% of the homicide deaths occurred in hospitals, indicating the aggressor's intent to kill. Homicides were responsible for 59.1% of the PYLL among the causes analyzed, followed by pneumonia, transport accidents, and other accidents. The risk of losing potential years of life due to homicide in the studied group was 27.20 per 1,000, which was three times the risk for pneumonia and 5.5 times higher than the risk of losing years of life due to transport accidents. **Conclusions**: The above figures highlight the magnitude of homicides as a cause of premature death, characterizing them as a public health problem.

Keywords: cause of death; child; homicides; potential years of life lost; teenager.

EVALUATION OF THE INFLUENCE OF THE LIFESAFE PROJECT ON ACTIVITIES OF COMMUNITY HEALTH AGENTS IN TWO MUNICIPALITIES IN THE ZONE OF MATA PERNAMBUCANA, 1998/1999

TEA BURMAZ

Advisor: Prof. Adriano Cattaneo
Defense date: 2000 may05

Objectives: This study compares groups of children accompanied and not accompanied by the Salva-Vidas project, with the intention of evaluating the influence of this project on improving the health practices of Community Health Agents (ACS) and the mothers of the children. **Methods**: A quasi-experimental study was conducted in two municipalities with similar characteristics: Macaparana (with the project) and Aliança (without the project). In Macaparana, 39 mothers of living children included in Salva-Vidas and 11 mothers of deceased children not accompanied by the project were interviewed. In Aliança, 42 mothers of living children not part of the Salva-Vidas project were interviewed. **Results**: The results of the comparison between the groups of living children from the two municipalities showed significant differences regarding the practices of the ACS and the mothers that could be influenced by Salva-Vidas. The only actions that improved in the municipality with the project were the regularity of home visits by the ACS (χ^2 = 5.86 and p = 0.0015) and the monitoring of the child's weight during home visits (χ^2 = 39.06 and p < 0.0001). The recording of the weight by the ACS on the child's card also showed an influence in Macaparana, which had a higher percentage of recorded cards; however, the difference was not significant enough to reach statistical significance. A higher frequency of ACS visits to children during illness was also noted in Macaparana (Salva-Vidas), but not as expected. In comparing living children (included in Salva-Vidas) and deceased children (not included) from the same municipality, some interesting and statistically relevant results were observed, such as the later timing of the first home visit by the ACS, the number of children who were never visited by the ACS (p = 0.041; Fisher-Freeman-Halton exact test), and a higher number of children who were not visited by their agents during illness (p = 0.019; Fisher-Freeman-Halton exact test), which was greater among the deceased. During the illness that led to death, all mothers sought outpatient services, and access was satisfactory; however, the ACS were not sought. According to the mothers, most of these children died from dehydration due to diarrheal disease. **Conclusions**: The finding that all infant deaths in Macaparana occurred outside the area covered by the Salva-Vidas project suggests that monitoring at-risk children is a fundamental action for preventing these deaths.

Keywords: community agents; Salva-Vidas project.

COVERAGE AND SOME QUALITATIVE ASPECTS OF PRE-CHRISTMAS ASSISTANCE OF MOTHERS OF CHILDREN UNDER FIVE YEARS OF AGE IN THE STATE OF PERNAMBUCO

SANDRA LOW LINS E SILVA

Advisor: Prof. Malaquias Batista Filho
Defense date: 2000 May 25

Objectives: To study the coverage and some qualitative aspects of prenatal care in the state of Pernambuco. **Methods**: The sample consisted of 1,453 mothers from the state of Pernambuco, selected from the database of the II State Health and Nutrition Survey (II PESN). The qualitative aspects of prenatal care were investigated considering geographic distribution, income levels, and mothers' education levels, seeking to understand some factors that might compromise the efficiency of prenatal care. **Results**: Approximately 83% of mothers received some type of prenatal care during the gestation of their last living child under five years old. The coverage percentages were nearly equal in the metropolitan area of Recife and in urban interior areas (around 90%), differing substantially from the rural area, where only two-thirds of mothers had one or more prenatal consultations. Access to prenatal care was closely linked to family income, mothers' education, and the distance between the health service and their home. In families with the lowest income, 26.2% of mothers did not receive health care during their last pregnancy, contrasting with only 2.1% in the stratum equal to or above 2.5 minimum wages per capita. In the category of illiterate mothers, 36.2% did not undergo prenatal consultations, while only 1.8% of mothers who had completed secondary or higher education went without prenatal care during their pregnancy. The distance between home and health service also significantly affected access to prenatal care. However, the positive influence of this variable virtually disappeared when family income exceeded 1.0 minimum wage per capita or when maternal education reached above the fourth grade. Half of the mothers who did not receive prenatal care considered these services unnecessary, while 36% cited difficulty accessing services as a justification, especially among women living in rural areas. Prenatal care was statistically significant in terms of effectively promoting breastfeeding and simultaneously acted as a condition that favored cesarean delivery, which was three times more frequent among mothers who did not receive prenatal care. **Conclusions**: Based on the epidemiological profile established by the study of maternal and childcare in the state, a set of recommendations is proposed to support a repositioning of health policies and programs aimed at reducing maternal and infant morbidity and mortality.

Keywords: pre-caring; maternal health.

ALLOMETRIC GROWTH IN EUTROPHIC AND MALNUTRITED CHILDREN

FÁTIMA ROSANE J. B. SANTOS

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2000 aug. 24

Objectives: To evaluate the growth relationships (allometric growth) between tibia length and height, head circumference and tibia length, as well as between head circumference and height in eutrophic and malnourished individuals. **Methods**: A total of 382 male children aged 6 to 30 months were studied, with 250 eutrophic children and 132 malnourished children attending the Pediatric Outpatient Clinic at the Prof. Fernando Figueira Institute of Maternal and Child Health (IMIP) in Recife, Pernambuco. Each nutritional group was subdivided into 25 subgroups, one for each month from 6 to 30 (with eutrophic subgroups having 10 children each and malnourished subgroups having five to eight children). Using the National Center for Health Statistics (NCHS) standard as a reference, the eutrophic group consisted of children between the 10th and 97th percentiles, and the malnourished group consisted of children below the 3rd percentile, based on the weight-for-age ratio. Head circumference, tibia length, weight, and height were measured. Based on the allometric equation $y = ax^b$ (where b is the allometry coefficient), the original measurements were transformed into decimal logarithms to adjust them by linear functions ($y = a + bx$), where y is the logarithm of tibia length or head circumference, and x is the logarithm of height (or tibia length when relating the head to the tibia). Allometric coefficients (b) for the relationships between tibia length/height (TL/H), head circumference/height (HC/H), and head circumference/tibia (HC/T) were calculated, as well as statistical comparisons of these coefficients between the eutrophic and malnourished groups. **Results**: The results showed the following allometry coefficients: 1) tibia/height eutrophic=1.47 and malnourished=1.25 ($p < 0.001$); 2) head/height eutrophic=0.33 and malnourished=0.36 ($p > 0.05$); 3) head/tibia eutrophic=0.19 and malnourished=0.25 ($p < 0.01$). **Conclusions**: From these data, it can be concluded that severe malnutrition induces a slower growth rate of the tibia compared to the head, as well as compared to the body as a whole. However, it does not cause a difference in head growth relative to height.

Keywords: head circumference; height; growth; tibia; malnutrition.

MYELOMENINGOCELE – PATIENTS TREATED SURGICALLY AT THE INSTITUTE CHILDHOOD NURSING OF PERNAMBUCO IN 1998

GERALDO JOSÉ R. DANTAS FURTADO

Advisor: Prof. Hildo Azevedo
Defense date: 2000 sep. 29

Objectives: To characterize the group of patients with myelomeningocele who underwent surgical treatment at IMIP in 1998 and to assess their progress during their initial hospitalization. **Results**: A total of 48 patients underwent surgical correction for myelomeningocele between January and December 1998. We found that 63% of the patients were from the interior regions of Pernambuco. Only 5 patients had a prenatal diagnosis of myelomeningocele. No home births were recorded, and there was no previous occurrence of myelomeningocele in the same family. Vaginal delivery was used in 46% of the cases. Of the patients studied, 80% were born at term, but only 36% had sufficient birth weight. The majority of the myelomeningoceles were located in the lumbar region (62%) and predominantly open upon admission to the service (87%). Hydrocephalus was present at birth in 64% of the patients and was treated during the same hospitalization in a second surgical procedure. In 72% of the cases, surgical treatment of the myelomeningocele was performed after the first 24 hours of life. The complications studied and their frequencies were surgical wound infection (39%), cerebrospinal fluid fistula (24%), and wound dehiscence (37%). No deaths were directly related to the surgical procedure. The symptomatic form of Arnold Chiari Syndrome Type II was diagnosed in 13% of the patients, making it the leading cause of mortality in the group. The overall mortality rate, including all causes, was 14%. The average hospital stay was 19 days. At the end of the study, suggestions are offered to improve care for these patients.

Keywords: myelomeningocele.

IMPORTANCE OF RISK FACTORS FOR CESAREAN SECTION IN FIRMS SERVED IN A TERTIARY CENTER IN RECIFE

GLAUCO DESMOULINS D' ARCE C. W. PRAZERES

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2000 dec. 27

Objectives: To determine the frequency of cesarean sections in primiparous women at the Women's Care Center (CAM) of the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, identifying the main indications and the biological and non-biological risk factors associated with cesarean delivery. **Methods**: A prevalence study was conducted, including 329 primiparous patients at IMIP in Recife, Pernambuco, from August 1 to November 30, 1999. Patients with contraindications for pregnancy interruption for any reason (maternal or fetal) were excluded. The statistical analysis included mean difference tests, chi-square association tests, determination of prevalence ratios (PR) and 95% confidence intervals (CI95%) for biological and non-biological risk factors, and multiple logistic regression analysis. **Results**: A high prevalence of cesarean sections (43.2%) was found, with pre-eclampsia, cephalopelvic disproportion, and acute fetal distress being the main indications (31%, 15%, and 16%, respectively). The factors most strongly associated with cesarean delivery were body mass index (BMI) greater than 25 (BMI > 25) (PR = 1.64; CI95%: 1.28-2.10), breech presentation (PR = 2.46; CI95%: 2.07-2.91), labor induction (PR = 2.22; CI95%: 1.54-3.20), meconium-stained amniotic fluid (PR = 1.49; CI95%: 1.09-2.04), primary education level (PR = 1.25; CI95%: 1.0-1.56), maternal preference for cesarean (PR = 1.57; CI95%: 1.13-2.18), having two or more ultrasounds (PR = 1.50; CI95%: 1.18-1.91), and cesarean indication by the prenatal provider (PR = 1.44; CI95%: 1.04-1.98). In conditional multivariate logistic regression analysis, BMI, maternal preference for the delivery method, and delivery time remained statistically significant. The model was able to predict 71.23% of cesareans when both biological and non-biological risk factors were included, and 60.77% when only non-biological factors were considered. **Conclusions**: The main indications for cesarean sections were pre-eclampsia, cephalopelvic disproportion, and acute fetal distress. The factors most strongly associated were BMI greater than 25, labor induction, meconium-stained amniotic fluid, maternal preference for cesarean delivery, and undergoing two or more ultrasounds during prenatal care.

Keywords: cesarean section; risk factors; prevalence.

PROGNOSTIC FACTORS ASSOCIATED WITH DEATH FROM DISEASE MENINGOCOCCAL IN CHILDREN ADMITTED TO THE MATERNAL INSTITUTE PERNAMBUCO CHILDREN'S CENTER – IMIP

MARIA DO CARMO MENEZES BEZERRA DUARTE

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2001 jun. 27

Objectives: To determine the lethality and prognostic factors associated with death in the various clinical forms of Meningococcal Disease (MD) in children hospitalized at the Instituto Materno Infantil de Pernambuco (IMIP) from January 1996 to December 1999. **Methods**: A historical cohort study was conducted, evaluating the biological, geographical, clinical, and laboratory characteristics of 163 children hospitalized with MD according to the clinical forms of the disease, and identifying prognostic factors associated with death. Statistical analysis was performed using EPI-INFO 6.04b and SPSS 6.0 for Windows, comparing patient characteristics according to the clinical form of MD and determining lethality for each form. The relative risk (RR) with a 95% confidence interval (CI) was calculated for various prognostic factors, stratified by clinical form. Multivariable analysis was performed to determine the adjusted risk of death. **Results**: A statistically significant difference in age was found, with a higher frequency of children under one year old among cases of Meningococcal Meningitis (MM) (35%). Disease duration of less than 24 hours was more frequent among cases of Meningococcal Septicemia (MS) (55%), compared to 6.5% among MM cases. Seizures were significantly more frequent among MS cases, occurring in around 30%, versus 11.5% among cases of Meningococcal Septicemia with Meningitis (MSM). Overall lethality was 32.5%, significantly higher in septicemic forms (41.2%) compared to MM (8.7%). A significantly higher risk of death was found for children under one year old (RR = 1.67; CI95% = 1.11-2.54), those from Cabo de Santo Agostinho (RR = 1.92; CI95% = 1.23-3.02), disease duration of less than 24 hours (RR = 1.76; CI95% = 1.17-2.66), and the presence of hemorrhagic suffusions lasting less than 12 hours (RR = 2.06; CI95% = 1.01-4.20) and decompensated shock (RR = 16.09; CI95% = 4.27-60.63) in septicemic forms of the disease. Among cerebrospinal fluid variables, only cellularity of 10 or fewer cells was significantly associated with death (RR = 2.71; CI95% = 1.11-6.64). A significantly increased risk of death was also associated with platelet counts below 100,000/mm^3 (RR = 3.36; CI95% = 2.15-5.24), white blood cell counts below 10,000/mm^3 (RR = 2.57; CI95% = 1.53-4.33), and metabolic acidosis (RR = 3.94; CI95% = 1.83-8.46), when controlled for septicemic forms of the disease. No association was found between nutritional status, vomiting, seizures, or potassium levels and death. In multivariable analysis, the variables that remained associated with death were disease duration of less than 24 hours (OR = 3.4; CI95% = 2.22-4.55), platelet counts below 100,000/mm^3 (OR = 10.7; CI95% = 9.21-12.18), and acidosis (OR = 9.4; CI95% = 8.19-10.68). This model correctly predicted 75% of deaths and 81% of survivors. **Conclusions**: The lethality of MD was high (32.5%), especially in septicemic forms (41.2%). The main prognostic factors associated with death were disease duration of less than 24 hours, platelet counts below 100,000/mm^3, and the presence of metabolic acidosis.

Keywords: delayed hypersensitivity; school health; BCG vaccine.

PREVALENCE OF CERVICAL EPITHELIAL ABNORMALITIES OF THE CERVICAL OF PREGNANT WOMEN ATTENDED AT CAM - IMIP FROM JANUARY TO DECEMBER 1997

JÚLIA MARIA GONÇALVES DIAS

Advisor: Prof. Melania Maria Ramos de Amorim
Date defense: 2001 jun. 28

Objectives: To determine the prevalence of cervical epithelial abnormalities in pregnant women attending the prenatal service at the Women's Care Center of the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) from January to December 1997. Additionally, to verify the association between colposcopic and cytological findings and maternal variables such as age, gestational age, origin, and parity. **Methods**: A retrospective cross-sectional study was conducted, including all (403) pregnant patients who underwent cytology and colposcopy during prenatal care at CAM-IMIP. Cytologies from other services, before pregnancy, or incomplete tests were not included. Statistical analysis used frequency distributions, the chi-square association test, kappa index, and the exact Fisher Freeman Halton test. **Results**: Low-grade squamous intraepithelial lesions (LGSIL) were found in 2.7% of cases, with only one case of high-grade squamous intraepithelial lesion (HSIL) (0.3%). Among colposcopic findings, cervical ectropion (CE) had a frequency of 23.6%, being the most common colposcopic atypia. There was no agreement between altered cytologies and colposcopies. The frequency of cytological abnormalities was higher in the age group over 35 years (5.8%). Colposcopic abnormalities were more frequent in the third trimester (45.5%) and were also more common in patients from rural areas (47.5%). **Conclusions**: The prevalence of altered colposcopic and cytological findings was determined, with a prevalence of cytological abnormalities around 3%. There was no agreement between altered colposcopic and cytological findings. An association was found between altered cytologies and the maternal age variable. Altered colposcopic findings were associated with gestational age in the third trimester and patients from rural areas.

Keywords: cervical diseases; vaginal smear; pregnancy.

HYPOTHERMIA ON ADMISSION: RISK FACTOR FOR MORTALITY IN NEWBORN INFANTS TRANSFERRED TO THE MATERNAL INFANTIL INSTITUTE OF PERNAMBUCO – IMIP

SUZANA MARIA DA MOTA SILVEIRA

Advisor: Prof. Adriano Cattaneo
Defense date: 2001 jun. 29

Objectives: To determine the risk of death related to hypothermia at admission and other biological, clinical, geographical, and transport-related factors in newborns admitted to the Instituto Materno Infantil de Pernambuco (IMIP) from March to June 2000. **Methods**: The study design was a prospective cohort, involving 320 newborns. It included children under 28 days admitted to IMIP, in Recife, Pernambuco, excluding those transferred from IMIP to other units due to lack of beds or those who returned to the original health unit or home, and those who arrived dead. In the statistical analysis, the relative risk of death (with a 95% confidence interval) was determined according to exposure to hypothermia and other factors: weight, age, sex, primary diagnoses, type of feeding, type of health unit, place of origin, municipality of origin, distance traveled, time elapsed, and support measures during transport (use of oxygen, intravenous fluids, orogastric or nasogastric tube, type of heating, accompanying team). Variables selected based on the explanatory model were included in multivariable analysis using logistic regression. **Results**: The mortality rate was significantly higher in the group exposed to moderate hypothermia (52.5%) than in the non-exposed group, with a relative risk of 3.09 (2.15-4.43). The risk of death was significantly higher for newborns weighing less than 1,500 g (RR=3.52; 95% CI: 2.25-5.50) and between 1,500-2,499 g (RR=1.63; 95% CI: 1.06-2.52), for those younger than one day (RR=2.95; 95% CI: 1.75-4.95), with hyaline membrane disease (RR=3.44; 95% CI: 2.42-4.90), prematurity (RR=2.62; 95% CI: 1.81-3.80), congenital malformations (RR=1.71; 95% CI: 1.16-2.52), use of oxygen (RR=1.84; 95% CI: 1.23-2.75), use of intravenous fluids (RR=1.57; 95% CI: 1.03-2.41), admission from a health unit (RR=2.74; 95% CI: 1.43-5.24), rural origin (RR=1.94; 95% CI: 1.09-3.43), and distances traveled between 151-727 km (RR=1.94; 95% CI: 1.17-3.22) and 51-150 km (RR=1.70; 95% CI: 1.08-2.66). According to the multivariable analysis, the main factors associated with neonatal death were: septicemia (adjusted OR=6.23; 95% CI: 5.66-6.80), hyaline membrane disease (adjusted OR=5.28; 95% CI: 5.03-5.59), moderate hypothermia (adjusted OR=3.49; 95% CI: 3.18-3.81), and distances over 50 km (adjusted OR=2.39; 95% CI: 2.14-2.63). **Conclusions**: Hypothermia observed at the admission of newborns at IMIP's emergency department proved to be an important risk factor for death. In the multivariable analysis, the main factors associated with death were respiratory distress syndrome, septicemia, hypothermia at admission, and the distance traveled during the newborn's transport. In the model used, hypothermia predicted 42% of deaths.

Keywords: hypothermia; infant mortality; risk factors; newborn.

EXPENSES OF THE SINGLE HEALTH SYSTEM ON HOSPITAL ADMISSIONS OF CHILDREN AND TEENAGER VICTIMS OF VIOLENCE, IN THE STATE OF PERNAMBUCO, IN 1999

ROBERTO NATANAEL DA SILVA MENDONÇA

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2001 jul. 26

Objectives: To evaluate the expenditures of the Unified Health System (SUS) on hospitalizations of children and teenagers who were victims of violence in Pernambuco in 1999. **Methods**: A descriptive cross-sectional study was conducted, evaluating all SUS hospitalizations for external causes in the 0-19 age group in Pernambuco. **Results**: In 1999, there were 9,220 hospitalizations in this age group due to these causes, at a cost of R$ 3,659,558.62, with a clear predominance of males, regardless of age group. Trauma was the main cause of these hospitalizations, accounting for 84.7% of the cases. The monthly distribution of hospitalizations showed higher frequencies in February, March, and December, with the highest expenditure observed between September and December. In the Recife Metropolitan mesoregion, 65.1% of the hospitalizations and 77.9% of the expenditures were recorded for the entire state. The Hospital da Restauração was responsible for 48.4% of the expenditures in Pernambuco during the study year. **Conclusions**: The values described demonstrated that external causes are a significant cause of hospitalizations and hospital costs, highlighting the need for integrated preventive actions between Public Health and public security institutions.

Keywords: violence; unified health system; hospital costs; child; teenager.

BREASTFEEDING AND ATOPIC DERMATITIS - CASE STUDY - CONTROL

ESTHER BASTOS PALILOT DE BRITO

Advisor: Prof. Emanuel Sálvio Cavalcanti Sarinho
Defense date: 2001 aug. 28

Objectives: To determine whether children with atopic dermatitis exhibit hypersensitivity to cow's milk proteins. The specific objective was to establish a relationship between the age of exposure to cow's milk and the frequency of sensitization to cow's milk allergens. **Methods**: A case-control study was conducted with 48 children with atopic dermatitis and 48 children without atopic dermatitis. **Results**: The results showed a higher frequency of early exposure to cow's milk in the group of children with atopic dermatitis (x^2=9.39, p=0.0021). Immediate hypersensitivity tests to cow's milk proteins demonstrated a higher frequency in children with atopic dermatitis compared to the control group. In the atopic dermatitis group, positivity to raw milk and β-lactoglobulin were 9/48 and 8/48, respectively (18.8% and 16.7%), while in the control group only 1/48 (2%) of the sample showed positivity to cow's milk. For the delayed hypersensitivity test, only one child with atopic dermatitis, from the entire sample (cases and controls), showed positivity. Children with atopic dermatitis were exposed early to cow's milk and had a higher frequency of positivity for the immediate hypersensitivity test (raw milk and β-lactoglobulin) compared to the control group. **Conclusions**: Exclusive breastfeeding is important, among other beneficial effects, for the potential prevention of allergic diseases such as atopic dermatitis.

Keywords: breastfeeding.

ANEMIA, GROWTH RETARDATION, AND ENTEROPARASITOSIS IN SCHOOL CHILDREN IN THE PUBLIC SCHOOL SYSTEM OF MACEIÓ, ALAGOAS

CÉLIA DIAS DOS SANTOS

Advisor: Prof. Leonor Maria Pacheco dos Santos
Defense date: 2001 aug. 30

Objectives: To assess the prevalence of iron deficiency anemia, stunted growth, and enteroparasitic infections among school children in Alagoas, as well as the association between these variables. **Methods**: A cross-sectional study was conducted in 22 public schools (state and municipal) in the urban area of Maceió, Alagoas. A probabilistic, multi-stage sample of 454 first-grade students aged 6 to 10 years was randomly selected. Stunted growth was evaluated using the height-for-age (H/A), weight-for-age (W/A), and weight-for-height (W/H) indicators, with values below -2.0 standard deviations of the National Center of Health Statistics (NCHS) reference being classified as stunting. The diagnosis of anemia was based on hemoglobin (HGB) concentration in blood samples collected via venipuncture and analyzed by the cyanmethemoglobin method, using two cut-off points established by the World Health Organization: <11.5g/dL and <12.0g/dL. Enteroparasitic infections were determined by the coprotest method in samples collected from 405 children in the study. The following prevalence rates were observed for stunted growth: H/A = 6.2%, W/A = 4%, and W/H = 3%. Anemia was diagnosed in 9.9% of the students using the HGB <11.5g/dL criterion, and in 25.4% using the HGB <12.0g/dL cut-off point. **Results**: The overall prevalence of enteroparasitic infections was 38.5%, with *Ascaris lumbricoides* being the most frequent parasite (22%), followed by *Giardia lamblia* (9.9%), *Trichuris trichiura* (6.7%), and hookworms (1.5%). There was no association between the study variables, similar to findings in other research. The absence of an association may be more related to diet (which was not evaluated in this study) than to the enteroparasitic infections identified in the study group. The low prevalence of stunted growth may reflect a situation found in research conducted across the country, indicating an improvement in the nutritional status of Brazilian children, especially in urban areas, or showing an organic adaptation to chronic malnutrition. Furthermore, the study highlights the nutritional condition of children in the school environment, likely attended by the healthiest students, given their circumstances: 80% of the parents were illiterate or had not completed primary school, and 86.4% of families earned less than three minimum wages through low-paying jobs. **Conclusions**: The prevalence of anemia at both cut-off points reveals the severity of the problem and the need to implement widespread measures to combat enteroparasitic infections and nutritional deficiencies so that school children can achieve their maximum potential for health, growth, and performance.

Keywords: iron deficiency anemia; growth; parasitic enteropathies.

PREVALENCE OF PARTNER VIOLENCE IN WOMEN ASSISTED IN THE WOMEN'S CARE CENTER OF THE MATERNAL INFANTIL INSTITUTE OF PERNAMBUCO

TELMA CURSINO DE MENEZES

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2001 aug. 30

Objectives: To determine the prevalence of physical violence before and during pregnancy, compare its different characteristics before and during pregnancy, and assess the various types of aggression. Additionally, to identify the risk factors for violence related to women and their partners and examine the association between physical violence and perinatal outcomes. **Methods**: A cross-sectional study was conducted to determine the prevalence of physical violence among women giving birth at a high-risk maternal and child hospital in Recife, Pernambuco, from February to March 2001. An interview with open and closed questions was applied to a convenience sample of 420 women. Statistical analysis was performed using Epi-Info 6.04b software, with chi-square and Fisher's exact tests, at a significant level of 5%. **Results**: The prevalence of physical violence was 13.1% (95% CI: 10.1-16.6) before pregnancy and 7.4% (95% CI: 5.2-10.2) during pregnancy. Among the 55 women who reported physical violence, aggression stopped during pregnancy in 44% of cases, decreased in 27%, remained unchanged in 18%, and increased in 11%. The most frequent types of aggression were pushing and slapping. Regression analysis revealed that the variables associated with physical violence were a history of family violence in the woman's family, low educational level of the woman, and an alcoholic partner. An association was found between physical violence against women and neonatal mortality. **Conclusions**: A high rate of physical violence was observed before and during pregnancy, which was associated with an alcoholic partner, low educational level of the woman, and a family history of violence. Neonatal mortality was higher among women subjected to physical violence.

Keywords: domestic violence; pregnancy; risk factors.

EVALUATION OF THE IMPACT OF ANTENATAL CORTICOTHERAPY ON PRE-TERM NEWBORN CHILDREN ASSISTED AT A SCHOOL MATERNITY IN RECIFE

ISABELA CRISTINA COUTINHO DE ALBUQUERQUE NEIVA COELHO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2002 feb. 26

Objectives: To evaluate the effects of antenatal corticosteroid therapy on the incidence of neonatal respiratory distress syndrome (NRDS), other morbidities, and neonatal mortality in preterm newborns from women diagnosed with preterm labor, treated at a teaching hospital.**Methods**: An observational, analytical cohort study was conducted, including 155 newborns from women admitted to the Maternity Hospital of the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, who delivered prematurely. Of these, 78 used corticosteroids and 77 did not. The corticosteroid regimen used, the incidence of NRDS and other morbidities related to prematurity, as well as neonatal mortality, were assessed from February to November 2001. NRDS, other prematurity-related morbidities, and neonatal mortality were defined according to the criteria adopted in the IMIP Nursery. **Results**: Corticosteroid use was observed in 50.3% of patients, with a complete regimen used by 64% and an incomplete regimen by 36%. The incidence of NRDS was significantly lower in the corticosteroid group (37.2%) compared to the non-corticosteroid group (63.6%). No reduction in the risk of morbidities associated with prematurity was found in the corticosteroid group. However, a 39% reduction in mortality risk was observed, although it was not statistically significant. There was a 37% reduction in the frequency of oxygen therapy in the corticosteroid group, but no difference in the duration of oxygen therapy or in the length of hospitalization was noted. Logistic regression analysis showed a 72% reduction in the risk of NRDS with corticosteroid use and an approximately sevenfold increase in the risk of NRDS with a gestational age of <32 weeks. **Conclusions**: Antenatal corticosteroid therapy is an effective treatment for reducing NRDS in patients between 26 and 35 weeks of gestational age. This study did not observe a reduction in other morbidities related to prematurity; only a non-significant reduction in mortality risk was noted, along with reduced need for oxygen therapy without influencing its duration or the length of hospital stay.

Keywords: antenatal corticosteroid; neonatal prognosis; neonatal respiratory distress syndrome; prematurity.

CRITICAL ANALYSIS OF DIAGNOSTIC TESTS FOR GESTATIONAL DIABETES

LEILA KATZ DIAS MARTINS

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2002 feb. 26

Objectives: To evaluate the maternal and perinatal outcomes of patients subjected to a glucose tolerance test with 100 g of glucose at the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) according to three different diagnostic criteria. To assess the accuracy of blood glucose values in predicting newborns who are large for gestational age (LGA). **Methods**: A cross-sectional study was conducted, including 210 patients undergoing prenatal care at the Centro de Atenção à Mulher (CAM) of IMIP in Recife, Pernambuco. These patients underwent a 100 g oral glucose tolerance test (OGTT) and had a singleton, term pregnancy without a history of diabetes or carbohydrate intolerance prior to pregnancy and delivered at IMIP. The patients were classified into groups: controls, patients with mild hyperglycemia, and gestational diabetes according to the criteria of Bertini, Carpenter and Coustan, and the NDDG. Associations were sought between the classification of patients in the groups and the presence of hypertensive disorders, the presence of newborns large for gestational age, macrosomic newborns, gestational age at delivery, and average birth weight. The mean values of each point of the OGTT were also calculated and tested for association with the classification of newborns regarding weight adequacy for gestational age. Finally, the significant dosages (fasting blood glucose collected at the beginning of prenatal care and from the OGTT) were selected to evaluate the accuracy of cutoff points for predicting newborns who are LGA. **Results**: The frequency of gestational diabetes according to the criteria of Bertini, Carpenter and Coustan, and NDDG was 48.1%, 18.1%, and 9%, respectively, while the frequency of mild hyperglycemia was 10.5%. The age of the patients progressively increased according to the greater degree of carbohydrate intolerance. The groups did not differ regarding the frequency of LGA, cesarean sections, stillbirths, or average birth weights. There was a trend toward an increased frequency of hypertensive disorders, although not significant. When considering the average glucose values, the predictive values for LGA were the fasting glucose collected at the beginning of prenatal care and the fasting value from the OGTT (p=0.01, p=0.03). The cutoff point that best predicted the occurrence of LGA in both tests was 90 mg%. **Conclusions**: The prevalence of gestational diabetes found was 48.1%, 18.1%, and 9% according to the criteria of Bertini, Carpenter and Coustan, and NDDG, respectively, while the frequency of mild hyperglycemia was 10.5%. No significant differences were observed in maternal and perinatal outcomes among the groups. Fasting glucose levels during the first visit and fasting levels from the OGTT were the best predictors of LGA occurrence, with the optimal cutoff point being 90 mg%.

Keywords: gestational diabetes; glucose; hyperglycemia.

SPINAL ANESTHESIA X EPIDURAL ANESTHESIA IN PREGNANT WOMEN WITH SEVERE PRE-ECLAMPSIA – RANDOMIZED CLINICAL TRIAL

LUCIANA CAVALCANTI LIMA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2002 feb. 26

Objectives: To compare hemodynamic variability, maternal complications, and neonatal effects of spinal anesthesia and simple epidural anesthesia in pregnant women with severe preeclampsia. **Methods**: A randomized, open-label clinical trial was conducted involving 52 pregnant women diagnosed with severe preeclampsia, defined according to the criteria of the National High Blood Pressure Working Group. The study was carried out at the maternity ward of the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, from May to November 2001. Participants included those undergoing cesarean delivery with a living fetus. Cases of eclampsia, HELLP syndrome, or those with absolute or relative contraindications to anesthetic block, or a previous history of post-spinal headache, were excluded. Statistical analysis utilized Pearson's chi-square test for qualitative variables at a significant level of 5%, and tests for differences in means for quantitative variables. The study assessed systolic, diastolic, and mean arterial pressure, the use and number of doses of vasopressors, the volume of fluid infused during the anesthetic procedure, maternal complications during and after the operation, and the incidence of neonatal hypoxia and acidosis. **Results**: Variations in systolic and mean arterial pressure were similar in both groups, except at T5 (30 minutes after the anesthetic block), where the variation was significantly greater in the spinal anesthesia group (18% and 23%) compared to the epidural anesthesia group (8% and 14%) for systolic and mean arterial pressure, respectively. The incidence of hypotension was similar between groups, with a significantly higher frequency at T4 (15 minutes after the anesthetic block) in the spinal anesthesia group, which also showed a significantly greater need for vasopressors. There were no differences in the volume of fluid infused or in the incidence of perioperative or postoperative complications. The frequency of neonatal hypoxia and acidosis did not differ, with an overall frequency of 17.3% of acidotic neonates in the study. **Conclusions**: Spinal anesthesia and simple epidural anesthesia in pregnant women with severe preeclampsia showed similar hemodynamic variability, maternal complications, and neonatal effects, except for the number of doses of vasopressors, which was significantly higher in the spinal anesthesia group. These results indicated that both spinal anesthesia and simple epidural anesthesia are feasible techniques in this population.

Keywords: preeclampsia; spinal anesthesia; epidural anesthesia.

INCIDENCE OF CORNEAL INJURY AND THE MAIN RISK FACTORS IN CHILDREN SUBJECTED TO MECHANICAL VENTILATION IN THE THERAPY UNIT PERNAMBUCO INTENSIVE. COHORT STUDY

ELIANE MENDES GERMANO LINS

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2002 feb. 27

Objectives: To determine the incidence of corneal injury and the main risk factors associated with its occurrence in children undergoing mechanical ventilation admitted to the Pediatric Intensive Care Unit of the Instituto Materno Infantil de Pernambuco (IMIP) in Recife, Pernambuco, from March 28 to November 4, 2001. **Methods**: A cohort study was conducted to evaluate the biological and clinical characteristics of 53 children on mechanical ventilation, identifying prognostic factors associated with corneal injury. The cornea was assessed daily through direct examination with fluorescein and a portable slit lamp. The relative risk (RR) and its 95% confidence interval (CI95%) were calculated for each variable analyzed using Epi-Info 6.04b. Multiple logistic regression analysis was performed with SPSS 8.0 for Windows, employing a non-conditional model to select variables that remained associated with corneal injury at a significant level of 5%. The model with the highest predictive value was identified. **Results**: Among the children on mechanical ventilation, a corneal injury frequency of 24.5% was observed, with injuries located in 53.8% of patients in both eyes and in 46.2% in the left eye only. Most injuries (69.2%) were detected during the first week of ventilation, mainly within the first 48 hours (46.2% of cases). No statistically significant differences were found regarding age, sex, or presence of severe malnutrition. Among children with at least one organ failure, 42.9% exhibited injury (RR=3.42; CI95%: 1.21-9.71). There was no significant association between corneal injury and hemodynamic instability (RR=1.58; CI95%: 0.62-4.07), use of vasoactive amines (RR=1.21; CI95%: 0.47-3.10), or presence of ocular secretions (RR=1.02; CI95%: 0.33-3.14). Among the total number of children who died, 44% had corneal injury (RR=3.11; CI95%: 1.19-8.14). In multivariable analysis, after adjusting for potentially confounding variables, the maintenance of eye openness (OR=35.5; CI95%: 33.24-37.82) and sepsis (OR=19.3; CI95%: 17.04-21.50) remained in the model as prognostic factors. This model correctly predicted 84.91% of cases. **Conclusions**: A high incidence (24.5%) of corneal injury was found in children undergoing mechanical ventilation, similar to that in adult patients. The main risk factor associated with corneal injury was the maintenance of eye openness.

Keywords: cornea; risk factors; artificial respiration.

CHILD DEVELOPMENT AND MALNUTRITION: GROWTH AND MODE OF PLAYING BY CHILDREN FROM 4 TO 18 MONTHS ADMITTED TO IMIP

ANEIDE ROCHA DE MARCOS RABELO

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2002 feb. 28

Objectives: To evaluate the performance of play in the home environment and its relationships with socio-demographic characteristics and growth of eutrophic and malnourished children aged 4 to 18 months admitted to the Instituto Materno Infantil de Pernambuco (IMIP) from June to October 2001. **Methods**: This cross-sectional observational study collected data through anthropometric measurements of 47 eutrophic children and 45 malnourished children, including weight, length (comp), and head circumference (cc), as well as a questionnaire directed to parents. The questionnaire focused on the study variables (child's sex and age, socio-demographic data of the family, information about play activities, and characterization of the child's play experience, including interaction with the environment, objects, toys, and others). Statistical analysis was conducted using Mann-Whitney or Kruskal-Wallis tests (for mean value comparisons), t-tests (for regression line comparisons), and chi-square tests (for relative risk). **Results**: The malnourished group showed inferior performance compared to the eutrophic group ($p < 0.0001$). The relationship between the average play score and the study variables indicated that: for gender, malnourished male children had a lower score ($p < 0.0001$); the comparison of allometric coefficients (logcc/logcomp) for eutrophic and malnourished children in the total sample showed no difference ($p > 0.05$); however, regarding cc/comp by gender, male malnourished children showed a reduction compared to eutrophic ($p < 0.01$), while there was no significant difference for females; the malnourished group demonstrated inferior ability for postural adequacy in play ($p = 0.0001$), object manipulation ($p = 0.0014$), and oral communication ($p = 0.0031$); malnourished children had lower scores when maternal age was over 25 years; higher maternal education levels increased the score for both eutrophic ($p = 0.025$) and malnourished ($p = 0.003$) children; regarding origin, malnourished children from rural areas had a lower score ($p = 0.000$), with no performance difference in eutrophic children ($p = 0.323$); higher family income was associated with increased play activity (eutrophic $p = 0.000$; malnourished $p = 0.005$); a higher number of people per room correlated with lower play performance in malnourished children ($p = 0.031$), which did not occur in the eutrophic group ($p = 0.392$). **Conclusions**: The association between malnutrition and poor socio-demographic factors (maternal education, family income, origin, family overcrowding) contributes to reduced performance in play activities. The relative reduction in head growth velocity in male children is associated with lower play performance, while this association does not occur in females. Malnourished female children appear to be more protected than males regarding play performance. The low performance in play activities among malnourished children may

reflect underlying behavioral availability (reduced learning capacity, social relationships) also affected by malnutrition.

Keywords: games and toys; malnutrition; play.

CHARACTERIZATION OF CLIENTS ASSISTED IN THE OPHTHALMOLOGY SERVICE IMIP IN THE AGE GROUP FROM 0 TO 15 YEARS

RAQUEL COSTA ALBURQUERQUE

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2002 feb. 28

Objectives: To characterize the clientele served at the Ophthalmology Service of the Instituto Materno Infantil de Pernambuco (IMIP) according to socio-demographic profile, access (type of referral), ocular conditions, and adopted management practices. **Methods**: A descriptive cross-sectional study was conducted through a questionnaire completed by mothers or caregivers to collect personal data and information related to the patients' visual problems. **Results**: Of the 388 children observed, 51.0% were male and 49.0% were female. Geographically, 55.6% came from the metropolitan area of Recife, 18.8% from the Zona da Mata, 10.0% from the Agreste region, 4.0% from the Sertão, and 0.7% from the Vale do São Francisco. In terms of age, 7.0% were newborns, 22.7% were infants, 20.1% were preschoolers, 33.5% were school-aged children, and 16.7% were teenagers. Referrals to the service were primarily from medical professionals (91.0%), followed by family members or friends (5.6%) and schools (3.4%). A total of 82.6% of the children were of school age and attending school. Among the mothers, 48.2% had 1 to 4 years of education. The majority of diagnoses (62.1%) involved disorders of ocular muscles, binocular movement, accommodation, and ocular refraction. Within the population studied, 5.7% had preventable diseases, and 14.4% had conditions associated with ocular disorders, with 7.5% being neurological disorders. In terms of management, 43.8% were directed to outpatient follow-up, 29.4% to optical correction, 14.9% to surgery, 9.3% to visual rehabilitation, and 2.6% referred to other services. **Conclusions**: No significant differences were found based on sex, but the majority of patients were of school age. Most referrals came from the metropolitan area of Recife, with a significant number also from the Zona da Mata region. The most common visual disorders in the studied population were strabismus and refractive errors. Additionally, 14.4% presented conditions associated with ocular disorders, with 7.5% being neurological disorders, and 5.7% had preventable diseases. The management adopted by the service professionals included outpatient follow-up (43.8%), optical correction (29.4%), surgery (14.9%), visual rehabilitation (9.3%), and referrals to other services (2.6%).

Keywords: eye health; vision disorders; prevention and rehabilitation.

GESTATIONAL AND PERINATAL CHARACTERISTICS OF CHILDREN FROM 0 TO 6 YEARS ATTENDED, AT HR AND IMIP WITH SUSPICION OF HAVING SUFFERED PHYSICAL ILL TREATMENT AND/OR NEGLECT

MARIA DO CARMO CAMAROTTI DA SILVA

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2002 mar. 01

Objectives: To determine certain characteristics of the gestational and perinatal periods of children aged 0 to 6 years who attended HR and IMIP between March 15 and September 15, 2001, with suspected physical abuse and/or neglect. **Methods**: A descriptive cross-sectional study was conducted, analyzing 63 children attended at HR and IMIP with suspected physical abuse and/or neglect. Of these, 22 were excluded due to the inability to interview the mothers, and there were 6 losses. Therefore, the final group included 35 children whose mothers were interviewed using a structured questionnaire, containing closed questions (both simple and multiple-choice) and semi-open qualitative questions. A specific database was created in EPI-INFO 2000, and the studied variables were distributed in frequency tables. **Results**: The largest concentration of cases (54.3%) occurred in children under one year of age, with a predominance of males (62.0%) from the metropolitan region (71.5%). Among the children studied, 57.1% were cases of neglect, 17.1% were cases of physical abuse, and 25.7% were indeterminate in nature regarding maltreatment. Concerning injuries, 17.1% were cases of traumatic brain injury (TBI), 8.6% were fractures, 2.9% were cases of burn, and 48.6% involved other types of injuries. In 22.8% of cases involving abandonment, no injury was present. Regarding perinatal variables, 22.9% of the children studied were premature, 28.6% did not experience rooming-in after birth, and 5.7% had mild congenital malformations. In relation to maternal age at the time of the interview, 34.3% of mothers were teenagers, and 42.9% were teenagers at the time of their child's birth. Regarding maternal education, it was found that 40.0% of mothers were illiterate. Additionally, 60.0% of mothers did not wish to become pregnant, 34.0% considered giving the child up for adoption or aborting, and 22.9% of mothers attempted abortion. Furthermore, 62.8% of the children did not have regular contact with their fathers and were cared for by their mothers, with 31.4% of fathers not assuming paternity.

Keywords: domestic violence; child abuse; maltreatment.

RISK ANALYSIS FOR PLEURAL IMPACT IN PNEUMONIA SERIOUS IN CHILDREN UNDER 5 YEARS OF AGE

MARIA DO CARMO CAMAROTTI DA SILVA

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2002 mar. 01

Objectives: To determine some characteristics of the gestational and perinatal periods of children aged 0 to 6 years treated at HR and IMIP between March 15 and September 15, 2001, with suspected physical abuse and/or neglect. **Methods**: A descriptive cross-sectional study was conducted analyzing 63 children treated at HR and IMIP with suspected physical abuse and/or neglect. Of these, 22 were excluded due to the inability to interview the mothers, and there were also 6 losses. Therefore, the final group consisted of 35 children whose mothers were interviewed using a structured questionnaire that included closed questions (simple and multiple choice) and semi-open qualitative questions. A specific database was created using EPI-INFO 2000, and the studied variables were distributed in frequency tables. **Results**: The highest concentration of cases (54.3%) occurred in children under one year of age, with a predominance of males (62.0%) and those coming from the metropolitan region (71.5%). Among the children studied, 57.1% were classified as cases of neglect, 17.1% as cases of physical abuse, and 25.7% as indeterminate regarding the nature of maltreatment. Regarding injuries sustained, 17.1% were cases of traumatic brain injury (TBI), 8.6% were fractures, 2.9% were burns, and 48.6% had other types of injuries. In 22.8% of cases of abandonment, no injuries were reported. Regarding perinatal variables, 22.9% of the children studied were premature, 28.6% did not stay in rooming-in after birth, and 5.7% had mild congenital malformations. Concerning maternal age, at the time of the interview, 34.3% of mothers were teenagers, and 42.9% were teenagers when the child was born. In terms of maternal education, 40.0% of mothers were illiterate. It was found that 60.0% of mothers did not wish to become pregnant, 34.0% of these mothers considered giving the child up for adoption or having an abortion, and 22.9% of mothers attempted abortion. Additionally, 62.8% of the children did not have regular contact with their fathers, being cared for by their mothers, and 31.4% of fathers did not acknowledge paternity.

Keywords: domestic violence; child abuse; maltreatment.

RISK ANALYSIS FOR PLEURAL IMPACT IN PNEUMONIA SERIOUS IN CHILDREN UNDER 5 YEARS OF AGE

KARLA DANIELLE XAVIER DO BONFIM

Advisor: Prof. Gilliatt Hanois Falbo
Defense date: 2002 mar. 01

Objectives: To determine the epidemiological risk factors associated with the development of pleural involvement (PI) in children aged 3 to 59 months hospitalized with severe pneumonia at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP. **Methods**: The study design was observational, cross-sectional, descriptive, with an analytical component. The exposure to epidemiological factors related to demographics, environment, and socioeconomic and nutritional conditions of 154 patients aged 3 to 59 months hospitalized with severe pneumonia, who either developed or did not develop PI, was analyzed. The assessment was conducted upon hospital admission or during the treatment of the acute illness in the IMIP wards. The case definition for severe pneumonia followed the clinical criteria of the World Health Organization and the Brazilian Ministry of Health, and PI was defined according to radiological findings. The information was obtained from the Database of the CARIBE/PAHO/WHO Project (Collaborative Multicentre study on Acute Respiratory Infections and Bacterial Resistance), with data collection for admitted patients occurring from July 2000 to May 2001. The Epi-Info program, version 6.04b, was used for bivariate analysis at a significant level of 5% with a power of 80%. The intensity of the association was determined by calculating the prevalence ratio with its respective 95% confidence intervals (CI95%). **Results**: The frequency of PI was 25.3% among the 154 patients studied. An association was observed for the development of PI with the following factors: residence in a rural area (PR=2.09; CI95%: 1.22-3.58; p=0.01), fewer than 2 rooms in the household (PR=2.03; CI95%: 1.17-3.52; p=0.02), monthly family income below U$ 170.00 (PR=1.99; CI95%: 1.02-3.87; p=0.03), and birth weight below 2500 grams (PR=1.85; CI95%: 1.03-3.34; p=0.05). No association was demonstrated for the development of PI with the other factors studied. **Conclusions**: The findings emphasize the significance of certain socioeconomic, environmental, and nutritional variables in association with PI in severe pneumonia cases among children under five years of age, allowing for potential preventive measures to be identified.

Keywords: Pneumonia, Risk factors, Child.

COMPARISON OF ULTRASONOGRAPHIC, HYSTEROSCOPIC AND HISTOPATHOLOGICAL IN PATIENTS WITH UTERINE BLEEDING AFTER MENOPAUSE

ADRIANA SCAVUZZI CARNEIRO DA CUNHA

Advisor: Prof. João Sabino Pinho Neto
Defense: 2002 oct. 15

Objectives: To determine the association between ultrasound, hysteroscopic, and histopathological findings in women with uterine bleeding in menopause, identifying the main associated factors and the presence of premalignant and malignant endometrial lesions. **Methods**: A descriptive, retrospective, cross-sectional study was conducted, including 156 patients with uterine bleeding in menopause attended at the Women's Care Center (CAM) of the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, Recife, Pernambuco, from January 1995 to December 2001. The patients were grouped according to endometrial echo thickness measured by ultrasound into normal and abnormal, based on cutoff points of 4 and 5 mm. The frequency of the main hysteroscopic and histopathological findings in these women was determined, subsequently categorized into premalignant lesions (hyperplasias) and malignant (cancer). The concordance (kappa test) between hysteroscopic and histopathological findings was also determined, along with the association of these findings with various risk factors such as systemic arterial hypertension, diabetes, patient age, duration of menopause, nulliparity, and obesity. Finally, among the risk factors, multivariable analysis was conducted to identify those most strongly associated with malignant and premalignant endometrial lesions. **Results**: The frequency of endometrial echo thickening, when cutoff points of 4 and 5 mm were adopted, was 75% and 67.3%, respectively. The most frequent hysteroscopic findings were atrophic endometrium (37.8%), followed by endometrial polyps (35.9%), endometrial hyperplasia (10.9%), endometrial cancer (10.3%), other findings (1.9%), and functional endometrium (4.5%). Regarding histopathological findings, a higher frequency of atrophic endometrium (31.4%) was also observed, followed by endometrial polyps (26.3%), insufficient material (16.0%), endometrial cancer (10.9%), hyperplasia (9.0%), and other findings (6.4%). A statistically significant association was observed between premalignant and malignant endometrial lesions and the endometrial echo thickness measured ultrasonographically, with only one case of malignancy noted in patients with a cutoff point of 5 mm. No false negatives were shown with a cutoff point of 4 mm. A good level of concordance was found between hysteroscopic and histopathological findings (kappa=0.61). When evaluating the association of hyperplasia and endometrial cancer with various risk factors, a statistically significant association was found with the presence of systemic arterial hypertension, obesity, age, duration of menopause, and, after multivariable analysis, obesity and duration of menopause were identified as the most strongly associated risk factors for premalignant and malignant endometrial lesions. There was a trend toward increased risk in nulliparous patients, although not significant. **Conclusions**: No cases of premalignant or malignant lesions were observed when a cutoff point of 4 mm was adopted. The most frequent hysteroscopic and histopathological findings were atrophic endometrium and endometrial polyps. The risk factors most strongly associated with hyperplasia and endometrial cancer were the presence of obesity and a duration of menopause greater than five years.

Keywords: hemorrhage; menopause; ultrasonography; hysteroscopy.

PROGNOSTIC FACTORS ASSOCIATED WITH DEATH FROM VISCERAL LEISHMANIASIS (CALAZAR) IN CHILDREN ADMITTED TO THE MATERNAL INFANTIL INSTITUTE OF PERNAMBUCO

MÁRCIA JAQUELINE ALVES DE QUEIROZ SAMPAIO

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2002 oct. 31

Objectives: To determine the prognostic factors for death, lethality, and the main causes associated with mortality from visceral leishmaniasis (kala-azar) in children hospitalized at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP. **Methods**: A retrospective cohort study analyzed the medical records of 431 children up to 14 years old who were hospitalized at IMIP in Recife, Pernambuco, due to kala-azar from May 1996 to December 2001. The confirmed diagnosis group included those with positive bone marrow aspiration (finding Leishmania in the smear) or positive serology (DAT or IFI) for Leishmania, while the probable group included patients with both previous tests negative but who presented epidemiological, clinical (fever and splenomegaly), and laboratory (pancytopenia) evidence of the disease. The association between biological, demographic, socioeconomic, clinical, and laboratory variables and death in children with kala-azar was investigated. Statistical analysis was performed using Epi-Info 6.04b and SPSS 6.0 for Windows. The association between variables and death was determined through univariate analysis, and a logistic regression model was used to determine the adjusted odds ratio for death, controlling for confounding factors. A final model was constructed to identify the variables most strongly associated with death. **Results**: The overall lethality was 10.2%, and the main causes associated with death were infection, hemorrhage, anemia, and the combination of infection and/or hemorrhage and/or liver failure. No association was found between sex, origin, maternal education, lack of water, or sanitation in the household and death. A significantly elevated risk of death was identified for the following factors: children under five years old, severely malnourished, those with edema, hemorrhage, jaundice, dyspnea, and infection present at admission. The transfusion of red blood cells, plasma, or platelets during hospitalization also showed a significant association with death. Hemoglobin levels <5/dL, platelet counts below 50,000/mm^3, and severe neutropenia (<500/mm^3) were associated with death. **Conclusions**: Lethality from kala-azar was high, with the main causes of death being infection, hemorrhage, severe anemia, and liver failure. Children of young age, severely malnourished, those with jaundice, edema, hemorrhage, infection, or dyspnea, or those who received blood products during hospitalization, or who had severe neutropenia and thrombocytopenia had a higher risk of death. The prognostic factors most strongly associated with death were jaundice, infection, dyspnea, severe neutropenia, and thrombocytopenia.

Keywords: childhood mortality; visceral leishmaniasis; prognosis.

PREVALENCE OF HEPATITIS B SURFACE ANTIGEN IN PARTURIENTS HOSPITALIZED AT THE MATERNAL AND CHILD INSTITUTE OF PERNAMBUCO

MARIA DO SOCORRO AGRA GUILHERME

Advisor: Prof. Luiz Claudio Arraes de Alencar
Defense date: 2002 dec. 20

Objectives: 1) To determine the prevalence of hepatitis B surface antigen (HBsAg) among parturients hospitalized at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP in Recife, Pernambuco, from June to December 2001; 2) To determine the serological profile of mothers who tested positive for HBsAg; 3) To determine the main perinatal characteristics (birth weight and gestational age of newborns) of mothers carrying HBsAg; 4) To assess the biological (age), socioeconomic (occupation, marital status, education, and family income), and behavioral (number of sexual partners) characteristics of these parturients; and 5) To evaluate the post-vaccination serological profile of infants born to HBsAg-positive mothers after the third dose of the Engerix B vaccine. **Methods**: A cross-sectional descriptive study was conducted with 1,584 parturients to determine the prevalence of hepatitis B surface antigen and the main serological, biological, socioeconomic, and behavioral characteristics of HBsAg-positive mothers, as well as the perinatal characteristics (birth weight and gestational age) of their infants. In a second phase, a longitudinal study assessed the maternal serological profile for HBV and the post-vaccination serological profile of infants born to seropositive mothers. HBsAg serological testing was performed using the VIDAS HBsAg system, which employs the ELISA technique. Other markers were analyzed using the AxSYM system, which employs the MEIA technique. **Results**: The prevalence found was 0.57% (95% CI: 0.20-0.94) among the 1,584 mothers evaluated (9/1,584). The serological profile of the HBsAg-positive mothers (9/1,584) showed that 100% (9/9) had total anti-HBc present and 88.9% (8/9) had anti-HBe. Only 11.1% (1/9) tested positive for HBsAg. None of them had anti-HBc IgM or anti-HBs antibodies. The mean maternal age was 24 years, with most having incomplete primary education, belonging to a low socioeconomic class, with an average monthly family income of R$244.00, and engaged primarily in domestic activities. The post-vaccination serological profile of infants showed that 80% had detectable protective anti-HBs titers. **Conclusions**: The prevalence of hepatitis B among parturients at IMIP was low (0.57%). The serological profile of seropositive mothers indicated that all were chronic carriers (9/9), with the majority (8/9) showing a favorable evolution towards resolution and only one (1/9) demonstrating a tendency towards chronicity. The post-vaccination serological profile indicated immunogenicity in 80% of infants born to seropositive mothers (8/10). Except for preterm infants and one low birth weight infant due to multiple births, all infants presented protective serology.

Keywords: hepatitis B; hepatitis B antigens; socioeconomic factors; mothers.

INTRA AND POSTOPERATIVE RESULTS OF VAGINAL HYSTERECTOMY VERSUS ABDOMINAL HYSTERECTOMY IN WOMEN WITHOUT GENITAL PROLAPSE, IN A TEACHING HOSPITAL IN RECIFE: RANDOMIZED CLINICAL TRIAL

AURÉLIO ANTÔNIO RIBEIRO DA COSTA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2003 jan. 21

Objectives: To compare intraoperative and postoperative results in patients without genital prolapse or adnexal diseases who underwent vaginal or abdominal hysterectomy. **Methods**: An open label, randomized clinical trial was conducted involving patients without genital prolapse who underwent total hysterectomy indicated for benign diseases at IMIP in Recife, Pernambuco. A total of 35 patients were included, randomly allocated into two groups: 19 underwent vaginal hysterectomy, and 16 underwent abdominal hysterectomy. The following variables were studied: volume of blood loss, need for blood transfusion, operative time, postoperative pain (intensity and use of analgesics), length of hospital stay, operative complications, time to return to activities, and patient satisfaction. For statistical analysis, the Chi-square test, Fisher's exact test, and Mann-Whitney test were used for group comparisons, considering a significance level of less than 5%. **Results**: The volume of blood lost during abdominal hysterectomies (median of 902 ml) was significantly greater than that lost during vaginal hysterectomies (median of 520 ml), with no patients in the vaginal group requiring transfusion, compared to 19% in the abdominal group. The duration of surgery was similar, with a median of 120 minutes in both groups. The intensity of pain, measured by visual analog scale scores, was significantly lower in patients who underwent vaginal hysterectomy, who also had a lower frequency of analgesic use. No differences were observed in the frequency of intra- or postoperative complications between the two groups, with only one case of infection in each group and one case of deep vein thrombosis in the vaginal hysterectomy group. The time to return to activities was significantly shorter for patients who underwent vaginal hysterectomy (median of 35 days) compared to the abdominal group (median of 40 days). Satisfaction levels were similar in both groups. **Conclusions**: The benefits of vaginal hysterectomy in this study included a lower volume of intraoperative blood loss, reduced intensity of postoperative pain, a lower frequency of analgesic requests, and a shorter time to return to activities after surgery. The vaginal route may advantageously replace the abdominal route in patients indicated for hysterectomy.

Keywords: abdominal hysterectomy; vaginal hysterectomy; surgical complications; randomized clinical trial.

USE OF TRANSCUTANEOUS ELECTROSTIMULATION TO RELIEVE PAIN DURING LABOR IN A MATERNITY - SCHOOL - CLINICAL TRIAL RANDOMIZED

FLÁVIA AUGUSTA DE ORANGE LINS DA FONSECA E SILVA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2003 jan. 21

Objectives: To compare the effects of transcutaneous electrical stimulation (TENS) application or no application before the initiation of combined anesthesia (spinal and epidural) on labor pain relief. **Methods**: A randomized, open-label clinical trial was conducted involving 22 pregnant women with term gestation and a single fetus in cephalic presentation, attended at the Maternity Hospital of the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, a tertiary-level teaching hospital. These patients were randomized to receive either TENS or no TENS before the initiation of combined anesthesia (spinal anesthesia + epidural anesthesia) for labor analgesia. Pain intensity was assessed using the visual analog scale (VAS), along with the time elapsed between initial assessment and the need for combined anesthesia, labor duration, cesarean delivery rates, instrumental delivery rates, Apgar scores, and neonatal hypoxia frequency. Statistical analysis employed the Mann-Whitney test and Fisher's exact test, with a significance level set at 5%. **Results**: The time elapsed between the assessment of maternal pain and the need for combined anesthesia was significantly longer in the TENS group (median of 90 minutes) compared to the control group (median of 30 minutes). The duration of labor was similar in both groups (approximately six hours). No differences were observed in VAS scores during labor. The cesarean delivery rate was 18.2% in both groups, with only one forceps delivery in the control group. The median Apgar score at five minutes was 10, and no cases of neonatal hypoxia were found. **Conclusions**: The application of TENS was effective in delaying the initiation of anesthesia; however, it did not have a significant effect on pain intensity or labor duration. There were no adverse maternal or neonatal effects.

Keywords: transcutaneous electrical nerve stimulation, obstetric analgesia, labor, labor pain.

PROGNOSTIC FACTORS FOR MATERNAL DEATH DUE TO PRE-ECLAMPSIA/ ECLAMPSIA IN THE CITY OF RECIFE

MARIA DO SOCORRO DE SOUZA SAMPAIO RIBAS

Advisor: Prof. Felipe Rinald Barbosa Lorenzato
Defense date: 2003 feb. 25

Objectives: To study prognostic factors for maternal mortality due to pre-eclampsia/eclampsia, such as ethnicity, the presence of a partner in the home, education level, paid work, immediate causes, transfer to another facility due to lack of ICU, the timing of death relative to delivery, the time elapsed between admission and death, clinical and care variables, as well as perinatal outcomes, thus creating a map of the situation for women with pre-eclampsia/eclampsia residing in the city of Recife. **Methods**: A case-control study that included 19 cases of maternal deaths due to pre-eclampsia/eclampsia and 75 controls (patients with similar underlying conditions but favorable outcomes), residing in the city of Recife, Pernambuco, from January 1997 to December 2000. Cases were identified from the maternal mortality database of the Recife City Hall, and controls, matched by age and parity, were recruited from patients with severe pre-eclampsia/eclampsia admitted around the same time in the same hospitals where the deaths occurred. The odds ratio (OR) and its 95% confidence interval (CI95%) were used as estimates of the risk of maternal death concerning the studied variables. Hypertensive syndromes in pregnancy were defined according to the criteria of the National High Blood Pressure Working Group, 2000. Data was entered into a database generated in Epi-Info 6.0 and SPSS 10 for Windows and subsequently analyzed. **Results**: The majority of maternal deaths occurred in the early postpartum period (78.9%), with a mean time between admission and death of 6.3 days. The main immediate causes of maternal death were respiratory complications (47.4%). No increased percentage of deaths was observed between midnight and 6:59 AM. The risk of death was lower among Black women (OR=0.21; p=0.018). Variables such as the presence of a partner in the home (OR=2.15; p=0.26), performing laboratory tests for diagnosis (OR=0.63; p=0.56), vaginal delivery (OR=1.56; p=0.75), occurrence of placental abruption (OR=2.86; p=0.26), presence of hypertension before pregnancy (OR=1.59; p=0.68), and the use of oral antihypertensives (OR=0.34; p=0.08), intravenous (OR=0.95; p=0.88), or magnesium sulfate (OR=0.60; p=0.48) did not significantly influence the risk of maternal death. The question "did you receive prenatal care?" was not a satisfactory parameter for evaluating prenatal protection. The number of prenatal consultations could not be appropriately assessed because few medical records contained this information, and the same was observed regarding the patient's education and occupation. Higher diastolic blood pressure at admission was associated with an increased risk of maternal death (OR=6.00; p<0.01). The risk was also increased regarding the occurrence of acute pulmonary edema (OR=34.64; p<0.05), eclampsia (OR=9.87; p<0.05), HELLP syndrome (p<0.01), and the need for blood transfusion (OR=67.50; p<0.05). Spinal anesthesia did not increase the risk of death (p<0.01), and the greater the risks of

maternal death, the more unfavorable the perinatal outcomes. **Conclusions**: Strategies for reducing maternal mortality due to pre-eclampsia should involve a better evaluation of prenatal care quality. Special attention should be given to patients who are admitted with very high diastolic pressure (>130 mmHg) and with bleeding or hematological changes. The occurrence of eclampsia, acute pulmonary edema, and HELLP syndrome should be prevented. Better monitoring in the immediate postpartum period is essential. Care for these pregnant women should take place in tertiary hospitals, preferably those with obstetric ICUs and facilities for newborns. It is recommended that medical records be filled out more carefully to improve data quality for analysis in future similar studies.

Keywords: eclampsia; pre-eclampsia; maternal mortality.

PROGNOSTIC FACTORS FOR MATERNAL DEATH DUE TO PRE-ECLAMPSIA/ ECLAMPSIA IN THE CITY OF RECIFE

MARIA DO SOCORRO DE SOUZA SAMPAIO RIBAS

Advisor: Prof. Felipe Rinald Barbosa Lorenzato
Defense date: 2003 feb. 25

Objectives: To study prognostic factors for maternal mortality due to pre-eclampsia/eclampsia, such as ethnicity, the presence of a partner in the home, education level, paid employment, immediate causes, transfer to another facility due to lack of ICU, the timing of death relative to delivery, the time elapsed between admission and death, clinical and care variables, as well as perinatal outcomes, thereby creating a map of the situation for women with pre-eclampsia/eclampsia residing in the city of Recife. **Methods**: A case-control study that included 19 cases of maternal deaths due to pre-eclampsia/eclampsia and 75 controls (patients with similar underlying conditions but favorable outcomes), residing in the city of Recife, Pernambuco, from January 1997 to December 2000. Cases were identified from the maternal mortality database of the Recife City Hall, and controls, matched by age and parity, were recruited from patients with severe pre-eclampsia/eclampsia admitted around the same time in the same hospitals where the deaths occurred. The odds ratio (OR) and its 95% confidence interval (CI95%) were used as estimates of the risk of maternal death concerning the studied variables. Hypertensive syndromes in pregnancy were defined according to the criteria of the National High Blood Pressure Working Group, 2000. Data were entered into a database generated in Epi-Info 6.0 and SPSS 10 for Windows and subsequently analyzed. **Results**: The majority of maternal deaths occurred in the early postpartum period (78.9%), with a mean time between admission and death of 6.3 days. The main immediate causes of maternal death were respiratory complications (47.4%). No increased percentage of deaths was observed between midnight and 6:59 AM. The risk of death was lower among Black women (OR=0.21; p=0.018). Variables such as the presence of a partner in the home (OR=2.15; p=0.26), performing laboratory tests for diagnosis (OR=0.63; p=0.56), vaginal delivery (OR=1.56; p=0.75), occurrence of placental abruption (OR=2.86; p=0.26), presence of hypertension before pregnancy (OR=1.59; p=0.68), and the use of oral antihypertensives (OR=0.34; p=0.08), intravenous (OR=0.95; p=0.88), or magnesium sulfate (OR=0.60; p=0.48) did not significantly influence the risk of maternal death. The question "did you receive prenatal care?" was not a satisfactory parameter for evaluating prenatal protection. The number of prenatal consultations could not be appropriately assessed because few medical records contained this information, and the same was observed regarding the patient's education and occupation. Higher diastolic blood pressure at admission was associated with an increased risk of maternal death (OR=6.00; p<0.01). The risk was also increased regarding the occurrence of acute pulmonary edema (OR=34.64; p<0.05), eclampsia (OR=9.87; p<0.05), HELLP syndrome (p<0.01), and the need for blood transfusion (OR=67.50; p<0.05). Spinal anesthesia did not increase the risk of death (p<0.01), and the greater the risks of

maternal death, the more unfavorable the perinatal outcomes. **Conclusions**: Strategies for reducing maternal mortality due to pre-eclampsia should involve a better evaluation of prenatal care quality. Special attention should be given to patients who are admitted with very high diastolic pressure (>130 mmHg) and with bleeding or hematological changes. The occurrence of eclampsia, acute pulmonary edema, and HELLP syndrome should be prevented. Better monitoring in the immediate postpartum period is essential. Care for these pregnant women should take place in tertiary hospitals, preferably those with obstetric ICUs and facilities for newborns. It is recommended that medical records be filled out more carefully to improve data quality for analysis in future similar studies.

Keywords: eclampsia; pre-eclampsia; maternal mortality.

EVALUATION OF KNOWLEDGE, ATTITUDE AND PRACTICE BY MILITARY POLICE OFFICERS OF THE STATE OF PERNAMBUCO OF PREVENTIVE MEASURES AGAINST ACCIDENTS HOUSEHOLDS USING FIREARMS IN CHILDREN AND TEENAGER

ENILSON SABINO DA SILVA

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2003 may 20

Objectives: To assess the level of knowledge and the practical adoption of preventive measures against domestic firearm accidents involving children and teenager by Military Police officers in Pernambuco. **Methods**: A cross-sectional observational survey study was conducted. The study population consisted of 17,249 active-duty officers from the Military Police of Pernambuco. The sample size was 517 officers, determined based on a 50% prevalence of officers who know and apply preventive measures against domestic accidents involving children and teenagers, with a 95% confidence level and an estimated margin of error not exceeding 5%. Data collection used a standard self-administered and pre-coded form for data entry into the computer. The data were summarized and presented in frequency tables. Estimates of the most relevant prevalences are presented with 95% confidence intervals. **Results**: Most respondents were male (92.8%), with an average age of 35 years, married (75.2%), and Catholic (60.9%). In 17.2% of the forms, officers did not show knowledge of preventive measures. Among those who demonstrated knowledge, 15.1% did not practice them. The majority of the sampled officers (85.7%) kept at least one firearm at home. In 78.8% of the households, both firearms and children were present. A firearm stored unlocked and loaded was reported in 22.5% of the officers' homes. Based on the sample, it is estimated that 58.8% (95% CI: 54.4 – 63.1%) knew and practiced preventive measures against domestic accidents involving children and teenager, while 41.2% did not belong to this desired group. Two cases (0.4%) of reported accidents were observed in the sample. Conclusions: Military Police officers are identified as a population at increased risk for domestic firearm accidents involving children and teenager. The sample showed an insufficient level of knowledge regarding preventive measures against such accidents. Therefore, it is necessary to implement educational measures aimed at increasing this knowledge and enhancing protective factors among the studied population.

Keywords: violence; children and teenager; firearm; police officers; accidents.

COMPARISON BETWEEN SACRAL EPIDURAL ANESTHESIA, NERVE BLOCK ILIOINGUINAL / ILIOHIPOGASTRIC AND OPERATIVE WOUND INFILTRATION USING ROPIVACAINE FOR POSTOPERATIVE ANALGESIA IN INGUINAL HERNIORRAPHIES IN PEDIATRIC PATIENTS: CLINICAL TRIAL RANDOMIZED

ANA MARIA MENEZES CAETANO

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2004 feb. 16

Objectives: To compare sacral epidural anesthesia with ilioinguinal/iliohypogastric nerve block and with surgical wound infiltration using ropivacaine, regarding postoperative analgesia and motor block, as well as complications related to the techniques. **Methods**: A randomized, blinded clinical trial was conducted, involving 87 male children aged 1 to 5 years who underwent elective unilateral inguinal herniorrhaphy. Children with drug allergies or those with pathologies or malformations that contraindicated the execution of any of the techniques were excluded. The children were only included in the study after the informed consent form was signed by their guardian. The study examined the need for postoperative analgesics, the time until the first dose of analgesics, pain intensity, motor block, and intra- and postoperative complications related to the techniques. A bivariate analysis was performed to compare the three groups regarding analgesia duration, need for additional doses of analgesics, pain intensity, motor block, and complications related to the techniques. Associations between categorical variables were evaluated using the chi-square or Fisher-Freeman-Halton exact tests. Comparisons of means for quantitative variables were performed using the student's t-test. **Results**: In the group that received surgical wound infiltration, there was a greater need for analgesics in the first and second hours, as well as more intense pain compared to the sacral epidural and ilioinguinal/iliohypogastric block groups. After the third hour of evaluation, there was no difference between the groups. From the fourteenth hour onward, no child in the study experienced pain. During the first three postoperative hours, only children who underwent sacral epidural anesthesia showed mild motor block. The average time to the first dose of analgesics was similar between the groups. There were no differences between the groups in terms of complications. Bradycardia, tachycardia, hypoxia, and hypertension were observed as intraoperative complications, while nausea and vomiting were the only complications noted in the ward. **Conclusions**: The ilioinguinal/iliohypogastric nerve block was superior to sacral epidural anesthesia and surgical wound infiltration, particularly in the first two hours, in promoting postoperative analgesia. However, all three anesthetic techniques can be used for postoperative pain control in children, with an acceptable frequency of intra- and postoperative complications.

Keywords: randomized clinical trial; postoperative analgesia; children; ropivacaine; sacral epidural; Ilioinguinal/iliohypogastric nerve block; surgical wound infiltration; anesthetic complications.

EXCLUSIVE BREASTFEEDING IN THE STATE OF PERNAMBUCO, IN THE YEAR FROM 1997: A CASE STUDY - CONTROL AND A CASE REPORT

LILIANE DE JESUS BITENCOURT

Advisor: Prof. Malaquias Batista Filho
Defense date: 2004 feb. 18

Objectives: To describe the breastfeeding situation in the State of Pernambuco in 1997, with an emphasis on exclusive breastfeeding, and to identify possible geographic and socioeconomic differences. **Methods**: A case-control study and case report, based on data from the II State Health and Nutrition Survey in Pernambuco, Brazil, in 1997. The sample consisted of children up to 18 months of age. For the case-control study, children who were exclusively breastfed for four months or more were selected and compared to those who were never breastfed or who were weaned by 60 days of age. Factors hypothetically associated with exclusive breastfeeding, such as maternal social factors, prenatal care history, healthcare access, birth conditions, housing and sanitation conditions, and access to media, were analyzed. The case report was applied to children with a history of exclusive breastfeeding for six months or more. **Results**: Among children under 18 months, 7.2% (47) had never been breastfed, 1% (6) reached exclusive breastfeeding at six months of age, and 4% (24) at four months. By 18 months, 99.8% of children were no longer receiving breast milk. Variables associated with exclusive breastfeeding, after logistic regression, were: distance from the healthcare service (OR=11.61; 95% CI: 2.13-63.34), early initiation of prenatal care (OR=0.06; 95% CI: 0.01-0.45), and per capita family income (OR=0.25; 95% CI: 0.07-0.91). The case report highlights the importance of prenatal care in maintaining exclusive breastfeeding. **Conclusions**: Despite the increasing prevalence of breastfeeding in Pernambuco, the frequency of exclusive breastfeeding remains low, with low per capita income, late initiation of prenatal care, and distance from healthcare services being risk factors for maintaining this practice.

Keywords: breastfeeding; infant care; risk factors; case studies.

PROGNOSTIC FACTORS ASSOCIATED WITH DEATH FROM SICKLE CELL ANEMIA IN CHILDREN ADMITTED TO THE PEDIATRIC HOSPITAL OF LUANDA - ANGOLA (1997-2002): A COHORT STUDY

JOAQUIM CARLOS VICENTE DIAS VAN-DÚNEM

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2004 feb. 18

Objectives: To determine the lethality and identify prognostic factors associated with death from sickle cell anemia (SCA) in children hospitalized at the Pediatric Hospital of Luanda, Angola. **Methods**: A retrospective cohort study describing the biological, demographic, clinical, and laboratory characteristics of 493 children. The lethality rate was determined, and the main causes of death in these children hospitalized with sickle cell anemia at the Pediatric Hospital of Luanda, Angola, from January 1997 to December 2002, were identified. Statistical analysis was performed using Epi-Info 6.04b and SPSS 11.0 for Windows, identifying prognostic factors associated with death, and calculating the risk ratio (with a 95% confidence interval) for the various prognostic factors. Multivariable analysis was performed to determine the adjusted risk of death. **Results**: The overall lethality rate was 13.0%, with the main causes of death being bacterial infections (40.6%), anemia (29.7%), and vaso-occlusive crises (7.8%). Variables that remained associated with death in multivariate analysis were: coming from rural areas (OR=2.93), lack of regular outpatient follow-up (OR=3.71), disease progression for more than three days (OR=5.25), onset of symptoms before eight months of age (OR=2.19), and hemoglobin level below 7g/dL (OR=4.17). **Conclusions**: The lethality from sickle cell anemia was high (13.0%). The main causes of death were bacterial infections, anemia, and vaso-occlusive crises. Children from rural areas, without regular outpatient follow-up, with disease progression for more than three days, with symptoms beginning before eight months of age, and with hemoglobin levels below 7g/dL were consistently at higher risk of death.

Keywords: sickle cell anemia; mortality; prognosis; risk factors; teaching hospitals; children.

BREASTFEEDING AND NEUROPSYCHOMOTOR DEVELOPMENT IN INFANTS PRE-TERM AND LOW WEIGHT FROM THE MATERNAL INFANTIL INSTITUTE OF PERNAMBUCO

CINTHIA RODRIGUES DE VASCONCELOS CÂMARA

Orientador: Prof. José Eulálio Cabral Filho
Defense date: 2004 feb. 26

Objectives: To investigate the neuropsychomotor development (NPMD) of preterm and low birth weight infants, breastfed or not. **Methods**: A cross-sectional study was conducted with three-month-old infants at the Prof. Fernando Figueira Maternal Institute (IMIP) in Recife, Pernambuco. A total of 38 breastfed infants and 42 non-breastfed infants of both sexes were studied. NPMD was evaluated using the Neurological Development Card (Lefèvre and Bobath) and a score measuring the adequacy to age-expected milestones. Clinical-biological and socioeconomic characteristics of the sample were obtained from medical records. The "t" test, Mann-Whitney test, and Pearson correlation were used for statistical analysis. **Results**: The Breastfed Group showed significantly superior NPMD performance compared to the Non-Breastfed Group. A statistical difference was observed in favor of the Breastfed Group in the scarf sign, head rejection, and head rotation maneuvers. NPMD also revealed a positive correlation in the Breastfed Group with the Apgar score at the 5th minute, and in the Non-Breastfed Group, with gestational age (GA), Apgar at the 5th minute, and length of hospitalization. Among breastfed females, there was a correlation between motor performance and GA, while in non-breastfed females, the correlation was with GA, birth weight, and length of hospitalization. In breastfed males, correlations were observed with Apgar at the 5th minute, while in non-breastfed males, there were correlations with Apgar at the 1st and 5th minutes. **Conclusions**: It can be concluded that breastfeeding improves the NPMD of preterm and low birth weight infants.

Keywords: child development; breastfeeding; low birth weight infants; preterm.

CLINICAL PROFILE OF CHILDREN WITH RUBELLA SYNDROME CONGENITAL IN USERS OF THE SINGLE HEALTH SYSTEM OF PERNAMBUCO, 2002/2003

LÚCIA MARIA VIEIRA DE OLIVEIRA SALERNO

Advisor: Prof. Luiz Cláudio Arraes de Alencar
Defense date: 2004 feb. 26

Objectives: To describe the clinical characteristics of compatible and confirmed cases of Congenital Rubella Syndrome (CRS) treated at the Maternal and Child Institute of Pernambuco (IMIP) and the Altino Ventura Foundation. To determine the frequency of cardiac, ocular, audiological anomalies, and growth and development of these children and their associations. **Methods**: This is a case series of children seen at a public ophthalmological hospital and a pediatric hospital in the state of Pernambuco, in the Northeast region of Brazil. These children had a confirmed or compatible diagnosis of CRS and were evaluated between March 2002 and September 2003. For the definition of confirmed or suspected cases, the classification adopted by the Unified Health System (SUS) was used. A confirmed case of CRS was considered to be one with clinical compatibility and positive serology for rubella with IgM or IgG levels higher than those expected from passive transfer of maternal antibodies. A probable case was considered as one without laboratory confirmation of rubella infection, but with clinical characteristics of CRS, with two complications of the disease or one complication associated with confirmed maternal infection by laboratory test or epidemiological link establishment. Clinical data were analyzed, and cardiological, audiological, and ophthalmological evaluations were performed. **Results**: Of the 84 children, 53.6% were female. Age ranged from 4 to 180 months (mean = 51.4 ± 36.4 months). Low birth weight was observed in 40.5% of patients. CRS cases were confirmed by laboratory testing in 25.0% of the children and were clinically compatible in 75.0%. Low birth weight was observed in 40.5% of the children. The most frequent anomalies were deafness (86.9%), ocular lesions (68.0%), neurological disorders (60.7%), and congenital heart disease (54.8%). Congenital cataracts were found in 48.8%, mental retardation in 40.5%, pigmented retinopathy in 25.0%, microcephaly in 13.0%, jaundice in 9.5%, hepatosplenomegaly and glaucoma in 2.4%. Rubella infection in the first trimester of pregnancy was reported in 75.0% of cases. The average time for the diagnosis of complications was 238 days. **Conclusions**: The 84 cases of CRS found indicate a high frequency of this syndrome in the state of Pernambuco. The low rate of confirmed cases in this series draws attention, highlighting the need for greater awareness of CRS cases among physicians treating populations at risk for rubella. The clinical profile of compatible or confirmed CRS cases is like that described in other series. It is recommended that suspected CRS cases be reported, investigated, and, if confirmed, referred to specialists for appropriate treatment.

Keywords: rubella (german measles); deafness; congenital heart diseases; cataracts.

USE OF TRANSDERMAL NITROGLYCERIN COMPARED TO ORAL NIFEDIPINE IN THE INHIBITION OF PREMATURE LABOR: A RANDOMIZED CLINICAL TRIAL

LUIZ ANDRÉ MARINHO LIPPO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2004 feb. 27

Objectives: To compare the effects of transdermal nitroglycerin administration with oral nifedipine administration in inhibiting preterm labor. **Methods**: A randomized clinical trial was conducted from August 2003 to January 2004 at the Maternal and Child Institute of Pernambuco (IMIP) and the Elpídio de Almeida Health Institute (ISEA) in Campina Grande, Paraíba. Patients with a singleton pregnancy, gestational age of less than 35 weeks, and a diagnosis of preterm labor were randomly selected to receive tocolytic therapy with oral nifedipine (20 mg) or transdermal nitroglycerin (patch containing 10 mg). The following outcomes were analyzed: efficacy of tocolysis, time required for tocolysis, maternal and fetal hemodynamic parameters, frequency of recurrence, progression to preterm birth, and side effects. Chi-square tests of association and Fisher's exact test, when necessary, were used for categorical variables, and Student's t-test was used to compare means of quantitative variables, with a significance level of 5%. **Results**: The efficacy and safety of tocolysis within the first 12 hours were similar between the two drugs (84.6% for nitroglycerin and 87.5% for nifedipine), with a significantly higher frequency of headaches among patients receiving nitroglycerin (30.8% versus 8.3%). **Conclusions**: The efficacy of nitroglycerin and nifedipine for inhibiting preterm labor within the first 48 hours was comparable in this study.

Keywords: nitroglycerin; nifedipine; preterm labor; tocolysis; randomized clinical trial.

EVOLUTION OF TENSION LEVELS IN THE PUERPERIUM IN WOMEN WITH SEVERE PRE-ECLAMPSIA ATTENDED IN A TERTIARY HOSPITAL: STUDY OF COHORT

MÁRCIO SANCTOS COSTA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2004 feb. 27

Objectives: To evaluate the progression of blood pressure levels during the postpartum period in women with severe preeclampsia and eclampsia treated at IMIP. **Methods**: A prospective and retrospective cohort study was conducted between August 2003 and January 2004. Women diagnosed with severe preeclampsia and eclampsia, admitted to the Obstetric ICU, who delivered at IMIP and agreed to participate in the study, were included. Cases of chronic hypertension and clinical conditions preventing the signing of the consent form were excluded. The following variables were analyzed: biological (age and body mass index), obstetric (parity, gestational age at delivery, prenatal care, birth weight, birth conditions), and clinical (pre-delivery blood pressure levels, use of hypotensive drugs before delivery, postpartum blood pressure levels, hypertensive peaks, use of postpartum hypotensive drugs, postpartum complications, blood pressure control, and time required to control blood pressure during hospitalization). The association between blood pressure control (dependent variable) and biological, obstetric variables, and clinical presentation of the disease (independent variables) was tested. Statistical analysis was performed using Epi-Info 3.01 software, employing measures of central tendency and dispersion, frequency distribution, and chi-square association tests, considering a significant level of 5%. The risk ratio (RR) of blood pressure control for the independent variables was calculated. Multiple logistic regression analysis was performed to identify the most strongly associated with blood pressure control. **Results**: The mean blood pressure levels in the 24 hours before pregnancy interruption were 154.4 mmHg (systolic) and 103.2 mmHg (diastolic). The mean systolic and diastolic blood pressure levels remained elevated during the first five days, with the highest averages observed on the fourth day (systolic pressure of 145.8 mmHg and diastolic pressure of 101.0 mmHg). Hypertensive peaks were observed in 46% to 50% of women during this period. The percentage of blood pressure control was around 25% in the first four days. From the sixth day postpartum, progressively lower levels of systolic and diastolic blood pressure were observed, with a gradual decline in the percentage of daily hypertensive peaks. Postpartum complications occurred in 22.5% of patients, with the most frequent complication being HELLP syndrome (around 20%). Hypotensive drugs were used in 72.5% of patients after delivery. The most commonly used drug was captopril (63.7%), followed by α-methyldopa (33.3%) and propranolol (30.4%). The average time required for blood pressure control was 5.5 days, ranging from one to 13 days. There was no significant association between blood pressure control and variables such as age, body mass index, parity, prenatal care, gestational age, birth weight, and Apgar scores at the first minute. No significant

association was found between blood pressure control and the presence of postpartum complications. Blood pressure control was more frequent in patients with stillbirths (RR = 1.48; 95% CI = 1.29 – 1.71) and newborns with Apgar scores less than seven at the fifth minute (RR = 1.50; 95% CI = 1.30 – 1.74), and less frequent in women who used hypotensive drugs in the 24 hours before delivery (RR = 0.77; 95% CI = 0.60 – 0.99; p = 0.04). **Conclusions**: Blood pressure levels in patients with preeclampsia and eclampsia remained elevated in the postpartum period during the first five days, with a progressive decline, thereafter, achieving blood pressure control in 71% of patients. The most strongly associated predictor of blood pressure control was the presence of stillbirths. Blood pressure control was not associated with a reduction in postpartum complications.

Keywords: pre-eclampsia; evolution; blood pressure; postpartum.

CLINICAL-EPIDEMIOLOGICAL PROFILE OF WOMEN VICTIMS OF VIOLENCE ASSISTED AT THE WOMEN'S SUPPORT SERVICE, RECIFE-PE

CLÁUDIA VIANA HENRIQUES

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2004 mar. 03

Objectives: To determine the clinical-epidemiological profile of women victims of violence attended by the Women's Support Service (SAM) at a public hospital. **Methods**: A descriptive cross-sectional study was conducted, including all women attended by SAM at the Agamenon Magalhães Hospital in Recife, Pernambuco, from June 2001 to December 2002. Biological, sociodemographic characteristics, types of violence and injuries suffered, the presence of pregnancy at the time of the aggression, forms of intimidation experienced, and the profile of the aggressors were evaluated. Data collection used a standard form, and data were entered into a computer system. The data were processed and analyzed using Epi-Info 2002. The study was approved by the Research Ethics Committee of Agamenon Magalhães Hospital. **Results**: The median age of the patients was 30 years, with a minimum age of 20 and a maximum of 88 years. The predominant skin color was brown, present in 58.5% of cases. Most had less than eight years of schooling. The family income of users was up to one minimum wage for 31% of the patients and between one and two minimum wages for 27%. The main type of violence suffered was physical, present in 78.4% of cases. The main areas injured were the head, face, upper limbs, and genital region. The most common types of injuries were abrasions, bruises/hematomas, and skin and subcutaneous tissue injuries. Forty-four (9.2%) patients were pregnant at the time of the aggression. The primary form of intimidation used by the aggressors was physical force, present in 83.5% of cases. Partners and ex-intimate partners together were the main aggressors reported. The age, income, and education level of most aggressors were unknown. There was a strong association between alcohol consumption by the aggressor and the violence. **Conclusions**: Most of the patients evaluated were young adults, single, with family incomes up to two minimum wages, and had less than eight years of education. The aggressors were mostly intimate partners of the victims, and many were found to consume alcohol.

Keywords: violence; external causes; women.

MOUTH BREATHING SYNDROME IN TEENAGER: CASE SERIES STUDY

CONCIANA DUARTE MONTE

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2004 mar. 30

Objectives: To investigate facial and postural alterations, as well as forced vital capacity and forced expiratory volume in teenagers with Mouth Breathing Syndrome (MBS). **Methods**: A descriptive case series study was conducted with 31 teenagers aged 13 to 18 years diagnosed with Mouth Breathing Syndrome. Evaluations included cephalometric radiography, spirometry, and postural assessment via computer. **Results**: Of the initial 31 teenagers, 24 underwent cephalometric evaluation, 26 had spirometric evaluation, and 20 had postural assessment. In the cephalometric radiography, 23 patients exhibited alterations in the antero-inferior facial height (AFAI), with 16 showing severe alterations and seven displaying mild/moderate alterations. Twenty patients had postural alterations (hyperkyphosis, hyperlordosis, scoliosis, abdominal protrusion), with abdominal protrusion being the most common. No differences were observed in spirometric data for forced vital capacity and forced expiratory volume between AFAI patterns or in relation to posture. **Conclusions**: Teenager with MBS show postural alterations, including abdominal protrusion, scoliosis, hyperkyphosis, and hyperlordosis, often multiple. Respiratory function is not compromised in mouth breathers during light exertion; there is no relationship between facial pattern alterations and forced vital capacity or forced expiratory volume; and there is no relationship between postural alterations and forced vital capacity or forced expiratory volume.

Keywords: mouth breathing; posture; spirometry; face; teenager.

EVALUATION OF RESULTS AND IMPACT OF PSF IN OLINDA, ON HEALTH CHILDREN. "A TIME SERIES STUDY: 1990 TO 2002

TÂNIA MARIA ROCHA GUIMARÃES

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2004 nov. 04

Objectives: To evaluate the results and impact of the Family Health Program (PSF) in Olinda on child health through the analysis of Low Birth Weight, Prematurity, Breastfeeding, Vaccination, and Infant Mortality. Additionally, comparative studies were conducted on quality-of-life indicators: Human Development Index (IDHA), Gini Index, Households with Treated Water, Sewage Collection, and Waste Disposal. **Methods**: A time series study was conducted using data from Information Systems (SINASC, SIAB, SI-PNI, SIM), performing an "ex-ante" and "ex-post" analysis of the program's implementation. Independent variables included the degree of PSF coverage during the periods: 1990/1994 (baseline), 1995/1996 (implementation: coverage 0 to 30%), and 1997/2002 (intervention: coverage 38.6% to 54%). Trends in child health indicators were analyzed using simple linear regression, and the significance of the indicators was tested using the t-test, considering results significant at $p < 0.05$. **Results**: Low Birth Weight exhibited a decreasing linear trend of 17 children/year (p=0.006), dropping from 9.2% in 1993 to 8.1% in 2002 (12% variation). Prematurity showed a rising linear trend of 17 children/year (p=0.006), increasing from 4.7% in 1993 to 7.7% in 2001. Exclusive Breastfeeding in infants under four months remained stable at an average of 59%, showing no trend (p=0.940). Mixed Breastfeeding demonstrated a decreasing linear trend of 40 children/year (p=0.024). Vaccination rates for infants under one year increased during the program's implementation, with coverage increases of 207% for BCG, 173% for Polio, 35% for DTP, and 33% for Measles. The average annual increase in doses was 601 BCG, 398 Measles, 333 Polio, and 305 DTP. The infant mortality rate showed a progressive reduction from 49.2/‰ live births in 1990 to 20.7/‰ in 2002 (58% variation), with a total decrease of 16 infant deaths/year (p<0.001). The neonatal mortality rate also showed a progressive decline from 26.9/‰ in 1990 to 15.0/‰ in 2002 (44% variation), while post-neonatal mortality dropped from 22.1/‰ in 1990 to 5.8/‰ in 2002 (74% variation), with 11 fewer post-neonatal deaths/year (p<0.001). Preventable deaths showed a decreasing trend of 12.7 deaths/year (p=0.0002). Collaboration with other sectors and early prevention, diagnosis, and treatment yielded the best results, with annual reductions of 6.6 (p=0.0009) and 5.4 deaths (p=0.0102), respectively. The IDHA and Gini Index did not show significant differences in 1991 and 2000. The Absolute Poverty Intensity indicator rose from 42.3% in 1991 to 50.7% in 2000 (20% variation). **Conclusions**: The improvement in the analyzed child health indicators reflects the coverage and effectiveness of primary health care actions more than the improvement of living conditions for the population. This is directly related to the work carried out by PSF teams in Olinda, which implemented programs focused on child health, thereby increasing access to basic healthcare services. The analyzed social indicators revealed a high concentration of income and significant poverty in the municipality.

Keywords: primary care; service evaluation; health indicators; family health program; child health (Public Health).

PREVALENCE OF EXTERNAL CAUSES OF DEATH IN WOMEN OF FERTILE AGE IN THE CITY OF RECIFE: 2001 AND 2002

MARIA CRISTINA DOS SANTOS FIGUEIRA

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2004 nov. 17

Objectives: To determine the prevalence of deaths among women of reproductive age due to external causes in Recife and to characterize the population based on the variables contained in the death certificates. **Methods**: A study was conducted on the population of women aged 10 to 49 years residing in Recife, Pernambuco, who died between 2001 and 2002. A secondary database was constructed using information from the Mortality Information System (SIM) and the Live Birth Information System (SINASC). Data were cross-referenced to investigate whether any of these deaths occurred during the pregnancy-puerperal period. **Results**: Neoplasms were identified as the leading cause of death, followed by diseases of the circulatory system and external causes. The data revealed a significant number of homicides, especially in the political-administrative region 6 (RPA 6). Despite the short time frame, there was a notable increase in mortality rates among women aged 20 to 39 years. A comparison of the SIM and SINASC databases revealed five deaths during the puerperal period that had not been reported. The number of suicides in the group was 26 (12.3%), aligning with trends in North America, which show a high incidence among teenagers and young adults. **Conclusions**: There are few studies on external causes of death among the female population. Efforts are needed to better understand this reality, and preventive measures should be planned and implemented to minimize the problem of violence and prevent the premature deaths of women.

Keywords: violence; mortality; fertility.

EVALUATION OF EXCESSIVE WEIGHT GAIN IN PREGNANT WOMEN ATTENDED IN A PUBLIC PRE-NATAL SERVICE, RECIFE - PE, 2000-2001

LUCIANA MARQUES ANDRETO

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2004 nov. 29

Objectives: To evaluate the evolution of excessive weight gain during pregnancy and the influence of biological factors (age and initial nutritional status), socio-demographic factors (origin, education, marital status, and occupation), behavioral factors (smoking), reproductive factors (number of pregnancies and interpregnancy interval), and associated morbidities (anemia and intestinal parasitosis). **Methods**: A longitudinal descriptive cohort study was conducted with 240 low-risk obstetric pregnant women, followed during prenatal care. Data were obtained from a pre-existing database collected from May 2000 to July 2001. **Results**: At the initial assessment, 48.3% of the pregnant women were eutrophic, 25.4% were underweight, and 26.3% were overweight/obese, according to the Atalah method. Most pregnant women (60.4%) had more than eight years of education, 57.0% were in their first pregnancy, and among those who had already given birth, an interpregnancy interval of two years or more was observed in 74.5%. Two hundred and twenty-two pregnant women (92.5%) lived with a partner. The average total weight gain during the second and third trimesters was 11.06 (±4.27) kg for all pregnant women. There was no difference between the average weekly weight gain in the second trimester (490 g ± 190) and the third trimester (510 g ± 290). The percentage of excessive weekly weight gain (above the recommended amount by the Institute of Medicine) showed a trend of increase directly proportional to the initial nutritional status within each trimester, but there was no difference between the second and third trimesters, even when controlling for initial nutritional status. After multiple logistic regression analysis, only initial nutritional status showed an association (p=0.006) with excessive weekly weight gain in the second trimester. In the third trimester, the variables associated with excessive weekly weight gain were having more than eight years of education (p=0.008) and being in a relationship (p=0.013). **Conclusions**: The frequency of excessive weekly weight gain was high (46.0%) among the studied pregnant women. Initial nutritional status had a significant influence on excessive weekly weight gain during the second trimester, while in the third trimester, excessive weekly weight gain was more strongly influenced by education level and marital status.

Keywords: nutritional assessment; nutritional status; weight gain; prenatal care.

NUTRITIONAL ASSESSMENT OF CHILDREN HOSPITALIZED AT THE MATERNAL AND CHILD INSTITUTE OF PERNAMBUCO TREATED ACCORDING TO THE WHO PROTOCOL (2000 - 2001): CROSS-SECTIONAL STUDY

ESMERALDA MARIA MONTENEGRO KARAJEANS

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2004 dec. 07

Objectives: To evaluate socio-demographic, clinical, and nutritional aspects of malnourished children under 60 months treated according to the World Health Organization protocol for severe malnutrition. **Methods**: A cross-sectional study of an analytical component was conducted involving 101 children hospitalized at the Prof. Fernando Figueira Maternal and Child Institute (IMIP) in Recife, Pernambuco, from December 2000 to December 2001. Two groups were considered: one consisting of children with weight-for-height indices below -3 standard deviations (SD) and/or the presence of symmetrical edema at least in the feet (severe malnutrition group), and another with weight-for-height indices equal to or above -3 SD (non-severe malnutrition group). Statistical analysis used the chi-square test and Fisher's exact test with a significance level of 5%, utilizing Epi-Info 6.04 and its Epinut module. **Results**: The severely malnourished group had a higher percentage (64.9%) of children older than 12 months (non-severe malnutrition group = 31.3%) (p=0.004). More than two-thirds of the children in both study groups belonged to families with per capita income below fifty reais (severely malnourished, 82.8% and non-severely malnourished, 70.6%) (p=0.082). The highest frequency (18.2%) of children with a history of contact with Mycobacterium tuberculosis (BK) was observed in the severely malnourished group (non-severe malnutrition = 6.5%) (p=0.090). The presence of underlying disease was greater (45.3%) among children with non-severe malnutrition (severely malnourished = 21.6%) (p=0.030). The analysis of marginal frequencies revealed positive nutritional evolution in all study subgroups (p<0.001). **Conclusions**: Among the variables analyzed in the comparison between the two study groups, only age and the presence of underlying disease showed statistically significant differences in distribution. The non-severely malnourished group did not exhibit deterioration in their nutritional status, although the risks and socioeconomic burdens associated with hospitalization should be evaluated.

Keywords: nutritional assessment; nutritional status; child well-being; clinical protocols.

CLINICAL-EPIDEMIOLOGICAL PROFILE OF PATIENTS WITH NON-HODGKIN'S LYMPHOMA ADMITTED TO THE PEDIATRIC ONCOLOGY SERVICE AT IMIP FROM MAY 1994 TO MAY 2003

MÁRCIA FERREIRA PEDROSA

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2004 dec. 10

Objectives: To describe the clinical-epidemiological profile and survival of patients with non-Hodgkin lymphoma (NHL) admitted to the pediatric oncology service of the Prof. Fernando Figueira Maternal and Child Institute (IMIP) in Recife, Pernambuco. **Methods**: A descriptive cross-sectional study was conducted through the review of medical records of all patients included in the study. Descriptive analyses and bivariate associations were performed, and survival probability curves were constructed using Kaplan-Meier techniques, with the log-rank test employed to assess differences between groups. **Results**: A total of 110 patients were analyzed. The mean age was 6.1 years, with a median of five years. The male-to-female ratio was 2.4:1. The most frequent histological type was Burkitt lymphoma. Advanced-stage tumors were diagnosed in the majority of patients. Most of our patients came from the interior of the state. A family income per capita below half a minimum wage and maternal illiteracy were observed in 36.4% and 12.7% of patients, respectively. At two years, the overall survival and disease-free survival rates were 73 ± 4% and 70 ± 4%, respectively. The type of therapeutic protocol used and the three-year period in which the patient was admitted were associated with survival probability. **Conclusions**: Children in our region appear to be affected at a younger age and more frequently present with Burkitt lymphoma with primary abdominal sites. An improvement in survival probability was observed in patients treated in the last three-year period of the study compared to those in the first three-year period. The use of modern and aggressive therapeutic protocols is feasible in resource-limited countries, provided that adequate infrastructure is available.

Keywords: non-hodgkin lymphoma; neoplasms; teenager.

STATUS OF ANTI-HIV TESTING IN PARTURIENTS ADMITTED TO A MATERNITY IN THE PUBLIC HEALTH NETWORK IN THE CITY OF RECIFE, 2003: A CROSS-SECTIONAL STUDY

MARIA CELINA ROCHA MORIMURA

Advisor: Prof. Luiz Cláudio Arraes de Alencar
Defense date: 15 dec. 2004

Objectives: To determine the prevalence of anti-HIV testing and its possible associated factors in parturients. **Methods**: A descriptive cross-sectional study involving 400 parturients from the Women's Care Center (CAM) of the Prof. Fernando Figueira Maternal and Child Institute (IMIP) in Recife, Pernambuco, was conducted during October 2003. The parturients were interviewed in the postpartum period. Statistical analyses used Pearson's chi-square tests and trend chi-square tests, with a significant level of 5.0%. The study was approved by the institution's Ethics Committee. **Results**: The mean age of the women was 24 years, and 27.8% were teenager. 83.4% resided in the Metropolitan Region of Recife. Half of the women had completed eight or more years of schooling. Among the 387 who underwent prenatal care, 38.5% arrived for admission at delivery without the result of the anti-HIV test; despite this, 13.0% of these parturients did not have the rapid test requested. Factors associated with the performance of the anti-HIV test during prenatal care included the number of consultations (p<0.001), location of prenatal care (p<0.001), number of professionals who attended them during prenatal care (p<0.001), and education level (p=0.006). A statistically significant association was also found between receiving the result of the anti-HIV test during prenatal care and the location of prenatal care (p=0.024). The interval between requesting and receiving the result during prenatal care was up to 30 days according to information from approximately 80.0% of the pregnant women. The counseling and offering of anti-HIV serological tests during both prenatal care and screening were lower than the number of requests. Among the 400 parturients in the study, the test result was reactive in five women during prenatal care and in one during admission for delivery. **Conclusions**: The number of anti-HIV test collections, whether during prenatal care or obstetric screening (rapid test), was satisfactory in terms of quantity; however, the percentage of women receiving the results, both during prenatal care and upon admission for delivery, fell short of the recommended levels.

Keywords: prenatal care; vertical disease transmission; HIV; pregnancy immunological tests; cross-sectional studies.

PREVALENCE AND FACTORS ASSOCIATED WITH OBESITY AND OVERWEIGHT IN SCHOOL TEENAGER FROM CAMPINA GRANDE, PB - 2004

MARÍLIA MEDEIROS DE ARAÚJO NUNES

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2004 dec. 22

Objectives: To determine the prevalence and main associated factors of obesity in teenagers from two schools, one public and one private. **Methods**: A cross-sectional study was conducted with 768 students (401 from the public school and 367 from the private school) in the year 2004 in Campina Grande, Paraíba. Obesity was defined as a body mass index (BMI) equal to or above the 95th percentile, and overweight as a BMI equal to or above the 85th percentile and below the 95th percentile. Biological and socioeconomic characteristics were investigated, along with family history, lifestyle, dietary habits, psychosocial factors, and previous examinations for dyslipidemia. **Results**: Of the 768 students, 5.7% were obese, and 15.9% were overweight. The distribution in the two schools revealed a higher number of obese (9.3%) and overweight (18.8%) students in the private school. In public school, the prevalences of obesity and overweight were 2.5% and 13.2%, respectively. **Conclusions**: Attending a private school and parental obesity were the factors most frequently associated with obesity and overweight in the studied teenager.

Keywords: obesity; nutritional assessment; anthropometry; teenager.

EVALUATION OF PAIN IN PATIENTS UNDERGOING HYSTEROSCOPY DIAGNOSIS IN A SINGLE SYSTEM SERVICE CENTER HEALTH: COHORT STUDY

JULIANA ARAÚJO DE CARVALHO SCHETTINI

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2004 dec. 21

Objectives: To evaluate the presence and intensity of pain, identifying the main factors associated with its occurrence in patients undergoing diagnostic hysteroscopy without anesthesia. **Methods**: A cohort study was conducted assessing biological, demographic, clinical characteristics, and lifestyle habits, including 171 patients submitted to diagnostic hysteroscopy without anesthesia at the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, from October 2003 to May 2004. The frequency and intensity of pain were measured using a visual analog scale (VAS) at the end of the examination and at 15, 30, and 60 minutes afterward. The frequency of side effects and complications resulting from the procedure was also described. Pain was classified according to VAS scores as >5 and <5, and frequency distributions for these categories were obtained. All other categorical variables were also evaluated through frequency distribution. The Chi-square test of association (Pearson) was used to measure the association between pain and other dependent variables. Risk ratio (RR) was calculated with a 95% confidence interval (CI95%) for quantifying the strength of the association. Logistic regression analysis was performed to identify predictor factors strongly associated with pain during hysteroscopy. **Results**: Approximately 69% of patients reported moderate or severe pain immediately after the hysteroscopy, only 2.3% reported no pain, and 28.7% reported mild pain. The VAS score was highest immediately after the procedure with a median of 6, reducing to 3, 1, and 0 at 15, 30, and 60 minutes, respectively. About 68.4% reported pain with a VAS >5 immediately after the examination, 28.1% at 15 minutes, and 3.5% at 30 minutes. No cases of pain >5 was reported 60 minutes after the procedure. Logistic regression analysis showed that the only variables that remained significantly associated with pain were menopause (odds ratio of 7.6), cervical grasping (odds ratio of 2.9), and the absence of a normal delivery history (odds ratio of 0.3). With the presence of these three associated factors (menopause, grasping, and absence of a normal delivery history), the frequency of pain was 95.6%, and the risk of pain was 1.46 (CI95% = 1.25-1.70). **Conclusions**: Diagnostic hysteroscopy without anesthesia is a painful procedure, with menopause, cervical grasping, and the absence of a normal delivery history identified as factors associated with the presence and intensity of pain in patients undergoing the examination.

Keywords: hysteroscopy; pain; anesthesia.

EVALUATION OF THE IMPLEMENTATION OF THE MINIMUM STRATEGIC AREAS OF BASIC CARE IN FAMILY HEALTH TEAMS IN CAMARAGIBE - PE, 2003

MARIA DAS GRAÇAS SANTOS CAVALCANTE

Advisor: Prof. Isabella Chagas Samico
Defense date: 2004 dec. 27

Objectives: To evaluate the implementation of the minimum strategic areas of primary care defined by the Operational Norm of Health Assistance/Unified Health System (women's health, children's health, hypertension control, diabetes control, tuberculosis control, leprosy elimination, and oral health) by the Family Health Teams in the municipality of Camaragibe, Pernambuco, for the year 2003. **Methods**: Evaluative research was conducted, focusing on the implementation analysis in its second component, which examines the variations in implementation and the observed effects through a single common case study. The unit of analysis was a conglomerate of Family Health Teams. To assess the degree of implementation, interviews were conducted with professionals using specific questionnaires for each strategic area, applied to 100% of the teams. To analyze the influence of the degree of implementation on the final results, indicators were constructed from data from health information systems—Mortality Information System (SIM), Live Births Information System (SINASC), Notification of Diseases Information System (SINAN), Automated Information System (SIA), Hospital Information System (SIH), Basic Care Information System (SIAB), Cervical Cancer Information System (SISCOLO), and population data from the Brazilian Institute of Geography and Statistics (IBGE) for the year 2003. The degree of implementation was considered implemented for women's health actions, hypertension control, diabetes control, tuberculosis control, and leprosy elimination; partially implemented for children's health actions, except for the nutritional surveillance component, which was implemented; and not implemented for oral health actions. **Results**: For the set of the seven strategic areas, the degree of implementation was partially implemented. Regarding the compatibility between the degree of implementation and the outcome indicators, coherence was found for women's health actions (prenatal care and family planning), children's health (nutritional surveillance and immunizations), hypertension control, diabetes control, and oral health. On the other hand, there was no agreement between the degree of implementation and the outcome indicators for women's health actions (cervical cancer prevention), children's health (care for prevalent childhood diseases), tuberculosis control, and leprosy elimination. **Conclusions**: The convergence of the results of the degree of implementation and the selected indicators suggests the contribution of the health sector to improving health conditions. Conversely, the divergences indicate the need to deepen the analyses concerning interventions and effects to identify aspects that require improvement.

Keywords: service evaluation; program evaluation; primary health care; family health program.

SEXUAL DYSFUNCTION IN PATIENTS WITH CERVICAL CANCER UNDERGOING EXCLUSIVE RADIOTHERAPY

BEBIANA CALISTO BERNARDES

Advisor: Prof. Felipe Rinald Barbosa Lorenzato
Defense date: 2005 jan. 31

Objectives: To identify sexual dysfunction in patients with cervical cancer who underwent exclusive radiotherapy using high-dose-rate brachytherapy. **Methods**: A descriptive cross-sectional study was conducted involving 71 patients from the Cancer Hospital of Pernambuco from January to June 2004. The data were processed and analyzed using the statistical program Epi-Info 6.0 and described using mean, median, maximum, and minimum values. For bivariate analysis, the tests of marginal homogeneity and McNemar were performed, considering a significant level of 5%. **Results**: Among the 71 patients studied, 18 (25.3%) started radiotherapy at stage IIB, and 53 (74.6%) at stage IIIB. The most prominent actinic complications were vaginal fibrosis, stenosis, and atrophy, affecting 70 (98.6%), 54 (76.1%), and 51 (71.8%) patients, respectively. Sexual dysfunctions were represented by frigidity, lack of lubrication, lack of arousal, and lack of orgasm, which occurred in 76.1% of patients each; lack of libido was reported by 40.8%, and vaginismus was noted in 5.6% of cases. **Conclusions**: Sexual dysfunctions are frequently observed in patients with cervical cancer treated with exclusive radiotherapy using high-dose-rate brachytherapy.

Keywords: cervical neoplasms; radiotherapy; brachytherapy; sexuality.

THE FAMILY AND THE PROCESS OF GETTING ILL FROM MOUTH CANCER. A TYPE STUDY OBSERVATIONAL WITH QUALITATIVE FOCUS ON WOMEN WITH CARRIERS OF ORAL NEOPLASMS

MÔNICA CRISTINA BATISTA DE MELO

Advisor: Prof. Felipe Rinald Barbosa Lorenzato
Defense date: 2005 feb. 25

Objectives: To investigate the family's role in introducing behaviors that, while considered daily habits, can directly or indirectly contribute to the onset of oral cancer in women, based on Structural Systemic Theory. **Methods**: This observational study focused on the qualitative aspects of the phenomenon. Data collection utilized a structured questionnaire and semi-structured interviews to: 1) identify the socio-demographic characteristics and risk factors for oral cancer in women treated at the Head and Neck Surgery Clinic of the Cancer Hospital of Pernambuco in 2004; 2) understand the perceptions this population has about cancer in general and the experience of developing cancer; and 3) identify when and how risk behaviors for oral cancer were introduced into their lives. **Results**: A total of 32 women were included in the study. Ages ranged from 23 to 78 years, with agriculture being the predominant profession and most participants having no formal education. Twenty-one participants lived on a monthly income of one minimum wage, and twenty resided in rural areas. Twenty-two were smokers, with 12 initiating the habit influenced by their parents, eight by relatives, and two by friends. Seventeen began smoking in childhood, four in adolescence, and one in adulthood. Eighteen women reported consuming alcoholic beverages, with three influenced by their parents, five by relatives, five by friends, and five by neighbors. Three started drinking in childhood, seven in adolescence, and eight in adulthood. Twenty-nine participants reported brushing their teeth daily, with three learning from their parents and five from relatives. Nineteen developed this habit in childhood, eight in adolescence, and two only in adulthood. Eleven participants used dental prostheses, with five starting in adolescence and six in adulthood. Twenty-nine participants reported being sexually active, seven of whom engaged in oral sex. Beliefs related to cancer indicated it as a destructive disease present in the blood and coming from outside the body. The types of family interactions related to the initiation of risk behaviors for oral cancer, based on Family Systemic Theory, included imitation, learning, and unclear communications with antagonistic communication patterns. **Conclusions**: Regarding the family's role as a facilitator in the process of developing oral cancer in women, based on Structural Systemic Theory, we conclude that the family plays an important role in adopting risk behaviors, primarily through social learning processes and identification.

Keywords: oral neoplasms; theoretical models; risk factors; family relations; habits.

FACTORS ASSOCIATED WITH FETAL DEATH IN A MATERNITY - SCHOOL OF RECIFE FROM JUNE 2004 TO MARCH 2005: A CASE CONTROL STUDY

LANNUZE GOMES DE ANDRADE DOS SANTOS

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2005 jul. 11

Objectives: To determine the main factors associated with fetal deaths in a Maternity School in Recife. **Methods**: An observational case-control study was conducted at the Maternity of the Prof. Fernando Figueira Maternal and Child Institute (IMIP) in Recife, Pernambuco, from June 2004 to March 2005. The study included 116 cases of stillbirths and 472 controls (live births) occurring at the institution. Data were collected from the maternity card, fetal death certificates, and maternal medical records in the postpartum ward. The fetal mortality rate was calculated based on the total number of births in the institution during the specified period. The analysis focused on the dependent variable (fetal death) and independent variables, including maternal biological (age), demographic (education, marital status, usual occupation, municipality of residence), clinical (pre-existing conditions, admission diagnosis, gestational complications, smoking, alcohol and drug use), obstetric (number of pregnancies and births, number of living and deceased children, abortions, gestational duration, type of pregnancy, prenatal care, number of prenatal visits, type of delivery, birth weight, sex), and utilization of health services (care received at other health services, number of visits prior to admission, and time interval between admission and delivery). The odds ratio was used as an estimate of relative risk to determine the strength of association between independent variables and the dependent variable, with a 95% confidence interval. Logistic regression analysis was performed following a hierarchical model to control potentially confounding factors. **Results**: The fetal mortality coefficient was 23.8 per 1,000 births. Statistically significant associations were found between fetal death and the following biological, demographic, and clinical variables: maternal age ≥35 years (OR=2.54; 95% CI: 1.32-4.87), education <8 years (OR=2.32; 95% CI: 1.53-3.52), origin from rural Pernambuco or other states (OR=2.62; 95% CI: 1.70-4.04), prior diagnosis of syphilis (OR=4.23; 95% CI: 1.34-13.39), admission diagnoses of hemorrhagic syndromes (OR=9.05; 95% CI: 4.08-20.07), preterm labor (OR=5.85; 95% CI: 3.76-9.11), and fetal malformations (OR=7.93; 95% CI: 3.52-17.84). Significant associations were also observed between fetal death and obstetric and health service utilization variables: ≥4 pregnancies (OR=1.82; 95% CI: 1.04-3.29), history of one or more stillborn children without previous pregnancies (OR=4.39; 95% CI: 1.85-10.39), gestational age <32 weeks (OR=19.73; 95% CI: 10.42-37.62) and between 32-36 weeks (OR=5.29; 95% CI: 3.02-9.29), no prenatal care (OR=3.74; 95% CI: 1.82-7.68), fewer than six prenatal visits (OR=5.94; 95% CI: 3.58-9.86), birth weight <1500g (OR=52.28; 95% CI: 24.63-112.75) and between 1500-2499g (OR=7.67; 95% CI: 4.22-13.99), care received within 24 hours prior to admission (OR=3.31; 95% CI: 2.17-5.03), and an interval between admission and delivery >12 hours (OR=1.55; 95% CI: 1.03-2.34). Multivariate analysis revealed that the variables significantly associated with fetal death were the presence of malformations

(OR=7.52; 95% CI: 3.25-17.40), fewer than six prenatal visits (OR=4.42; 95% CI: 2.59-7.52), hemorrhagic syndromes (OR=2.92; 95% CI: 1.48-5.76), prior care before admission (OR=2.90; 95% CI: 1.81-4.66), maternal age ≥35 years (OR=2.29; 95% CI: 1.05-4.99), and education <8 years (OR=1.64; 95% CI: 1.02-2.63). **Conclusions**: A high fetal mortality coefficient was found, with the main factors associated being malformations, fewer than six prenatal visits, hemorrhagic syndromes, history of prior care before admission, maternal age ≥35 years, and education <8 years.

Keywords: stillbirth; pregnancy outcome; fetal death; risk factors.

SEROLOGICAL PROFILE FOR TOXOPLASMOSIS IN PREGNANT WOMEN ATTENDED AT PRE-NATAL AMBULATORY OF A SCHOOL MATERNITY IN RECIFE

ANA MARIA FEITOSA PORTO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2005 sep. 06

Objectives: The aim of this study was to determine the serological profile for toxoplasmosis and identify the main factors associated with susceptibility among pregnant women attending a maternity school in Recife. **Methods**: A cross-sectional study was conducted, including 503 pregnant women undergoing serology for toxoplasmosis at the Prof. Fernando Figueira Maternal and Child Institute from October 2004 to April 2005. Indirect immunofluorescence was used to detect anti-Toxoplasma IgG and IgM antibodies, and a brief questionnaire was administered to the patients. The following variables were analyzed: serology results (immunity, susceptibility, or active infection), age, origin, education level, associated morbid conditions, habits, pet ownership, housing conditions and sanitation, gestational age, number of pregnancies, and number of births. Statistical analysis was performed using Epi-Info 3.3.2, employing chi-square and Fisher's exact tests, with a significance level of 5%. **Results**: Immunity to toxoplasmosis was found in 74.7% of the participants, susceptibility in 22.5%, and possible active infection in 2.8% of the pregnant women. No statistically significant associations were found between susceptibility to toxoplasmosis and age, origin, morbid conditions, habits (including dietary intake), housing conditions, sewage network, pet ownership, number of pregnancies, or gestational age. A significant association was observed between susceptibility to toxoplasmosis and education level, with higher susceptibility found among women with eight or more years of schooling (26.1% versus 12.6% among those with fewer than eight years of schooling). **Conclusions**: The frequency of susceptibility to toxoplasmosis is relatively low among patients receiving prenatal care in our setting, and no predictive factors other than education level were identified. Instead of testing all pregnant women for toxoplasmosis, primary prevention is recommended, providing information on how to avoid contamination by Toxoplasma during pregnancy.

Keywords: toxoplasmosis; prenatal care; pregnancy; seroprevalence; congenital infections.

SURGICAL PROFILE OF GYNECOLOGICAL VIDEOLAPAROSCOPIES IN ONE TEACHING HOSPITAL: CASE SERIES

MARIA DA CONCEIÇÃO FARIAS SOUTO MAIOR

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2005 sep. 30

Objectives: To study the characteristics of diagnostic and surgical gynecological video laparoscopies performed at the Prof. Fernando Figueira Maternal and Child Institute (IMIP). **Methods**: The study included all gynecological video laparoscopies conducted at the Diagnostic Center (CD) of the Women's Health Center (CAM) at IMIP, in Recife, Pernambuco, between January 2000 and December 2004. A descriptive, hospital-based study of a case series was conducted. Forms were filled out based on information from surgical reports and subsequently entered a database with double entry. The statistical program Epi-Info 3.3.2 was used for data analysis. **Results**: A total of 462 gynecological video laparoscopies were performed during the study period. Nearly half of these (45.5%) were for diagnostic surgical purposes. The patients were predominantly in the age group of 30 to 34 years. The most frequent indications were infertility (45.0%) and studies for tubal recanalization (18.8%). The most observed findings were adhesions (60.3%), tubal obstruction (46.8%), and endometriosis (28.8%). Among the procedures performed, adhesiolysis and biopsies were the most frequent, at 67.4% and 39.2%, respectively, followed by endometriosis treatment (22.3%) and salpingoplasty (15.6%). Intraoperative complications occurred in 3.7% of the procedures, with the main issues being anesthetic complications and uterine perforation. Among these, injury to retroperitoneal vessels was the only major complication documented. Conversion to laparotomy was necessary in 6.7% of cases. **Conclusions**: The profile of the video laparoscopy service at IMIP was characterized by the care of women with reproductive desire (63.8%) and an average age of 30.6 years. The video laparoscopy in this group primarily revealed sequelae of pelvic inflammatory disease (PID) and endometriosis. Although the complication rate was higher than reported in the literature, these were primarily characterized as minor complications, with no recorded mortality.

Keywords: laparoscopy; gynecology; female infertility.

SERUM RETINOL CONCENTRATION IN SEVERE MALNUTRITED CHILDREN HOSPITALIZED AT IMIP: A CASE SERIES STUDY

MARIA DE FÁTIMA COSTA CAMINHA

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2005 nov. 30

Objectives: To estimate serum retinol concentration (SRC) in children with severe diarrhea (SD) hospitalized, compare it by age, sex, the presence of diarrhea and/or pneumonia, and correlate it with hemoglobin levels, as well as compare the SRC of these children with that of a group of well-nourished children also hospitalized. **Methods:** A case series study was conducted, including 34 children aged one month to 60 months with severe diarrhea hospitalized at the Prof. Fernando Figueira Maternal and Child Institute (IMIP) in Recife, Pernambuco, from August 2004 to May 2005. SRC, hemoglobin, and C-reactive protein (CRP) were analyzed, and a form was used to record data related to some socio-demographic and biological variables. CRP was utilized to control the interference of infection on SRC. A total of 29 well-nourished children were included as a comparison group for SRC analysis. The median was used as an estimate of SRC, with precision assessed by calculating the 95% confidence interval. Comparisons of SRC between children with severe diarrhea and age, sex, and the presence of diarrhea and/or pneumonia were performed using the Mann-Whitney test, as well as comparisons of SRC between the two groups of children. Comparisons of categorized variables such as sex and age between the two groups of children were conducted using Fisher's exact test, and Spearman correlation was used to test the correlation between SRC and hemoglobin levels. **Results:** The estimated median SRC in children with severe diarrhea was 21.7 µg/dL (95% CI: 16.8 µg/dL-27.7 µg/dL). None of the children with severe diarrhea exhibited deficient SRC (<10 µg/dL); however, 41.2% had low SRC (<20 µg/dL), and 70.6% had inadequate SRC (<30 µg/dL). Only one child showed suspected clinical deficiency. The comparison of SRC between children with severe diarrhea and well-nourished children, controlling for age range, did not show a statistically significant difference. Among the studied variables in children with severe diarrhea, only the presence of diarrhea showed a statistically significant difference (p=0.021). The correlation between SRC and hemoglobin levels was positive but not statistically significant (r=0.28; p=0.110). **Conclusions:** The study findings suggest that vitamin A deficiency (VAD) is not always associated with malnutrition when evaluated from an anthropometric perspective; on the other hand, micronutrient deficiency may not occur in isolation but rather as multiple deficiencies.

Keywords: vitamin A deficiency; vitamin A; C-reactive protein; protein-energy malnutrition.

FACTORS ASSOCIATED WITH DELAY IN THE DIAGNOSIS OF LEUKEMIA CHILDHOOD ACUTE CARE IN A REFERENCE SERVICE IN THE NORTHEAST OF BRAZIL

MECNEIDE MENDES LINS DE CARVALHO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2005 dec. 06

Objectives: To describe the time elapsed between the first signs and symptoms and the diagnosis of acute leukemia, and to determine the association of biological, socio-demographic characteristics and primary health care with diagnostic delay. **Methods:** A cross-sectional study was conducted involving all children aged one month to 19 years (n=288) diagnosed with acute leukemia at the Prof. Fernando Figueira Maternal and Child Institute (IMIP) in Recife, Pernambuco, from January 2000 to December 2004. The time between the first signs and symptoms and the diagnosis of acute leukemia was described, defining a diagnostic delay as a period greater than 30 days. The association of diagnostic delay with biological, socio-demographic characteristics, and primary health care was analyzed using Epi-Info 3.3.2, calculating the prevalence ratio and 95% confidence interval (CI95%). Stepwise logistic regression analysis was performed for each predictor variable that presented a significance level of 20%, with the final model including variables that remained associated with diagnostic delay at a significance level of 5%. **Results:** The median time from the first signs and symptoms to the diagnosis of acute leukemia was 30 days. There was no difference in the clinical characteristics that prompted the first medical consultation according to the type of leukemia. It was observed that children presenting with osteoarticular pain had a higher frequency of diagnostic delay. No statistically significant association was found between diagnostic delay and origin, the presence of a health agent in the community, the training of the physician responsible for the initial consultation, or maternal characteristics. In univariate analysis, a significant association was found between diagnostic delay and distances greater than 100 km from the reference hospital (PR=1.24; CI95%: 1.01-1.54), initial care performed in an outpatient clinic (PR=1.41; CI95%: 1.12-1.77), families with more than three children (PR=1.28; CI95%: 1.03-1.58), and for children who were third or later in birth order (PR=1.35; CI95%: 1.10-1.67). Regarding paternal characteristics, a higher frequency of diagnostic delay was observed in children whose fathers were older than 45 years (PR=1.43; CI95%: 1.09-1.87) and/or had less than eight years of schooling (PR=1.40; CI95%: 1.08-1.81). After multivariate analysis, the variables that persisted in the model were: outpatient care (p=0.003) and osteoarticular pain (p=0.005). **Conclusions:** No difference in symptoms and diagnostic delay was found between patients with acute lymphoblastic leukemia and those with acute myeloid leukemia. Initial presentation with osteoarticular pain and outpatient care were the factors that remained associated with diagnostic delay.

Keywords: leucemia; diagnosis; neoplasms.

ROTAVIRUS INFECTION IN CHILDREN UNDER FIVE YEARS OF AGE WITH DIARRHEA ATTENDED AT A PEDIATRIC HOSPITAL IN RECIFE: FREQUENCY AND ASSOCIATED FACTORS

FERNANDA MARIA ULISSES MONTENEGRO

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2005 dec. 19

Objectives: To verify the frequency of rotavirus in diarrheal disease in children aged zero to five years treated at the emergency department of the Prof. Fernando Figueira Maternal and Child Institute (IMIP). To describe the socio-demographic, biological, and clinical conditions of the studied children, as well as to determine the frequency of rotavirus in the fecal samples of hospitalized children and the association between rotavirus infection and socio-demographic conditions, biological and clinical variables, and the evolution of hospitalized cases. **Methods**: This was a cross-sectional study including 330 children aged zero to five years with diarrhea treated in the pediatric emergency department of IMIP in Recife, Pernambuco, between May 2004 and April 2005. Epidemiological and clinical characteristics were obtained through a standardized form. The identification of rotavirus was performed using the ELISA method. Statistical analysis was conducted using Epi-Info 3.3.2, utilizing chi-square association tests and Fisher's exact tests, considering a significance level of 5%. **Results**: Rotavirus was identified in 106 (32.1%) children with diarrhea, of which 74 (69.8%) were hospitalized. Comparing the groups with and without identified rotavirus in feces, a lower frequency of prematurity (p=0.043), low birth weight (p=0.018), malnutrition (p<0.050), hyponatremia (p=0.004), and use of special milk formulas (p=0.050) was found in the rotavirus-positive group. Conversely, the variables: piped water (p=0.014), water filter (p<0.001), vomiting (p<0.001), watery diarrhea (p<0.001), acute diarrhea (p=0.001), and use of intravenous therapy (p=0.020) occurred more frequently in this group of children. Only one child with identified rotavirus in the feces progressed to death. **Conclusions**: The findings of the study confirm rotavirus as a significant agent associated with hospitalizations and clinically severe diarrhea in children.

Keywords: rotavirus; diarrhea; hospitalized children; gastroenteritis.

CLINICAL PROFILE OF CHILDREN WITH PLEURAL EMPIEMA IN A CENTER ANGOLA REFERENCE

SILVIA MARIA MENDES DA CONCEIÇÃO SILVESTRE

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2005 dec. 21

Objectives: To describe the epidemiological, clinical, radiological, and laboratory aspects of children hospitalized for pleural empyema in Angola. **Methods**: A prospective case series study was conducted in a reference pediatric hospital, involving 140 children in Angola from September to March 2005. **Results**: The median age was 20 months, and chronic malnutrition was present in 57.1% of cases, with 21% classified as severe. The vaccination schedule was complete in 66.2% of cases. The median maternal education level was four years. The most frequent symptoms included fever, cough, dyspnea, and intercostal retraction. Chest X-rays revealed extensive effusion in 65.7% of cases, along with mediastinal shift. The average hemoglobin level was 7 g/dL, and the most found agents in pleural fluid were *S. pneumoniae* and *H. influenzae*. The average duration of fever after admission, drainage time, and length of hospitalization were 7, 15, and 25 days, respectively. Complications were present in 36.4% of cases, with pneumothorax being the most frequent (54.9%). The case fatality rate was 7.9%. **Conclusions**: The case fatality rate and length of hospitalization were high. Malnutrition and prolonged hospital stay were associated with mortality. The hemoglobin level and low maternal education reflect the severe socioeconomic situation of the population.

Keywords: pleural empyema; mortality; children.

EPIDEMIOLOGICAL AND CLINICAL PROFILE AND FACTORS ASSOCIATED WITH MORTALITY IN HOSPITALIZED CHILDREN AT THE PEDIATRIC REFERRAL HOSPITAL IN ANGOLA: A CROSS-SECTIONAL STUDY

ELISABETE DE ATAÍDE E PINTO

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2006 feb. 08

Objectives: To identify the profile of children who die in the hospital and investigate factors associated with mortality among hospitalized children. **Methods**: A descriptive, cross-sectional, hospital-based study was conducted involving 1,322 children under the age of 15 admitted to David Bernardino Pediatric Hospital in Luanda, Angola, from December 2004 to May 2005. Data was collected through a standardized questionnaire administered to mothers at the time of admission and from medical records upon the child's discharge. **Results**: Eighteen percent (237) of the children in the study died, with 52.7% being under one year of age and 61% being male. Of the mothers, 49% resided in the impoverished outskirts of Luanda, 32.5% were unemployed, and 57% were engaged in informal selling. In 57% of cases, the mother was between 20-29 years old and had at least one child under five who had died from infectious or nutritional diseases. Sixty-six percent of the children were born at home, 16.5% were exclusively breastfed at six months, and 35.3% had a complete vaccination schedule. Fifty-eight percent of the children were moderately or severely malnourished based on weight-for-age criteria. The majority (49%) were referred to by a public health facility and had been hospitalized for less than 48 hours (60.3%). The three leading causes of death were malaria (22.4%), pneumonia (12.7%), and neonatal conditions (9.3%). Tetanus had a high case fatality rate (66.6%), as did prematurity (43.9%), meningitis (33.9%), AIDS (31.8%), and congenital malformations (26.5%). The multivariate analysis considered the hierarchical relationship among socioeconomic, environmental, maternal, child health, clinical, and healthcare factors. Child mortality was associated with the absence of breastfeeding, moderate to severe malnutrition, clinical suspicion of HIV infection, hospitalization of less than 48 hours, and discrepancies between entry and exit diagnoses. **Conclusions**: Children who die in the pediatric hospital tend to be very young, arrive severely ill, and come from impoverished and unhealthy areas of the outskirts of Luanda.

Keywords: hospital mortality; children; Luanda.

BRAIN MYELINATION IN CHILDREN WITH SEVERE MALNUTRITION

ADRIANO NASSRI HAZIN

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2006 feb. 13

Objectives: To evaluate the myelination of the brain in children with severe malnutrition through MRI examination. **Methods:** A case series study was conducted involving 20 children aged 2 to 24 months with severe malnutrition, hospitalized at IMIP from March to August 2005. The patients underwent brain MRI scans using a 1.5 T machine with T1- and T2-weighted spin-echo pulse sequences. The assessment of myelination progress was performed qualitatively using criteria established by Barkovich et al. and Van der Naap and Valk. **Results:** Clinical evaluations revealed that 11 children had severe weight loss, 4 had nutritional dwarfism, and 5 had edematous malnutrition. Only two children (10%) showed delayed myelination. In 11 children (55%), myelination was appropriate for their age, and in 7 infants (35%), an acceleration of the myelination process was observed. In 17 cases, a reduction in brain volume was detected. **Conclusions:** The qualitative analysis of brain MRI images from children in the first two years of life with severe malnutrition did not reveal significant delays in the myelination process.

Keywords: myelin sheath; malnutrition; child; brain; magnetic resonance imaging.

POTENTIAL YEARS OF LIFE LOST BY WOMEN OF FERTILE AGE RESIDENTS IN RECIFE VICTIMS OF DEATH FROM EXTERNAL CAUSES IN THE YEARS FROM 2001 AND 2002

ROSSANA PAULA HAIMENIS

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2006 feb. 20

Objectives: To determine the potential years of life lost (PYLL) among women of reproductive age residing in Recife who were victims of death from external causes in the years 2001 and 2002. **Methods:** Using a descriptive cross-sectional study, death certificates for women aged 10 to 49 residing in Recife who died in 2001 and 2002 were collected to create a database from the variables on the death certificates. The calculation of the Potential Years of Life Lost (PYLL) indicator followed the technique proposed by ROMEDER & McWHINNIE, with a maximum age limit of 70 years. **Results:** The frequency distribution showed that external causes ranked as the third leading cause of death, accounting for 18.7% of the total 1,197 deaths, following neoplasms (27.4%) and cardiovascular diseases (22.6%). Among the external causes, homicide was the most frequent cause of death in the study population, with 102 cases (48.3%). Accidents were the second most frequent cause, with 66 cases (31.3%), followed by suicides with 26 cases (12.3%) and undetermined intent events with 17 deaths (8.1%). A total of 8,865 potential years of life were lost due to external causes among the 211 women of reproductive age who died during the study period in Recife. The use of this indicator revealed that homicides (4,380 PYLL) and accidents (2,760 PYLL), both subcategories of external causes, were the main contributors, ranking first and second respectively and jointly accounting for 7,140 (64.2%) years of life lost among the four leading basic causes of death in this population. **Conclusions:** The results reinforce the recognition of violence as a public health issue, although not one solely within the Health sector. When viewed through the Potential Years of Life Lost indicator, the findings demonstrate the magnitude of external causes as a factor in premature mortality.

Keywords: potential years of life lost; external causes; mortality; epidemiology; violence.

DYSPHAGIA IN CHILDREN WITH CEREBRAL PALSY AT THE MATERNAL INSTITUTE PERNAMBUCO CHILDREN'S CHILDREN

COELI REGINA CARNEIRO XIMENES

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 23 feb. 2006

Objectives: To characterize the swallowing function in children with cerebral palsy (CP) through clinical swallowing assessment and videofluoroscopic swallowing study. **Methods:** A cross-sectional study was conducted, including 37 children aged 1 to 12 years with cerebral palsy, treated at the specialized neurology outpatient clinic at Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, from December 2004 to May 2005. Socio-demographic and clinical characteristics were recorded using a standardized form, and both clinical swallowing assessment and videofluoroscopic swallowing study were performed. Statistical comparisons used the chi-square and Fisher's exact tests, and agreement between clinical swallowing assessment and videofluoroscopy was determined using the kappa test. **Results:** The majority of children were dysphagic (83.8%), had intellectual disabilities (83.8%), experienced seizures (61.1%), and used neuroleptics and/or anticonvulsants (66.6%). Spastic CP was the most common type. In the oral phase, the most frequent issue was food bolus preparation (77.8%). In the pharyngeal phase, residue in the valleculae was the most frequent finding (75.7%). The clinical swallowing and videofluoroscopic assessments were consistent for the oral phase. The percentage of cases with altered bolus preparation (kappa=0.82), oral ejection (kappa=0.65), and oral cavity stasis time (kappa=0.71) exceeded 83.3% among those with altered tongue Mobility. **Conclusions:** Most children with CP showed swallowing disorders in both clinical and videofluoroscopic assessments, with the oral phase being more affected than the pharyngeal phase. Clinical swallowing assessment is effective in diagnosing oral phase alterations but not pharyngeal phase issues.

Keywords: cerebral palsy; swallowing; child.

MORTALITY FROM CERVICAL CANCER IN THE CITY OF RECIFE: TIME TREND AND SOCIO-DEMOGRAPHIC PROFILE

VILMA GUIMARÃES DE MENDONÇA

Advisor: Prof. Felipe Rinald Barbosa Lorenzato
Defense date: 2006 nov. 10

Objectives: (a) To describe the socio-demographic profile of mortality in the five-year period 2000-2004, including data from investigations of deaths from cancer of unspecified uterine portions; (b) To analyze the temporal trend of mortality from 1980 to 2004. **Methods:** Using data from the Mortality Information System, deaths from unspecified uterine portions from 2000-2004 were initially investigated through medical records, Death Verification Service, Population-Based Cancer Registry, and consulting physicians. Next, all deaths from cervical cancer (identified in the Mortality Information System and through investigation) had their socio-demographic variables described. Finally, for temporal analysis of crude and standardized mortality rates for cervical and unspecified uterine cancer between 1980 and 2004, a linear regression model was used, applying a correction factor to cervical cancer deaths based on the investigation. **Results:** Of the 125 deaths from unspecified uterine cancer between 2000-2004, 113 (90.4%) were in the investigated sources, primarily in hospital records (87.6%). The primary cancer site was identified in 98 of the 113 deaths (86.7%), including 62 cases of cervical cancer (49.6%), 33 of uterine corpus cancer (26.4%), and three of ovarian cancer (2.4%), with 27 remaining as unspecified uterine cancer (21.6%). The investigation contributed to a 23.8% increase in the number of cervical cancer deaths for the period, from 261 to 323. Most of these deaths occurred in hospitals (85.1%), with 90.2% in public health services (SUS); in women aged 40-59 years (40.5%), Black (57.0%), without a partner (65.0%), homemakers (69.0%), and residents in neighborhoods with poorer living conditions (53.3%). From 1980 to 2004, a decreasing trend in mortality rates was observed for cervical and unspecified uterine cancers. For corrected cervical cancer mortality rates, there was a 48.9% reduction, corresponding to an annual decrease of 0.22 deaths per 100,000 women. A significant reduction in cervical cancer mortality was seen across all age groups, with the smallest decrease observed in women aged 30-39 years. **Conclusions:** The socio-demographic profile and temporal trend of cervical cancer mortality in Recife underscore the need to implement a disease control program aimed at reaching the most vulnerable groups of women. The investigation of deaths from unspecified uterine cancer contributes to the improvement of the Mortality Information System, enabling more accurate data and supporting cervical cancer control planning.

Keywords: mortality; cervical cancer; uterine cancer unspecified portion; death investigation; socio-demographic profile; temporal trend.

EFFECTS OF THE ATTACKING DOSE OF MAGNESIUM SULFATE ON DOPPLER VELOCIMETRY PARAMETERS IN SEVERE PRE-ECLAMPSIA

ALEX SANDRO ROLLAND DE SOUZA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2006 nov. 14

Objectives: To compare Doppler velocimetry indices (resistance index, pulsatility index, and S/D ratio) of maternal and fetal circulation before and after magnesium sulfate administration in pregnant women with severe preeclampsia (pure or superimposed). **Methods:** A prospective cohort observational and analytical study was conducted, where each subject served as their own control. Forty pregnant women with severe preeclampsia underwent Doppler velocimetry testing before and 20 minutes after intravenous administration of 6g of magnesium sulfate. The variables studied included maternal clinical parameters (heart rate and systolic, diastolic, and mean blood pressure) and Doppler velocimetry indices (resistance index, pulsatility index, and S/D ratio) of the right and left maternal uterine arteries and the fetal umbilical and middle cerebral arteries. The mean comparisons between the two measurements (before and after) for each individual were performed using the paired Student's T-test. **Results:** The mean maternal age was 27 years, and the mean gestational age at Doppler testing was 35.2 weeks. A significant decrease was observed in the means of systolic ($p<0.001$; 95% CI: 8.1-18.2), diastolic ($p<0.001$; 95% CI: 3.7-9.1), and mean arterial pressures ($p<0.001$; 95% CI: 5.8-11.9) before and after magnesium sulfate administration, while the mean maternal heart rate significantly increased ($p<0.001$; 95% CI: -0.1-3.8). The resistance index decreased in the umbilical artery ($p=0.003$; 95% CI: 0.008-0.03), in the fetal middle cerebral artery ($p=0.001$; 95% CI: 0.01-0.05), in the right uterine artery ($p=0.002$; 95% CI: 0.01-0.04), left uterine artery ($p=0.001$; 95% CI: 0.02-0.05), and in the mean of both uterine arteries ($p<0.001$; 95% CI: 0.02-0.04). Similarly, a statistically significant reduction in pulsatility index and S/D ratio was observed across all studied vessels. An increase in the diagnosis of fetal pre-centralization was also noted following magnesium sulfate administration (25.0% vs. 47.5%; $p=0.01$). **Conclusions:** Intravenous administration of magnesium sulfate in pregnant women with severe preeclampsia increases maternal heart rate and reduces systolic, diastolic, and mean blood pressure, in addition to decreasing resistance index, pulsatility index, and S/D ratio in the uterine, umbilical, and fetal middle cerebral arteries. There is also a significant increase in the frequency of fetuses diagnosed with pre-centralization via Doppler velocimetry.

Keywords: hypertension; ultrasound; doppler ultrasound; preeclampsia; magnesium sulfate.

PREVALENCE AND FACTORS ASSOCIATED WITH DOMESTIC VIOLENCE AGAINST WOMEN ASSISTED AT THE WOMEN'S CARE CENTER-CAM/IMIP, IN RECIFE/PERNAMBUCO

MARIA ARLEIDE DA SILVA

Advisor: Prof. Gilliatt Hanois Falbo
Defense date: 2006 dec. 01

Objectives: To identify the prevalence and main factors associated with domestic violence against women attending the gynecology outpatient clinic at the Women's Health Center of IMIP, in Recife, Brazil, from October 2005 to January 2006. **Methods:** A descriptive observational cross-sectional study was conducted with a final sample of 619 women, selected through systematic sampling. The study included women aged 19 years and older. Data collection was performed using a modified Portuguese version of the Abuse Assessment Screen (AAS), with additional questions regarding sociodemographic factors, history of family violence during the woman's childhood and/or adolescence, alcohol consumption, smoking, drug use, and mental health. The study was approved by the IMIP Ethics Committee. Data was compiled using Epi-Info for Windows, version 6.0, and univariate and bivariate analyses, chi-square, and Fisher's exact tests were conducted. A multivariate logistic regression model was also applied in the second stage of the analysis. **Results:** A 27.5% prevalence of domestic violence against women (95% CI: 24.0% - 31.2%) was identified within the last 12 months. The multivariate logistic regression analysis identified the following as strong independent factors associated with domestic violence: low educational level (OR=2.34), history of family violence (OR=2.21), partner's alcohol uses at least once per week (OR=1.77), and mental disorder in the woman (OR=2.35). **Conclusions:** In the studied sample, a high prevalence of domestic violence against women (27.5%) was found. After multivariate analysis, independent factors associated with domestic violence were low education level, history of family violence in childhood and/or adolescence, mental disorder in the woman, and the partner's alcohol consumption pattern of at least once per week.

Keywords: violence; domestic violence against women; prevalence; associated factors.

NUTRITIONAL STATUS OF CHILDREN FROM SIX TO THIRTY MONTHS ACCORDING TO ANTHROPOMETRIC INDICATORS AND DIFFERENTIAL GROWTH OF THE TIBIA

MARIA QUARESMA BRAGANÇA GOMES DOS ANJOS

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2006 dec. 06

Objectives: To study, in both eutrophic and malnourished children, the anthropometric indicators according to NCHS standards and body mass index (BMI), as well as the relationship between tibial growth velocity and overall height growth. **Methods:** An analytical observational study was conducted, including 400 male children aged six to thirty months who attended the pediatric outpatient clinic at the Prof. Fernando Figueira Institute of Mother and Child (IMIP) in the year 2000. Nutritional status frequencies were compared according to the indicators weight-for-height (W/H), weight-for-age (W/A), height-for-age (H/A), and BMI, with agreement assessed using the Kappa concordance index. Tibial growth velocity relative to height was also determined using Pearson's correlation, comparing the velocities between eutrophic and malnourished children. The chi-square and Student's t-tests were used for statistical comparisons. **Results:** 1. The prevalence of malnutrition was 8.8% for W/H, 26.5% for H/A, and 35.5% for W/A, while for BMI it was 14.8%. 2. There was good agreement between W/H and BMI assessments (Kappa index=0.71), but not between BMI and W/A (Kappa index=0.12) or H/A (Kappa index=0.08). 3. The average BMI difference between eutrophic and malnourished children classified by W/H reached 3.0, while for W/A classification it was around 2.0 and for H/A around 1.0. 4. For classifications by W/A and H/A, tibial growth velocity was 0.23 cm per 1 cm increase in height for eutrophic children, compared to 0.18 cm and 0.19 cm, respectively, for malnourished children (p<0.001). However, in classifications by W/H and BMI, tibial growth velocity relative to height growth did not differ between eutrophic and malnourished children (b=0.20). **Conclusions:** These findings indicate that malnutrition leads to a reduced height growth rate, with an even more pronounced reduction in tibial growth. The reduced tibial-to-height growth ratio in malnourished children supports the proposal of a complementary indicator that could be termed "tibial-to-height allometric growth."

Keywords: body mass index; nutritional status.

FACTORS ASSOCIATED WITH INVASIVE BACTERIAL INFECTION IN CHILDREN AND TEENAGER WITH ACUTE LYMPHOID LEUKEMIA AND FEBRILE NEUTROPENIA, ADMITTED TO THE PEDIATRIC ONCOLOGY SERVICE OF IMIP DURING THE PERIOD FROM JANUARY 2002 TO JUNE 2006

KALINE MARIA MACIEL DE OLIVEIRA

Advisor: Prof. Jailson de Barros Correia
Prof. Maria Júlia Gonçalves de Mello
Defense date: 2007 jan. 24

Objectives: To determine factors associated with invasive bacterial infection (IBI) in children and teenager with acute lymphoblastic leukemia (ALL) and febrile neutropenia, hospitalized at the Pediatric Oncology Service of the Prof. Fernando Figueira Institute of Mother and Child (IMIP). **Methods:** A retrospective cohort study was conducted on all children and teenager (n=85) diagnosed with acute lymphoblastic leukemia and febrile neutropenia, hospitalized at IMIP in Recife, Pernambuco, from January 2002 to July 2006. A total of 391 episodes of febrile neutropenia were analyzed throughout chemotherapy treatment to determine factors associated with IBI. **Results:** The median age of the children was 4.6 years, 61.2% (52/85) were male, and 61.2% (52/85) came from rural areas or other states. Moderate to severe malnutrition was present in 12.9% (11/85), and 51.8% (44/85) were at high risk for treatment failure of ALL. Most mothers (62.4%, 53/85) had more than four years of completed education, and 67.2% (41/61) of families with known income had a per capita income below half the minimum wage. Eleven (12.9%) children died during treatment, all with an IBI diagnosis. Bivariate analysis showed associations with IBI in children who, at the onset of febrile neutropenia episodes, presented with a temperature ≥39°C, hypotension, hemoglobin <7g/dl, white blood cell count <1,000/mm^3, platelet count <50,000/mm^3, monocyte count <100/mm^3, bone marrow infiltration by ALL, induction phase of the chemotherapy protocol, and those with a central venous catheter. After multivariate analysis, the following remained as risk factors for IBI: age under five years (adjusted OR 2.7; 95% CI:1.5-5.0), bone marrow infiltration (adjusted OR 2.7; 95% CI:1.2-5.9), use of a central venous catheter (adjusted OR 4.6; 95% CI: 2.3-9.4), white blood cell count <1,000/mm^3 (adjusted OR 6.3; 95% CI:3.2-12.4), platelet count <50,000/mm^3 (adjusted OR 3.3; 95% CI:1.8-6.1), and hypotension (adjusted OR 33.1; 95% CI:8.1-135.0). Seventy-three bacterial strains were isolated, with a predominance of Gram-positive bacteria, mainly oxacillin-resistant coagulase-negative Staphylococcus and S. aureus. Among Gram-negative bacteria, Klebsiella sp was notable with good sensitivity to aminoglycosides, ciprofloxacin, and meropenem, and Pseudomonas sp showed good sensitivity to amikacin, ceftazidime, cefepime, piperacillin-tazobactam, and meropenem. **Conclusions:** Children in this region diagnosed with ALL and febrile neutropenia form a heterogeneous group regarding IBI risks. Characteristics at the onset of febrile neutropenia episodes, such as age under five years, bone marrow infiltration by ALL, use of a central venous catheter, white blood cell count <1,000/mm^3, and platelet count <50,000/mm^3, remained associated with IBI after logistic regression.

Keywords: cancer; leucemia; risk factors; teenager; child.

POVERTY AS A RISK FACTOR FOR ASTHMA IN CHILDREN AND TEENAGER CARED FOR AT AN AMBULATORY-SCHOOL IN PERNAMBUCO: STUDY OF CASE CONTROL

EMILSES FERNANDES DE CARVALHO FREIRE

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2007 feb. 22

Objectives: To analyze the importance of poverty as a risk factor for the development of asthma in childhood. Additionally, to analyze other risk factors such as maternal education, passive smoking, breastfeeding, and family history of allergies in children and teenager treated at the Pediatric Clinic of IMIP. **Methods:** In a case-control study, 689 participants aged 5 to 15, users of the Brazilian Unified Health System (SUS) and attended in a hospital-based tertiary clinic, were interviewed. The study included 312 asthmatic children (cases) and 377 non-asthmatic children (controls). A standardized questionnaire was administered, and poverty levels were established according to the Brazilian Institute of Geography and Statistics (IBGE) standards. Statistical analysis was performed using Epi-Info 3.2.2, including Pearson's chi-square test and odds ratio (OR) calculations with a 95% confidence interval (CI95%. **Results:** Among the study participants, 54.7% were male. Nearly half of the sample (49.1%) was from the metropolitan area of Recife, with the remainder from rural areas in Pernambuco. Based on a monthly per capita income below one-quarter and one-half of the minimum wage, participants were classified as extremely poor, poor, and non-poor, with respective percentages of 39.0%, 37.3%, and 23.7%. Univariate analysis found no association between asthma and poverty (x^2=0.1180; p=0.9896). Other risk factors, such as family history of allergies and male gender, showed a strong association with asthma cases (x^2=19.95; p<0.001) and (x^2=7.25; p=0.0070), respectively. There was also an association with early use of antibiotics (x^2=61.0568; p<0.001), acetaminophen (x^2=12.0138; p=0.0025), antiparasitics (x^2=9.1951; p=0.0101), cooking with charcoal (x^2=7.6726; p=0.0216), having toys in the bedroom (x^2=6.4330; p=0.0112), and having curtains in the bedroom (x^2=7.4262; p=0.0064). No association was found between asthma and duration of exclusive breastfeeding, maternal education, or contact with pets or farm animals. **Conclusions:** Poverty was not associated with asthma in children using SUS in northeastern Brazil. Likewise, no protective effect of poverty against asthma was observed, as might be supposed based on the hygiene hypothesis. However, cohort studies are necessary to confirm these findings.

Keywords: asthma; poverty; Sistema Único de Saúde; child; teenager.

CONGENITAL MALFORMATIONS ASSOCIATED WITH Cleft LIP AND/OR PALATE IN PATIENTS ATTENDED IN A REFERENCE SERVICE FOR TREATMENT OF FACE DEFECTS: A CASE SERIES STUDY

EDUARDO VICTOR DE PAULA BAPTISTA

Advisor: Prof. Gabriela Ferraz Leal
Defense date: 2007 feb. 27

Objectives: To determine the frequency and types of congenital malformations associated with patients with cleft lip and/or palate seen at the Center for Facial Defects (NADEFI) of the Instituto Materno-Infantil Prof. Fernando Figueira (IMIP). **Methods**: A study of 100 cases was conducted. All one hundred patients with cleft lips and/or palates seen for the first time at NADEFI in Recife, Pernambuco, between December 2005 and May 2006 were examined and evaluated for the presence of associated congenital malformations. The variables analyzed included sex, age, race, family history of cleft, type of cleft, and laterality of the orofacial cleft. Pearson's chi-square or Fisher's exact test was used to determine the association between independent variables and the presence of additional malformations. **Results**: The median age was 29.8 months. Half of the patients were female, and 50% were White. A total of 23% of patients had a close relative with an orofacial cleft. The most common cleft type was cleft lip and palate (49%), followed by isolated cleft palate (27%) and cleft lip (24%). Thirty-nine patients had at least one additional malformation. Associated congenital malformations were twice as frequent in patients with bilateral clefts (p=0.028). Craniofacial and neurological malformations were also associated with patients with bilateral clefts (p<0.001 and p<0.013, respectively). **Conclusions**: The occurrence of additional malformations, particularly craniofacial ones, is common among patients with orofacial clefts. This occurrence was more frequent among patients with cleft palates and, especially, in those with bilateral clefts. These patients should be carefully examined, as they constitute a heterogeneous group and may have other anomalies in addition to cleft lip and/or palate.

Keywords: abnormalities; Cleft Lip; Cleft Palate; epidemiology.

DIAGNOSTIC UTILITY OF ERYTHROCYTE PARAMETERS, MORPHOLOGICAL CLASSIFICATION OF RBC AND SERUM FERRITIN IN LOW-RISK PREGNANT WOMEN: A CROSS-CROSS-SECTIONAL STUDY

CRISTIANE CAMPELLO BRESANI

Advisor: Prof. Malaquias Batista Filho
Defense date: 2007 feb. 28

Objectives: To establish the relevance of erythrocyte parameters, classifications, and serum ferritin levels for diagnosing anemia in pregnant women. **Methods**: A cross-sectional study was conducted using a database of 347 second-trimester pregnant women attending prenatal care at the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, during 2000 and 2001. The database included biological, social, and laboratory variables, analyzed according to the following dichotomies: anemic (hemoglobin [Hb] <11 g/dL) vs. non-anemic; iron-deficient (serum ferritin [SF] <12 ng/mL) vs. non-iron-deficient*; and iron-deficiency anemia vs. non-anemic non-iron-deficient. Data were analyzed using the Epi-Info 6.04b software. The study was approved by IMIP's Research Ethics Committee. **Results**: Of the pregnant women, 55% had anemia, and 10.7% had iron-deficiency anemia. In a subsample of 318, the ratio of anemia to iron deficiency was 3, which is the reverse of literature expectations. With an Hb cut-off point of 10.5 g/dL, this ratio persisted; with an SF cut-off of 20 ng/mL, the ratio approached one but still fell short of literature estimates. SF values had an asymmetrical distribution, with the 5th and 95th percentiles at 5.5 ng/mL and 138.3 ng/mL, respectively. The ranges within ±2 SD were: 3.0-4.4 x 10^12 cells/L for erythrocyte count; 9.0-12.6 g/dL for Hb; and 27.6-38.4% for hematocrit (HCT), with Gaussian distributions. Additional intervals were: 78.6-98.2 fL for mean corpuscular volume (MCV); 25.2-32.8 pg for mean corpuscular hemoglobin (MCH); and 31.0-34.6 g/dL for mean corpuscular hemoglobin concentration (MCHC), though not fitting a normal distribution. HCT values corresponded to three times Hb levels. When statistically significant, differences in erythrocyte parameter means and classification frequencies lacked clinical relevance within each dichotomy comparison. Unexpectedly, the median SF was significantly higher in the anemic group than in the non-anemic group. For diagnosing iron deficiency or iron-deficiency anemia, Hb, HCT, and erythrocyte count had sensitivities below 80%, while MCV, MCH, MCHC, and derived classifications showed specificities around 90% but sensitivities below 40%. The areas under the receiver operating characteristic (ROC) curves were closer to 0.5 than 1.0. **Conclusions**: The prevalence of anemia was consistent with literature estimates; however, the proportion attributed to iron deficiency was much lower. For all erythrocyte parameters and SF, the 95% range included values currently considered low. Classifying patients based on current Hb and SF criteria did not distinguish groups with different erythrocyte parameters and morphologies. Erythrocyte values and morphological classifications were not useful in predicting iron deficiency or iron-deficiency anemia, and

their respective ROC curves indicated an inability to achieve satisfactory utility with alternative cut-off points. In the context of anemia diagnosis during pregnancy, uncertainties about true etiology, reference ranges for diagnostic criteria, and erythrometric indicators, along with the lack of a gold standard for etiological diagnosis, likely accounted for many of these findings.

Keywords: anemia; diagnosis; epidemiology; ferritin; Erythrocyte Indices; pregnancy.

EVALUATION OF THE NUTRITIONAL STATUS OF PREGNANT WOMEN USING THREE DIFFERENT ANTHROPOMETRIC CLASSIFICATION METHODS: A STUDY CROSS

MARIA INÊS BEZERRA DE MELO

Advisor: Prof. Ariani Impieri de Souza e Prof. Malaquias Batista Filho
Defense date: 2007 feb. 28

Objectives: To compare commonly used classification methods in Brazil for assessing nutritional status during pregnancy (Rosso, CLAP Curve, and Atalah), analyzing their outcomes based on the prevalent nutritional status in non-pregnant women in Northeast Brazil and the country. **Methods**: An observational, cross-sectional study was conducted on 992 pregnant women receiving low-risk prenatal care at the Women's Health Center (CAM) at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, in Recife, between January and June 2006. Agreement among the three assessment methods was evaluated using the Kappa Index (k). Data from each method were compared to reference values (non-pregnant women in Northeast Brazil and nationally) using the chi-square goodness-of-fit test for each condition. **Results**: Most pregnant women (50.7%) were aged 18-24 years and were in their first pregnancy (54.7% with parity=0). A large majority (92.8%) were from Recife or its metropolitan area, and a relatively high percentage had higher education, with 49.8% having 11 or more years of schooling. The Rosso method showed the highest rate of underweight (39.5%) compared to Atalah (20.0%) and the CLAP Curve (18.0%), which were notably different from the reference values for the Northeast (7.4%) and Brazil (6.7%). For overweight/obesity, the opposite trend was observed. Rosso recorded the lowest percentages (28.7%), whereas Atalah (34.6%) and the CLAP Curve (35.2%) showed higher rates. These two methods' values for overweight/obesity were closer to the comparison values for the Northeast (40.9%) and Brazil (44.3%). In both underweight and overweight/obesity cases, Atalah and the CLAP Curve were the most consistent, achieving a high agreement level per the Kappa Index (k=0.85). **Conclusions**: When comparing the assessment methods with the reference values, the Atalah and CLAP classifications most closely aligned with the nutritional standards for non-pregnant women in the Northeast and Brazil. However, these methods still fall short of providing a satisfactory tool for assessing pregnant women's nutritional status, resulting in significant deviations in underweight estimation.

Keywords: nutritional status; anthropometry; maternal nutrition.

HOSPITALIZED WOMEN DUE TO ABORTION IN A TEACHING MATERNITY HOSPITAL IN THE CITY OF RECIFE: A CROSS-SECTIONAL STUDY

KARLA DA SILVA RAMOS

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2007 mar. 14

Objectives: To describe the clinical and epidemiological profile of women hospitalized for abortion in a teaching maternity hospital in Recife, Pernambuco. **Methods**: A cross-sectional study was conducted with interviews of 160 women between November 2005 and July 2006. Data were collected using a structured form. Abortions were classified as induced, possibly induced, or spontaneous, according to criteria established by the World Health Organization. Statistical analysis was performed using simple frequency assessment and Fisher's exact test in Stata 9.2. The study was approved by the Ethics and Research Committee of the Instituto Materno Infantil Prof. Fernando Figueira - IMIP. **Results**: The frequency of women hospitalized for abortion accounted for 3.1% of all obstetric cases. "Induced" abortions represented 14.3%, "possibly induced" abortions were most common (56.3%), and spontaneous abortions accounted for 29.4%. In terms of timing, most abortions occurred before 12 weeks (55.7%), indicating early abortion. Clinically, incomplete abortion was the predominant diagnosis upon admission (52.5%). Half of the women were from Recife; 90.1% had a partner, 63.0% did not plan the pregnancy, and 80.0% knew of misoprostol as an abortive method, although only seven of the eight women who reported inducing abortion used it. All women knew about pills and condoms as contraceptive methods. There were no maternal deaths due to abortion during the study period. **Conclusions**: The rate of hospitalizations for abortion has declined over the past 10 years, coinciding with the increasing use of misoprostol as an abortion-inducing method. Incomplete abortion was the predominant clinical form. The epidemiological profile of women hospitalized for abortion complications remained unchanged over this period: young women with higher education levels, with a partner, and with unplanned pregnancies. Misoprostol remains the most commonly used method for abortion induction.

Keywords: abortion; induced abortion; incomplete abortion; misoprostol; reproductive medicine; comprehensive health care.

PREVALENCE OF OVERWEIGHT AND OBESITY AND ASSOCIATED FACTORS IN SCHOOL STUDENTS FROM A FAVELA IN NORTHEAST BRAZIL, 2007

POLLYANNA PATRIOTA SIQUEIRA

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2007 mar. 15

Objectives: To determine the prevalence and main factors associated with overweight and obesity among children living in a low-income community in Northeast Brazil. **Methods**: A cross-sectional study was conducted with 508 children aged five to nine years, along with a case-control study comprising 46 children diagnosed with overweight/obesity and a control group of 40 eutrophic children, to investigate potential factors associated with overweight/obesity. Overweight and obesity were defined using the body mass index (BMI) for age cut-offs established by Cole et al. Biological, socioeconomic variables, eating habits, time spent watching television, and physical activity levels were investigated. **Results**: The prevalence of overweight/obesity was 13.4%. Sedentarism was common (73.9%, $p=0.072$, OR=2.8; 95% CI: 0.9-8.6). Dietary habits, including artificial juice consumption (77.1%; $p=0.017$; OR: 4.0; 95% CI: 1.3-12.5) and excessive caloric intake (72%, $p=0.02$; OR=6.0; 95% CI: 1.9-18.6), showed a significant association with overweight/obesity in the multivariate logistic regression analysis. **Conclusions**: Overweight/obesity among children was prevalent in the studied community, with significant associated factors including excessive caloric intake and artificial juice consumption.

Keywords: obesity, overweight; motor activity; dietary habits; child.

DEPRESSIVE DISORDERS IN CHILDREN WITH LEUKEMIA ACUTE LYMPHOID OR TERMINAL CHRONIC RENAL FAILURE

JULIANA DE OLIVEIRA CARNEIRO

Advisor: Prof. José Marcelino Bandim
Defense date: 2007 mar. 23

Objectives: To investigate the presence of depressive disorders in children with acute lymphoblastic leukemia (ALL) and end-stage chronic renal failure (ESCRF) and to determine the agreement between the instruments used to assess depressive symptoms in the study. **Methods**: A descriptive case series study was conducted with 52 children aged 8 to 15 years with ALL and ESCRF, attended in the Oncology and Nephrology services at the Instituto Materno Infantil Prof. Fernando Figueira - IMIP, in Recife, Pernambuco. **Results**: Three cases met the criteria for major depressive episode (MDE), with two having ESCRF and one having ALL. Eight cases (15.4%) met the criteria for dysthymic disorder (DD), all of whom had ESCRF. No association was found between sex and the diagnoses of MDE or DD. The association between age group and MDE was not significant; however, it was significant for DD ($p=0.014$), where all were between 12 and 15 years old. The association between depressive disorders and disease duration was not significant, although a trend was noted, with longer disease duration showing a greater association with DD ($p=0.081$). Agreement between the study instruments was not considered strong. **Conclusions**: The frequency of major depressive episodes among the patients studied was within the range reported in the literature for healthy school-aged children. However, a higher rate of dysthymic disorder was observed than previously reported. Contrary to expectations, no significant differences were found regarding sex or between the diagnosis of major depressive episodes and age groups. However, consistent with the literature, older age was associated with a higher prevalence of dysthymic disorder.

Keywords: depression; lymphoblastic leucemia; chronic renal failure.

HEPATIC MAGNETIC RESONANCE IN HELLP SYNDROME: A SERIES OF CASES

ANA RITA MARINHO RIBEIRO CARVALHO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2007 mar. 27

Objectives: To describe hepatic findings in magnetic resonance imaging (MRI) in postpartum women with HELLP syndrome. **Methods**: A descriptive case series study was conducted involving 40 postpartum women admitted to the IMIP Obstetric ICU with a diagnosis of HELLP syndrome between August 2005 and July 2006. MRI scans were performed within a maximum of seven days postpartum in a private clinic using a GE Sigma 1.5 Tesla machine and evaluated by a radiologist experienced in hepatic MRI. Biological, demographic, obstetric, clinical, and laboratory variables were analyzed, along with MRI findings. **Results**: The average age was 26.8 ± 6.4 years; 18 (45.0%) patients were primiparous, with gestational age at delivery ranging from 24 to 40 weeks (average of 34 weeks). Thirty-three (82.5%) had pure preeclampsia, 4 (10.0%) had superimposed preeclampsia, and 3 (7.5%) had eclampsia. Thirty-four (85.0%) patients underwent cesarean section, while 6 (15.0%) had vaginal delivery, with 5 (12.5%) cases of stillbirth. HELLP syndrome was diagnosed with antepartum in 22 (55.0%) cases and postpartum in 18 (45.0%) cases. The frequency of complete HELLP syndrome was 50.0%. MRI was performed between 8 and 96 hours after the HELLP diagnosis (mean of 56 ± 31 hours). The most frequent finding was ascites in 8 (20.0%) cases, followed by pleural effusion in 7 (17.5%) and hepatic steatosis in 3 (7.5%). Periportal signal intensity was normal in all patients, and no cases of hepatic ischemia/infarction or parenchymal or subcapsular hematomas were observed. **Conclusions**: Postpartum MRI findings in stable postpartum women with HELLP syndrome were nonspecific, and in this series, no significant lesions, such as life-threatening parenchymal or subcapsular hematomas, were found. As the sample consisted of clinically stable patients who could be transferred for imaging, this may represent a selection bias. The results do not support the routine use of MRI for monitoring patients with HELLP syndrome. Further studies are needed to determine which patient group would benefit from MRI.

Keywords: HELLP syndrome; magnetic resonance Imaging; liver

FREQUENCY OF HUMAN IMMUNODEFICIENCY VIRUS INFECTION IN MALNUTRITED CHILDREN HOSPITALIZED AT IMIP: A SERIES STUDY OF CASES

JOSIANA DA SILVA GOUVEIA

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2007 apr. 20

Objectives: To determine the frequency of HIV infection in hospitalized children aged three to 60 months with moderate to severe primary and/or secondary malnutrition. **Methods**: A descriptive case series study was conducted involving 126 children hospitalized at the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in Recife, Pernambuco. Blood samples from all patients were tested for HIV antibodies, and sociodemographic, biological, health, and maternal condition indicators were studied, assessing the frequency distribution of these variables. **Results**: HIV infection was confirmed in 7.1% of cases, all through vertical transmission. Ages ranged from three to 43 months, with a median of 20 months (1st quartile = 5 months, 3rd quartile = 24 months). Diarrhea and pneumonia were the main reasons for hospitalization (66.6% of cases), and one child passed away. HIV screening during prenatal care was performed for only one-woman during pregnancy. **Conclusions**: This study contributes to understanding the association between HIV infection and malnutrition in Brazil, alerting healthcare professionals to this interaction and the need for HIV screening when managing malnourished children.

Keywords: child nutrition disorders; HIV infections; hospitalized children

USE OF VAGINAL MISOPROSTOL TO REDUCE PAIN IN HYSTEROSCOPY DIAGNOSIS IN MENACMA: RANDOMIZED, TRIPALLY CLINICAL TRIAL MASKED, PLACEBO CONTROLLED

EMANUELLE PESSA VALENTE

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2007 nov. 05

Objectives: To assess pain during and after diagnostic hysteroscopy in women of reproductive age in relation to the use of vaginal misoprostol. **Methods**: A triple-blind, randomized clinical trial was conducted using 400 µg of vaginal misoprostol or placebo prior to diagnostic hysteroscopy in women of reproductive age. Pain was evaluated during the procedure and at 15, 30, and 45 minutes afterward using the Visual Analog Scale (VAS). Side effects and complications were also assessed. **Results**: The clinical trial was halted after 45 patients were randomized due to significant vaginal bleeding preventing the procedure in patients in the misoprostol group (p=0.0006). No differences in pain levels were found between the two groups. Vaginal bleeding was the main side effect, occurring in 11 patients in the misoprostol group and none in the placebo group (p=0.00002). **Conclusions**: At the dose used, vaginal misoprostol caused bleeding that prevented diagnostic hysteroscopy in women of reproductive age. Further studies are needed to reassess its use in this age group.

Keywords: hysteroscopy; pain; misoprostol; reproductive age.

POSTPARTUM DEPRESSION IN MOTHERS OF PRETERM NEWBORN FOLLOWED IN A CANGURU MOTHER UNIT IN A SCHOOL HOSPITAL NORTHEAST OF BRAZIL

ANDRÉA ECHEVERRIA ARRAES DE ALENCAR

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2007 dec. 03

Objectives: To assess the prevalence of postpartum depression (PPD) in mothers of preterm newborns followed in a Kangaroo Mother Care Unit (KMCU), describe biological and demographic variables, evaluate the frequency of PPD symptoms, and determine the association between these variables and PPD symptoms. **Methods**: A cross-sectional study was conducted with mothers in the KMCU at IMIP from December 2006 to July 2007. All mothers admitted during the data collection period who agreed to participate were included in the study (n=177). Validated methods were used to assess biological, demographic, gestational, and neonatal clinical variables. Associations between these variables and PPD symptoms were determined. Mothers who agreed to participate signed an informed consent form, and those showing signs or symptoms of PPD ensured follow-up care at a specialized service. The project was approved by the IMIP Research Ethics Committee. **Results**: At the first assessment upon admission to the KMCU, 37% of mothers showed PPD symptoms. In the second assessment at the time of the baby's hospital discharge, the number of mothers with PPD symptoms had significantly decreased to 16.9%. **Conclusions**: The findings suggest that KMCU admission promotes the mother-infant bond, reducing the negative impact on mothers of prematurity and the possible association of these factors with PPD.

Keywords: postpartum depression; prematurity; kangaroo mother care unit.

CHLAMYDIA TRACHOMATIS INFECTION IN PATIENTS WITH AND WITHOUT CERVICAL INTRAEPITHELIAL LESIONS

MICHELINE DE LUCENA OLIVEIRA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2007 dec. 04

Objectives: To determine the frequency of Chlamydia trachomatis (CT) infection in patients with and without cervical intraepithelial lesions (CIL) treated at the Specialized Women's Outpatient Clinic in Recife (2007) and its association with biological, demographic, behavioral, reproductive, and clinical-gynecological variables, as well as to compare the detection rates for Chlamydia trachomatis using two techniques: Direct Immunofluorescence (DIF) and Real-Time Polymerase Chain Reaction (RT-PCR). **Methods**: A cross-sectional study was conducted, including 70 women (35 with cytological abnormalities and 35 normal). Colposcopy, biopsy when necessary, and testing for Chlamydia trachomatis using DIF and RT-PCR were performed. The analyzed variables included age, race, origin, education, marital status, menarche, age at first sexual intercourse, parity, number of partners, discharge, previous cytology, episodes of sexually transmitted disease (STD), electrocautery, contraceptive method, family history of uterine cancer, alcohol consumption, smoking, illicit and immunosuppressive drug use, cytology results, and cervical infection by Chlamydia trachomatis. To determine the strength of the association, the Prevalence Ratio (PR) and 95% confidence interval were calculated, performing multivariate analysis to control for potentially confounding variables. Detection rates for CT were determined by each test according to the presence or absence of CIL, using chi-square tests for association and Kappa for agreement, at a significance level of 5%. **Results**: The frequency of Chlamydia trachomatis infection was significantly higher in patients with cytological abnormalities (80% vs. 14.3%), with a PR of 5.60 (95% CI = 2.44 – 12.82). Analyzing the factors associated with CT infection, the only variable that remained significantly associated after multivariate analysis was a history of previous STDs (OR = 63.47; 95% CI = 13.93 – 289.09). The infection rate for Chlamydia trachomatis was 47.1% for DIF and 58.6% for RT-PCR. A significant association was observed between the presence of Chlamydia and CIL, with 80% positive results for DIF and 77.1% for RT-PCR. However, the rate of Chlamydia trachomatis was significantly elevated in patients without cervical intraepithelial lesions tested by RT-PCR (40%) compared to DIF (14.3%). The agreement between the tests was weak, with a Kappa coefficient of 0.4. **Conclusions**: The presence of Chlamydia trachomatis is associated with cytological changes in the cervical tissue, and a history of previous STDs should be emphasized in the treatment and clinical follow-up of these patients. The results of RT-PCR and DIF resulted in high infection rates for Chlamydia in patients with cervical intraepithelial lesions (80%), but the tests were discordant when patients without cervical intraepithelial lesions were tested, possibly due to the high sensitivity of RT-PCR.

Keywords: chlamydia trachomatis; direct fluorescence antibody technique; polymerase chain reaction; cervical intraepithelial neoplasia.

CLINICAL AND LABORATORY PROFILE OF PUERPERAL WOMEN WITH SEVERE PRE-ECLAMPSIA ACCORDING TO THE PRESENCE OR NOT OF DOPPLER CHANGES MATERNO-FETTAL SPEEDOMETERS IN THE THIRD TRIMESTER OF PREGNANCY

BRENA CARVALHO PINTO DE MELO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2008 feb. 12

Objectives: To evaluate the presence or absence of an association between abnormal obstetric Doppler velocimetry in the third trimester of pregnancy and postpartum outcomes in patients with severe pre-eclampsia. **Methods**: A prospective cohort study was conducted with pregnant women over 28 weeks of gestation diagnosed with severe pre-eclampsia, without labor, admitted to the maternity ward of the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) between November 2006 and September 2007. Patients with chronic hypertension, autoimmune diseases, diabetes, multiple pregnancies, and clinical signs of hemodynamic instability were excluded. After approval by the ethics committee, Doppler velocimetry evaluation of the uterine arteries was performed upon patient admission and classified as resistant or non-resistant Doppler study. Patients were analyzed regarding biological, demographic, and obstetric characteristics, as well as blood pressure levels (number of hypertensive peaks and use of antihypertensive medications at discharge), frequency of hospitalizations longer than seven days postpartum, and the presence or absence of complications. Complications were defined as the presence of oliguria, acute pulmonary edema, eclampsia, HELLP syndrome, acute renal failure, surgical wound hematoma, respiratory infection, deep vein thrombosis, and the need for blood transfusion. **Results**: A total of 154 patients were included, of which 91 patients (59.4%) were classified as having a resistant Doppler study, while 62 patients (40.5%) had a normal Doppler study. The frequency of complications was 44.8%, but there was no statistically significant difference in comparison between the groups. In comparing the resistant Doppler study group vs. the normal Doppler study group, a statistically significant difference was observed regarding gestational age (33.8 ± 2.9 vs. 36.9 ± 3.3 weeks, $p = 0.00$), hospitalization longer than seven days (57 vs. 26 patients, $p = 0.01$), and the use of antihypertensive drugs at hospital discharge (83.5% vs. 67.7%, $p = 0.02$). **Conclusions**: The presence of elevated resistance in the Doppler study of the uterine arteries in the third trimester of pregnancy can predict adverse maternal postpartum outcomes.

Keywords: Obstetric dppler velocimetry; pstpartum outcomes; severe preeclampsia.

KNOWLEDGE AND PRACTICES RELATED TO THE MOST FREQUENT MALIGNANT NEOPLASMS IN PEDIATRIC SCIENCES: AN EVALUATION OF STUDENTS AT A MEDICAL SCHOOL IN PERNAMBUCO

CYNTHIA DE ARAÚJO BARROS

Advisor: Prof. Isabella Chagas Samico
Defense date: 2008 feb. 13

Objectives: To evaluate the knowledge and practices of medical students at a college in Pernambuco regarding the early diagnosis of the most common malignancies in pediatrics, and to assess the association with their intention to enter the job market, the sources of knowledge obtained, curricular and extracurricular activities, and self-assessment of knowledge, suspicion capability, interest, and need for information on the subject. **Methods**: A descriptive study was conducted with 82 students who had completed a pediatric rotation from the curriculum reform (2001) until the data collection period in May 2007. A structured self-administered questionnaire was used. The program EPI-INFO 6.0 was utilized for data analysis. A frequency distribution listing of the variables was obtained, and the significance of the association was tested for some variables using the p-value through Fisher's exact test, with a 95% confidence interval. **Results**: More than half of the students intended to work as doctors immediately after graduation, mainly in General Practice and Family Health Strategy. The majority reported contact with pediatric cancer, especially in the ward. Few reported extracurricular activities in pediatrics. Clinical case discussions were noted as the main teaching method. About 60% of the interns achieved an average score of 50% on questions related to epidemiology, clinical practice, and laboratory work, while approximately 32% scored less than half on these questions. There were no statistically significant differences regarding the completion of the mandatory rotation in pediatric emergency. Students rated their knowledge of pediatric oncology as low, but felt they had good suspicion capability, significant interest, and a need for information on the subject. **Conclusions**: The students require greater preparation on the topic, given that a significant portion intends to work immediately after completing the course.

Keywords: pediatric oncology; medical education; knowledge; early diagnosis; medical curriculum.

INFECTIOUS COMPLICATIONS OF PERITONEAL DIALYSIS IN CHILDREN AND TEENAGER: CASE SERIES

CLÉCIA CRISTIANE DA SILVA SALES

Advisor: Prof. Jailson de Barros Correia
Defense date: 2008 feb. 14

Objectives: To describe the socioeconomic, clinical characteristics, and infectious complications in patients (ages 0 to 18) undergoing continuous ambulatory peritoneal dialysis (CAPD) and/or automated peritoneal dialysis (APD). **Methods**: A cross-sectional, retrospective, descriptive study of patients in the dialysis program at the Pediatric Renal Unit of IMIP from 1996 to 2006. Peritonitis was defined as cloudy peritoneal fluid with 100 or more cells. Data entry and analysis were performed using Epi Info v.3.3. The study was approved by the Research Ethics Committee. **Results**: The median age of the 67 patients at admission to the program was 9 years, with 57% being female. Eighty-seven percent came from the interior of Pernambuco, and 94% had dialysis exchange rooms made of brick. Fifty-one percent had a family income of up to one minimum wage, and 63% of the mothers had up to 3 years of schooling. It was found that 39% started treatment with hemodialysis, but only 6% had a break-in period of 7 days. There were 150 infectious episodes in 57 patients, with 116 cases of peritonitis (an average of 2.0 peritonitis episodes per patient), presenting with abdominal pain (96%) and fever (29%). Fifty-two microorganisms were isolated from the peritoneal fluid: coagulase-negative staphylococci (23.1%), Klebsiella sp (17.3%), with equal frequencies of Pseudomonas and S. aureus (13.5%), and 3.8% fungi. The Tenckhoff catheter was exchanged and/or repositioned in approximately two-thirds of the patients. About 36% of those with infectious complications temporarily underwent hemodialysis. **Conclusions**: The high prevalence of peritonitis in the pediatric CAPD program necessitates research to determine risk factors, enabling targeted preventive measures to avoid the transition of these children to hemodialysis.

Keywords: peritonitis; peritoneal dialysis; infection; child and teenager health.

CARERS' PERCEPTIONS AND FEELINGS ABOUT THE QUALITY OF LIFE OF CHILDREN UNDER FIVE YEARS OF AGE WITH CEREBRAL PALSY

DORALICE RIBEIRO GOUVEIA LIMA

Advisor: Prof. Katia Virginia de Oliveira Feliciano
Defense date: 2008 feb. 21

Objectives: To understand caregivers' perceptions regarding the quality of life of children under five years old with cerebral palsy (CP). **Methods**: This is a qualitative study conducted at the Instituto Materno Infantil Prof. Fernando Figueira in Recife, from February to July 2007, involving seven mothers, the primary caregivers of children under five years with CP diagnosed for more than six months. Data collection involved a form for clinical characterization of the child and a semi-structured interview guide for the caregiver. The interviews were recorded and fully transcribed, with the total number of informants defined by saturation. The analysis identified the "cores of meaning" expressed as empirical categories developed by the participants, related to quality of life. **Results**: The children were of both sexes, aged between 10 and 58 months, all presenting severe disabilities. In the context of economic dependence and social isolation, the multidimensionality of caregivers' perceptions about the quality of life of these children is evident: physical dependence, rehabilitation, comfort, financial stability, psychological conditions, support from health services, family support, physical environment, social acceptance, love, and affection. Great emphasis is placed on rehabilitative treatment, considered a central element for social inclusion and the well-being of the children. The mothers are committed to ensuring access to rehabilitation services and to reinforcing home-based work done by professionals, especially in motor physiotherapy, despite difficulties in organizational access, insufficient informational support, and transportation limitations. These mothers, living under precarious survival conditions and constant physical and emotional overload, face restrictions in exercising their citizenship. **Conclusions**: This highlights the importance of strengthening therapeutic approaches aimed at improving quality of life, taking into account the sociocultural context and daily life environment to identify individual, family, and social needs.

Keywords: cerebral palsy; quality of life; caregivers; rehabilitation; child health; health promotion.

PSYCHODYNAMIC APPROACH TO MALNUTRITED MOTHER-CHILD INTERACTION SERIOUSLY HOSPITALIZED

MARISA AMORIM SAMPAIO

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2008 feb. 22

Objectives: To analyze elements of the interactive psychodynamics of the mother-child dyad with severe malnutrition in the context of hospitalization in a pediatric ward, anchored in the expression of pulsional exchanges, as well as elements of phantasmatic, behavioral, and affective interaction. **Methods**: A qualitative method based on psychoanalytic theory was employed. Eight dyads of children aged six to 18 months and their biological mothers, hospitalized at the Instituto Materno Infantil Professor Fernando Figueira (IMIP), were followed. Information was collected through triangulation of techniques, including semi-structured interviews, observations, and recordings. Content analysis was used to identify four representative themes: Theme 1 – The process of building parenthood; Theme 2 – Experience and resumption of parenthood: mother-child interaction during hospitalization; Theme 3 – Malnutrition and mother-child interaction: meanings created in relation to the illness; and Theme 4 – Interactive psychodynamics: understanding indications regarding disruptions in mother-child interaction. **Results**: The themes illustrate the importance of the parenthood process in the interactive psychodynamics of the dyad, factors that may have interfered in the construction/breakdown of the bond, its contribution to the malnutrition situation, and its expression during hospitalization. The mutual influence of mother and child on the construction of interaction and the complexity of functional disturbances is emphasized, suggesting that extreme states of malnutrition may be associated with nutritional deficiencies and/or experiences of deprivation or excessive psychoaffective states. Hospitalization triggered experiences for both the mother and the child, providing insights into the dyad's past. In some cases, the hospital seemed to serve as a third party for the dyad, aiding in the resumption of aspects of parenthood and acting as a potential site for clinical, nutritional, and functional rescue (maternal and child functioning). Therefore, illness can be understood as a limit or appeal related to maternal or paternal excess or deficiency. **Conclusions**: Observing the mother-child interaction during critical moments, such as malnutrition and hospitalization, and recognizing the place occupied by the child in the mother's psychological issues, the couple's dynamics, and trans- and intergenerational history can assist families and health teams in understanding the process of illness and the comprehensiveness of health care.

Keywords: bonding; object relations; mother-child relationships; malnutrition; qualitative research; psychoanalysis; parents; child development; comprehensive health care.

VERTICAL TRANSMISSION OF MALARIA IN THE MATERNITY LUCRÉCIA PAIM, LUANDA ANGOLA, FROM JUNE TO AUGUST 2007, A STUDY CROSS

ELISA PEDRO GASPAR

Advisor: Prof. Maria Cynthia Braga
Defense date: 2008 feb. 27

Objectives: To determine the frequency of malaria in mothers and their children and to investigate factors associated with maternal-fetal transmission at the Lucrécia Paim Maternity Hospital (MLP). **Methods**: A hospital-based cross-sectional study was conducted from June to August 2007. Thick blood smears were obtained from peripheral blood samples of pregnant women, as well as from the placenta, umbilical cord, and peripheral blood of newborns. Information on maternal history was collected using a standardized questionnaire, along with clinical data from the newborns. **Results**: The study involved 500 parturients admitted to the Central Maternity Hospital of Luanda and 507 newborns. It was observed that 22 (4.4%) of the mothers had positive peripheral blood samples for malaria caused by *P. falciparum*. Among the positive mothers, parasitemia was detected in 100% of the samples from the placenta, umbilical cord, and fetus. Maternal malaria was statistically significantly associated with prenatal care. Women who did not attend prenatal care had almost five times the chances of transmitting malaria to the fetus compared to those who did (p=0.018). Failure to receive prophylaxis during pregnancy was associated with a threefold higher occurrence of congenital malaria than in those who had undergone this preventive measure (p=0.021). No statistically significant associations were found regarding the mother's age, number of births, number of prenatal consultations, or reported malaria during pregnancy. Although a decreasing trend in malaria occurrence was observed with increasing newborn weight, no statistically significant association was found with any of the investigated conditions. **Conclusions**: No characteristics of the newborns were identified as associated with congenital malaria, highlighting the importance of early laboratory diagnosis in children whose mothers test positive for malaria via thick smear. Although a prevalence of 4.4% was found, the transmission rate was 100%, indicating a high transmission of the disease. Diagnosis is challenging and should be supported by new diagnostic techniques. The infection occurs during pregnancy, which supports the findings of this study. There are few studies investigating congenital malaria, despite it being a serious public health problem. Maternal-fetal transmission in Angola and the high transmission rate to newborns are realities. The variation of 1,000 to 64,000 parasites per cubic millimeter is quite high, pointing to the peculiar characteristics of the studied population and the elevated transmission rate of the disease. Diagnosis conducted within the first 12 hours of life yielded important findings for the diagnosis of congenital malaria in Angola.

Keywords: malaria; *plasmodium falciparum*; pregnancy; newborn.

VULNERABILIDADE PARA SÍFILIS CONGÊNITA: ESTUDO DESCRITIVO EM MATERNIDADES COM PROJETO NASCER EM PERNAMBUCO

MARIA DE FÁTIMA CORREIA DE MIRANDA HENRIQUES

Advisor: Prof. Isabella Chagas Samico
Defense date: 2008 feb. 27

Objectives: To analyze aspects of vulnerability related to congenital syphilis (CS) in women assisted in maternity hospitals participating in the Nascer Project in Pernambuco. **Methods**: This descriptive study utilized secondary data from the research "Evaluation of the Nascer Project in Maternity Hospitals in Pernambuco," conducted among women assisted in 2005. The sample included 478 women who were interviewed and whose medical records were analyzed. Data related to individual vulnerability (socio-economic status, cognitive and behavioral characteristics of the women), programmatic vulnerability (indicators of prenatal care and management of CS cases), and social vulnerability (socio-economic and health indicators of the municipalities where syphilis cases resided) were selected. The descriptive analysis of the findings was compared with the theoretical model for adequate control of CS. Prenatal care was evaluated for the entire sample, along with clinical hospital management and the recommended prevention and control actions for identified syphilis cases. **Results**: The study identified 3.5% of pregnant women testing positive for syphilis at delivery, suggesting community transmission and a high occurrence of *Treponema pallidum* infection among women of childbearing age in the study areas. The main aspects of individual vulnerability identified included low levels of education and income, insufficient knowledge about the modes of disease transmission, and unprotected sexual practices. Programmatic vulnerability aspects were observed in prenatal care: late access to prenatal services, insufficient testing, and treatment of seropositive pregnant women and their partners. Testing at delivery proved effective in identifying cases of maternal syphilis that were undiagnosed during prenatal care. Cases of CS were identified but not reported. Different aspects of social vulnerability were identified among the municipalities where the pregnant women resided. **Conclusions**: The results of the joint analysis of the identified vulnerability aspects suggest that the prenatal care provided in the municipalities studied is related to the profile of the assisted pregnant women and appears insufficient to prevent the desired outcome of reducing the incidence of congenital syphilis. The findings also indicate the need for evaluative studies on prenatal care in these areas and the identification of new approaches that address the identified barriers, utilizing integrated control of syphilis with HIV/AIDS and that are suitable for the identified social exclusion profile of the users.

Keywords: congenital syphilis; vulnerability; prenatal care; health service evaluation.

RISK FACTORS AND FREQUENCY OF URINARY TRACT INFECTION RELATED TO BLADDER CATHETERIZATION IN GYNECOLOGICAL SURGERY

SÔNIA CRISTINA ARAÚJO HINRICHSEN

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2008 feb. 28

Objectives: To determine the frequency of bacteriuria, the main associated factors, the microorganisms most frequently found, and the antibiotic sensitivity profile after bladder catheterization in women undergoing elective gynecological surgery at the Instituto Materno Infantil Prof. Fernando Figueira (IMIP) in 2007. **Methods:** A cohort study was conducted on women undergoing gynecological surgery with bladder catheterization, admitted to the gynecological clinic of IMIP from January to May 2007. The sample included women over 13 years old who underwent elective gynecological surgery with bladder catheterization. Women before menarche, those who used antibiotics, and those with positive urine cultures prior to catheterization were excluded. The analyzed variables included age, education level, number of pregnancies, parity, history of vulvovaginitis, hormonal therapy use, reproductive life phase, type of surgery and anesthesia, professional performing the bladder catheterization, duration of catheterization, use of prophylactic antibiotics, presence of associated symptoms, isolated microorganisms, and results of antibiograms. Urine cultures were collected within 24 hours after catheter removal and seven to ten days after bladder catheterization, using a two-way Foley catheter and closed collection system. Bivariate and multivariate statistical analysis was performed, calculating risk ratios (RR) and 95% confidence intervals. The comparison of microorganism frequencies between the two urine cultures was conducted using McNemar's tests and Kappa agreement coefficients at a significant level of 5%. **Results:** Of the 442 gynecological surgeries performed during the period, 249 women evaluated participated in the study. The frequency of positive urine collected within 24 hours after catheter removal was 23.6%, decreasing to 11.1% after seven to ten days. Of these, only 2.4% developed symptoms. The risk factor that remained significantly associated with bacteriuria within 24 hours after multivariate analysis was having more than three pregnancies (OR=2.49; 95% CI 1.23–5.04; p=0.12). There was a lower risk of bacteriuria when bladder catheterization was performed by residents (OR=0.39; 95% CI=0.16–0.92; p=0.03). No significant association was found with age, education level, reproductive life phase, recent vulvovaginitis, type and duration of surgery, type of anesthesia, use of prophylactic antibiotics, and duration of catheter presence. No significant difference was observed regarding microorganisms when comparing the two urine cultures. *Klebsiella spp*. was the most frequently found microorganism in both cultures (within 24h=30.5% vs. seven to ten days=16.0%; p=0.18), followed by *E. coli*, *Klebsiella pneumoniae*, and other Gram-negative bacteria. The antibiotics amikacin, cefepime, ciprofloxacin, meropenem, and ticarcillin-clavulanate showed sensitivity equal to or greater than 75% for the main isolated

microorganisms. **Conclusions:** The frequency of bacteriuria decreased by half, without the need for treatment, when comparing urine cultures collected within 24 hours of catheter removal to those collected seven to ten days after bladder catheterization. The main associated risk factor was having more than three pregnancies, and the risk of bacteriuria was lower after catheterization performed by resident physicians. *Klebsiella spp.* was the most commonly found microorganism in urine cultures, and ciprofloxacin was the antibiotic with sensitivity greater than or equal to 75% for the main isolated microorganisms, notable for its oral administration route.

Keywords: urine; *bacteriúria*; hospital infection; surgery; urinary catheterization; urinary infections; drug resistance; antibacterial agents.

ULTRASONOGRAPHIC DETERMINATION OF GESTATIONAL AGE BY THE TRANSVERSE DIAMETER OF THE CEREBELLUM

JOSÉ ARAÚJO HOLANDA FILHO

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2008 feb. 29

Objectives: To determine the variation of the fetal transverse cerebellar diameter (TCD) with gestational age in low-risk obstetric pregnancies using ultrasound and to verify the association with maternal and fetal factors. **Methods**: A prospective cross-sectional study was conducted at the Women's Care Center (CAM) of the Instituto Materno Infantil Professor Fernando Figueira (IMIP) in Recife, Pernambuco, Brazil. Data was collected between November 2006 and March 2007. The study sample included 190 low-risk pregnant women with a single fetus. ANOVA was used to assess the association between maternal ethnicity, nutritional status, fetal sex, and TCD in determining gestational age. The relationship between fetal TCD and gestational age was evaluated through linear regression, and a nomogram was constructed. A significant level of 5% was adopted for all analysis steps. **Results**: The findings were presented in two articles. The average age of the pregnant women was 25 years (SD=5 years), and the average schooling was 9 years (SD=2.7 years). The first article described a significant linear relationship between gestational age and fetal TCD, with a regression coefficient of 0.71 weeks/mm ($p<0.001$). The ANOVA results indicated that there was no statistically significant association between TCD and maternal ethnicity ($p=0.608$) or between TCD and maternal nutritional status ($p=0.927$). The second article showed that there was no relationship between TCD and fetal sex ($p=0.684$) for determining gestational age. **Conclusions**: The findings of this study demonstrate a strong correlation between fetal transverse cerebellar diameter (TCD) and gestational age, which is not influenced by maternal factors such as ethnicity and nutritional status or by fetal sex.

Keywords: cerebellum; maternal nutritional status; ethnicity; gestational age; nomogram; sex; ultrasound.

HIGH-RESOLUTION COMPUTERIZED TOMOGRAPHY OF THE LUNGS IN PATIENTS WITH ACUTE SCHISTOSOMIASIS: CASE SERIES

NATACHA CALHEIROS DE LIMA

Advisor: Prof. Jailson de Barros Correia
Defense date: 2008 jul. 28

Objectives: To describe the changes observed in High-Resolution Computed Tomography (HRCT) of the lungs in patients with acute schistosomiasis. **Methods**: A case series of 14 patients with acute schistosomiasis who underwent High-Resolution Computed Tomography of the lungs during an epidemic outbreak of the disease in Ipojuca, Pernambuco, Brazil. **Results**: All patients exhibited some degree of abnormality on HRCT, with the most common findings being nodules in 13 cases and ground-glass opacities in ten. Nodules were more frequently located in the middle and lower thirds of the lungs, appearing multiple and bilateral. The halo sign was identified in five cases. Ground-glass opacities predominantly appeared in the middle and upper lobes of the right lung and the upper lobe of the left lung. Among the ten patients with ground-glass opacities, these were peripheral in location. Only one patient exhibited both central and peripheral ground-glass opacities, with the latter being more predominant. We also report the follow-up HRCT of a patient who presented with diffuse nodules and multiple peripheral migratory ground-glass opacities associated with intralobular interstitial thickening. **Conclusions**: The study reveals that peripheral ground-glass opacities are a common finding and suggests that acute schistosomiasis should be included in the differential diagnosis in the presence of such findings in patients with a suggestive clinical history. Furthermore, we describe the evolution of these changes through follow-up HRCT, highlighting their transient nature.

Keywords: acute schistosomiasis; high-resolution computed tomography.

CONCEPTIONS AND PRACTICES RELATED TO THE PREVENTION OF HIV/AIDS AMONG TEENAGER ATTENDED AT A REFERENCE OUTPATIENT OF THE NORTHEAST OF BRAZIL

TÂNIA MOISA DA SILVA MARINHO

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2008 mar. 14

Objectives: To describe the concepts and practices related to sexuality and HIV/AIDS prevention among teenager in an outpatient clinic of a reference hospital in Northeast Brazil. **Methods**: A descriptive cross-sectional study involving 410 teenagers from the teenager outpatient clinic at the Instituto Materno Infantil Professor Fernando Figueira, conducted from December 2006 to April 2007. A questionnaire was administered containing information on the variables of interest. Data analysis was performed using Epi-Info 6.04d and Stata 9.2 software. Frequency tables with relative and absolute frequencies were constructed, and tests for associations (Pearson's chi-square and Fisher's exact test) among the variables of interest were conducted. Logistic regression analysis was performed to identify factors associated with condom use. A significant level of 5% was adopted for all analysis stages. The project was approved by the institution's Ethics and Research Committee. **Results**: The mean age of the teenager was 14.6 years (SD = 2.2 years), with 51.2% aged between 10 and 14 years. Approximately 20% of the samples reported being sexually active. The mean age of sexual initiation was 15.4 years (SD = 1.9 years) for girls and 14.2 years (SD = 1.9 years) for boys. A good level of education was observed among the teenagers. The concepts and practices related to sexuality were explored in Article 1. Among the main findings, the predominant type of relationship was reported as follows: 68.9% of girls were in a girlfriend/fiancé relationship, while 70% of boys were in a friend/casual relationship. The main reason cited for condom use by both genders was to avoid pregnancy and sexually transmitted infections (p = 0.438). The importance of maintaining female virginity until marriage was emphasized by girls (p = 0.009), younger boys (p < 0.001), and those who were not sexually active (p < 0.001). Regarding the obligation of men to initiate sexual relationships, girls agreed more than boys (p < 0.001). Most boys considered it normal to have sexual relations during dating, unlike girls (p < 0.001). Article 2 described the level of knowledge about the modes of HIV/AIDS transmission and protection, as well as factors associated with condom use. A satisfactory level of knowledge about transmission modes was observed, regardless of gender and sexual initiation. More than 90% of teenagers accurately referred to protective measures. Variables that remained associated with condom use after multiple logistic regression analysis included: male gender (p < 0.029), being in a relationship with an older partner (p < 0.002), and having a sexual life span of 1 to 3 years (p < 0.017). **Conclusions**: The experiences and concepts of teenagers regarding sexuality are marked by gender differentials. Knowledge about HIV/AIDS prevention among teenager was adequate, and the strongest factors associated with condom use were male gender, an active sexual life of 1 to 3 years, and relationships with older partners.

Keywords: acquired immunodeficiency syndrome/prevention & control; teenager; health vulnerability; condom use; gender; sexual behavior.

CHANGES IN BLADDER FUNCTION IN BOYS UNDERGOING CORRECTION POSTERIOR URETHRAL VALVE SURGERY

SERÁFICO PEREIRA CABRAL JÚNIOR

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2008 dec. 17

Objectives: To evaluate bladder function in patients who were carriers of posterior urethral valve (PUV) through urodynamic study after surgical treatment. **Methods**: The study was conducted from August 2007 to September 2008. Male patients with PUV who underwent surgery were included. Urodynamic assessment was performed a minimum of three months after surgery by the same physician and consisted of filling cystometry and pressure-flow curve. No patient received sedation or general anesthesia for the examination. Data collected included maximum cystometric capacity (MCC), bladder compliance, involuntary detrusor contractions (IDC), residual volume, and urinary flow rate. Clinical-laboratory findings were correlated with the urodynamic changes observed. **Results**: Of the 52 patients who underwent urodynamic testing, 23 (44.2%) had normal bladder function, and 29 (55.8%) had urodynamic alterations. The main findings were: 26 patients with normal MCC (50%), 15 with decreased bladder capacity (28.8%), and 11 with increased capacity (21.2%). In 66% of patients with decreased capacity, low compliance was also observed, and all 11 patients (100%) with increased capacity showed elevated residual volume. Eleven patients with normal capacity experienced involuntary contractions (42%) compared to 10 of those with decreased capacity (66.6%). No patients with increased capacity presented IDC. Of the 10 patients who initially underwent urinary diversion followed by fulguration, all had urodynamic alterations. Among the 42 patients who first underwent fulguration, 23 (54.7%) showed normal urodynamics. Only 9.6% of the patients were diagnosed prenatally. **Conclusions**: Bladder function was altered in more than half of the studied patients. Urodynamics was fundamental for defining alterations and establishing treatment.

Keywords: urethral obstruction; urinary diversion; bladder diseases; urodynamics; urology.

BLOOD DONORS FROM RECIFE PUBLIC BLOOD CENTER: PERCEPTION OF DONATION AND RETURN BEHAVIOR

FÁBIA MICHELLE RODRIGUES DE ARAÚJO

Advisor: Prof. Kátia Virginia de Oliveira Feliciano
Defense date: 2008 dec. 18

Objectives: To assess the acceptability of blood donors related to their current donation and their donation history at a public blood bank in Recife. **Methods**: This descriptive study utilized both cross-sectional and longitudinal approaches. The cross-sectional study was conducted between January and May 2008, involving a sample of 527 donors (estimated 10% negative evaluations of donations, 95% confidence level, and 2.5% margin of error) where every nineteenth donor was invited to respond to a questionnaire. For the longitudinal study, donation histories at this service were collected in June 2008 from the Blood Bank System (SBS). The total sample analyzed included opinions on treatment, communication, trust in service, median donations by sex, age, and education; for 363 donors (excluding 164 with a history prior to SBS), the period of first donation was analyzed, and for 261 (excluding 100 first-time donors and 2 due to date imprecision), return behavior was assessed. Chi-square tests were used with a 95% confidence level. Ethical principles of research were respected. **Results**: The majority were men (81.4%), with 35.1% aged between 25 and 34 years, 46.5% had completed secondary education, 19.0% were first-time donors, and 56.4% donated voluntarily. Half expressed dissatisfaction with the time spent donating, and 36.4% found it difficult to reach the unit. There was a strong acceptability regarding the reception, especially in terms of information (between 96.2% and 99.2% reported being "very satisfied" / "satisfied" at different stages) and treatment (93.5% to 96.4% rated it as "excellent" / "good"). Trust was primarily derived from professional competence and education/courtesy. Women requested more clarification. The collection room received the highest ratings. However, there were some weaknesses: impersonal interactions, unclear information, lack of appropriate questions/information, persistent doubts, and speed of medical interviews. Female participation increased in the current period compared to 1998-2000, but a high percentage of first-time donors were men. Among those who donated ≥5 times, the first return occurred within 6 months for 43.8%, and only 32.7% had not returned by 12 months. Male donors prevailed among repeat donors. **Conclusions**: Despite high acceptability, there is a need to develop a continuous education process that encompasses both technical and humanitarian training for professionals. Additionally, prioritizing repeat donors, who are potentially more receptive, is essential for increasing recruitment effectiveness.

Keywords: blood donors; user satisfaction; quality; reception; health services evaluation; health assessment.

EVALUATION AND PROGNOSIS OF CHRONIC COUGH IN CHILDREN AND TEENAGER: A LONGITUDINAL STUDY

JOAKIM CUNHA REGO

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2008 dec. 19

Objectives: To evaluate the etiology of chronic cough in children and teenagers based on the investigation algorithm of the European Respiratory Society from 2004. **Methods**: This descriptive case series study involved the clinical follow-up of patients referred to a pediatric pulmonology outpatient clinic at a reference pediatric hospital in northeastern Brazil over one year, from May 2006 to May 2007. Chronic cough was defined as a daily cough lasting more than eight weeks. Patients were assessed according to the European Respiratory Society protocol, laboratory tests were requested based on the initial clinical evaluation, and therapy was prescribed after a specific diagnosis. **Results**: A total of 107 patients (57 females) were evaluated, with a median age of 4.5 years and a cough duration of 12 weeks. Based on successful treatment response, the cause of the cough was identified in 97% of cases, with chronic cough syndrome associated with upper airway issues accounting for 28%; asthma for 24.2%; asthma associated with another cause for 15.8%; cough due to environmental irritants for 8.4%; prolonged bacterial bronchitis for 6.5%; gastroesophageal reflux disease for 5.6%; and other causes accounting for 11.5%. A single cause of cough was identified in 90 patients (84%), while 17 patients (16%) had two causes. **Conclusions**: Chronic cough syndrome associated with upper airway issues and asthma, either isolated or combined, were the most significant causes of chronic cough in this study. The European Respiratory Society consensus successfully guided the diagnosis of pediatric chronic cough in 97% of cases. Most cases could be diagnosed with relatively simple or non-invasive tests.

Keywords: cough; asthma; sinusites; differential diagnosis; pediatrics.

AGREEMENT BETWEEN DIAGNOSTIC TESTS FOR CERVICAL CANCER: CYTOLOGY, COLPOSCOPY AND HISTOPATHOLOGY

LETÍCIA MARIA CORREIA KATZ

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2009 mar. 02

Objectives: To evaluate whether repeating the Pap smear at the time of colposcopy improves the concordance between diagnostic methods (cytology and histopathology) for cervical cancer, and to assess the concordance among cytology, colposcopy, and histopathology. **Methods:** The study was conducted at the Central Public Health Laboratory of the State of Pernambuco (LACEN/PE) from January to July 2008, involving 397 women with abnormal cytopathological exams referred for colposcopic evaluation. At the time of colposcopy, cytology was repeated using conventional methods, and the presence of abnormal colposcopic findings was noted. The two cytological results were compared with each other and with the histopathological results obtained from biopsy directed by colposcopy. The concordance of cytology with colposcopy and colposcopy with histopathology was also evaluated. The cytological nomenclature used was that of Bethesda (2001) and the histopathological nomenclature from the World Health Organization (1994). The concordance between methods was assessed using the Kappa statistic, at a significance level of 5%. **Results:** Comparing the initial cytology with the cytology performed during colposcopy, a Kappa value of 0.297 (95% CI: 0.235-0.359) was found, which is considered weak. Regarding the cytological-histopathological concordance, the first cytology yielded a Kappa of 0.261 (95% CI: 0.181-0.340), also considered weak, while the second cytology showed a Kappa of 0.408 (95% CI: 0.332-0.485), which is considered moderate. The concordance between cytology performed at the time of colposcopy and colposcopy was Kappa = 0.33 (95% CI: 0.21-0.45), and between colposcopy and histopathology was Kappa = 0.35 (95% CI: 0.39-0.51), both considered weak. **Conclusions:** There was an improvement in cytological-histological concordance when cytology was repeated at the time of colposcopy following an initial abnormal examination. Additionally, there was better concordance between cytology and histopathology compared to colposcopy and histopathology.

Keywords: cervical cancer; vaginal smear; colposcopy; cervical neoplasms; pathology.

COMPARISON OF TWO TEACHING-LEARNING METHODOLOGIES USED DURING BEDSIDE MEDICAL ROUNDS AT THE PROF. FERNANDO FIGUEIRA INSTITUTE OF INTEGRAL MEDICINE (IMIP)

HEGLA VIRGINIA FLORÊNCIO DE MELO PRADO

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2009 mar. 30

Objectives: To compare two teaching methodologies (active vs. traditional) used in bedside medical visits. **Methods**: This intervention study was conducted at a teaching hospital in northeastern Brazil. Seventy-two medical students in their Pediatrics rotation were recruited. The research followed three stages: initially, participants underwent a pre-test consisting of 30 dichotomous questions (true or false) to assess their prior knowledge of diarrhea and pneumonia. They then participated in a bedside medical visit, where they discussed distinct cases of patients with the two diseases selected for the study. For one case, the active methodology, based on "seven steps for clinical approach," was utilized, while the traditional method was applied to the other case. Finally, 48 hours later, they took a second test to determine knowledge acquisition and completed a questionnaire regarding motivation for individual study and their opinions on the two different approaches to conducting the medical visit. **Results**: Students exposed to the active methodology demonstrated better results than those exposed to the traditional method across all three parameters considered in this study: knowledge acquisition (45.8% vs. 29.2%, p=0.03), motivation for individual study (52.8% vs. 15.3%, p<0.001), and opinion of the student (84.7% vs. 52.8%, p<0.001). **Conclusions**: The active methodology yielded better results compared to the traditional method in all parameters evaluated in this study.

Keywords: medical education; medical students; active methodologies; problem-based learning.

PSYCHOLOGICAL REPERCUSSIONS OF ABORTION ON WOMEN ATTENDED AT A REFERENCE HOSPITAL IN THE CITY OF RECIFE: A QUALITATIVE STUDY

EDUARDA PONTUAL SANTOS

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2009 apr.08

Objectives: The study aimed to understand the psychological repercussions of abortion in women, establishing connections between intrapsychic functioning and the experience of abortion. **Methods**: This was an exploratory descriptive study conducted using a qualitative approach grounded in psychoanalytic theory. The sample consisted of 14 women diagnosed with abortion. Data collection techniques included semi-structured interviews and observation, and participants' medical records were also utilized as data sources. The interviews were guided by four central questions. Content analysis was used, combined with thematic analysis. Ethical principles were preserved, ensuring confidentiality and privacy for the interviewees, with prior approval from the Research Ethics Committee. **Results**: Four themes were identified, illustrating that the event of abortion is not an isolated moment but is linked to family and emotional history, as well as the healthcare team. All these factors interact and influence the woman's life, leading to different responses and coping mechanisms. Despite this, the pain of abortion is often not validated by social networks or healthcare professionals, who may not recognize the symbolic value of abortion, sometimes failing to acknowledge it as a loss. This neglect poses a threat to the psychological health of these women and negatively impacts the public health system. **Conclusions**: Legitimizing and giving meaning to this grief can contribute to mobilizing institutional initiatives aimed at alleviating suffering and improving service quality. It highlights the importance of a multidisciplinary team prepared for post-abortion care, focusing on comprehensive attention to women's health.

Keywords: abortion seekers; comprehensive health care; attitudes toward death; qualitative research; mother-child relationships; bonding; psychoanalysis.

ASSESSMENT OF THE DEGREE OF IMPLEMENTATION OF HIGH-RISK PRENATAL CARE AT PERNAMBUCO SCHOOL HOSPITAL, BRAZIL

ELIANE MARIA DE QUEIROZ BANDEIRA DE MELO

Advisor: Prof. Isabella Chagas Samico
Defense date: 2009 apr.28

Objectives: To assess the implementation degree of high-risk prenatal care at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from April to September 2008. **Methods:** This was a normative evaluative study conducted at the high-risk prenatal care clinic of IMIP. The study population included medical professionals and pregnant women. The evaluation considered the dimensions of structure and process. Interviews were conducted with professionals and pregnant women using a structured questionnaire, and a checklist was used to observe the records in medical charts (Prenatal Monitoring Form) and the women's cards. The implementation degree was defined according to the standards set by the Ministry of Health for high-risk prenatal care. A classification system was adopted: implemented (80-100% positive responses), partially implemented (60-80% positive responses), and not implemented (less than 60% positive responses). **Results:** The implementation degree for the structural dimension was classified as implemented (91.9%), with 91.7% for physical resources, 91.8% for material resources, 90% for human resources, and 94.4% for service organization. In the process dimension, only one component was considered (medical practice), which also showed an implementation degree classified as implemented (87.2%). The overall implementation degree of high-risk prenatal care at IMIP was deemed implemented (89.5%). **Conclusions:** The conceptual framework developed by Donabedian for assessing quality in health, based on the triad of structure, process, and outcome, proved to be an effective approach for addressing the objectives of this study. The high-risk prenatal care assistance at IMIP was classified as implemented. The triangulation of information sources provided greater reliability for the findings.

Keywords: health service evaluation; women's health; prenatal care; quality of health care.

MENINGOCOCCAL DISEASE: KNOWLEDGE, ATTITUDE AND PRACTICE AMONG PUBLIC PEDIATRIC EMERGENCY DOCTORS IN RECIFE

ZELMA DE FÁTIMA CHAVES PESSOA

Advisor: Prof. Jailson de Barros Correia
Defense date: 2009 apr.28

Objectives: To describe the knowledge, attitude, and practice regarding the early management of meningococcal disease among pediatric emergency physicians. **Methods:** A cross-sectional study conducted from March to August 2008. All pediatric emergency physicians in Recife were approached to participate in the study. A questionnaire assessing knowledge, attitude, and practice was administered, consisting of closed-ended questions and short assertions. Responses were deemed adequate according to national and international protocols. **Results:** A total of 219 physicians (median age of 44 years, 86% female) participated in the study, and of these, 201 had previously treated a suspected case of meningococcal disease. Physicians working in reference hospitals or those who graduated within the last 10 years demonstrated better performance in knowledge, attitude, and practice (p<0.01); those with completed medical residency exhibited better knowledge and attitude (p<0.01) but not in practice. Gaps were noted in undressing to examine an acutely febrile child, not administering penicillin immediately after clinical suspicion of the disease, not recognizing early signs of severity, and hemodynamic instability as contraindications for lumbar puncture, observed in 13%, 12%, 9%, and 38% of responses, respectively. **Conclusions:** Pediatric emergency physicians are often involved in the initial management of meningococcal disease in settings where severe cases coexist with limited healthcare conditions. Identifying gaps in knowledge, attitude, and practice concerning meningococcal disease is useful for informing health policy managers and proposing future studies on the topic.

Keywords: meningococcal infections; child; meningococcal sépsis; meningococcal meningitis; emergency; knowledge; attitudes and health practice.

COLONIZATION BY EXTENDED-SPECTRUM BETA-LACTAMASE-PRODUCING KLEBSIELLA IN CHILDREN ADMITTED TO THE PEDIATRIC INTENSIVE CARE UNIT AT IMIP

SHEYLA SUELLE DOS SANTOS LEVY

Advisor: Prof. Jailson de Barros Correia
Defense date: 2009 May 15

Objectives: To determine the incidence and risk factors for bacterial colonization by extended-spectrum beta-lactamase (ESBL) producing Klebsiella in children hospitalized in an intensive care unit (ICU). **Methods:** A prospective cohort study was conducted in the ICU of the Instituto Medicina Integral Professor Fernando Figueira (IMIP) from January to May 2008. Patients in intermediate care and/or with a stay of less than 24 hours were excluded. Rectal swab cultures were collected at admission (within the first 24 hours) and on the second, fifth, seventh, and fourteenth days of hospitalization. Identification of ESBL-producing Klebsiella strains was performed using the disk diffusion method (Kirby-Bauer) with combined (beta-lactam/inhibitor of beta-lactamase) and non-combined (the same beta-lactam alone) disks. The association between risk factors and colonization was analyzed using multivariate logistic regression. **Results:** During the five months, 186 children admitted to the unit were included in the study. The mean age of the patients was 4.6 ± 4.2 years (median of 3 years), one-third were malnourished, and half were admitted for clinical indications (48.9%). About one-third had infections upon admission, with most (44) of community origin. Approximately 70% (123) of the patients were using some antimicrobial regimen, including third-generation cephalosporins (CIII). The colonization rate by ESBL-producing Klebsiella during hospitalization was 14%, with 13 (7%) patients already colonized at admission. The median length of the stay was 4 days (ranging from 2 to 128 days). In the multivariate analysis, only the duration of prior antimicrobial use remained in the model for patients colonized at admission, approaching significance ($p=0.058$). During the ICU stay, the use of CIII ($p=0.000$) and a length of stay greater than 6 days ($p=0.034$) were identified as risk factors for colonization by ESBL-producing Klebsiella in the studied cohort. **Conclusions:** Staying more than 6 days and using third-generation cephalosporins were the main risk factors for gastrointestinal colonization by ESBL-producing Klebsiella during the ICU stay. Surveillance cultures to determine which patients are colonized may be useful in units with a high prevalence of healthcare-associated infections (HAIs) caused by these bacteria, allowing for the establishment of early epidemiological containment measures.

Keywords: healthy carrier; klebsiella; enterobacteriaceae; pediatric intensive care unit.

TYPE 2 DIABETES MELLITUS IN ADULTS IN THE STATE OF PERNAMBUCO IN 2006

MARIA DAS NEVES FIGUEIROA

Advisor: Prof. Malaquias Batista Filho
Defense date: 2009 May 20

Objectives: To identify the distribution of blood glucose levels in adults in the state of Pernambuco, describe their occurrence across the various geographical areas of the state, and examine their relationship with biological and socioeconomic variables. **Methods**: Based on the database from the III State Health and Nutrition Survey of Pernambuco, conducted between May and October 2006, a total of 1,601 adults of both sexes were randomly selected from 18 municipalities in the Recife Metropolitan Region, Urban Interior, and Rural Interior. Blood glucose levels collected after a 12-hour fast were measured with a portable device (ACCUNTREND GCT®), with results expressed according to the classification by the American Diabetes Association. Independent variables included biological characteristics (gender, age, and body mass index), socioeconomic factors (income and education), and environmental factors (geographical areas), while the dependent variable represented blood glucose levels, with type 2 diabetes cases defined as values equal to or greater than 126 mg/dL, and pre-diabetic or inadequate levels as blood glucose values between 100 mg/dL and 125 mg/dL. For univariate statistical analysis, the Chi-square test and analysis of variance were used, along with confidence intervals and prevalence ratios for type 2 diabetes mellitus. In multivariate analysis, Poisson regression was applied, structuring a hierarchical model with six blocks of independent variables. **Results**: Findings are presented in two articles. The first, primarily descriptive, is titled "Blood Glucose Levels in Adults in the State of Pernambuco: Prevalences and Some Factors Associated with Their Distribution." The second, with an analytical approach, is titled "Diabetes Mellitus in Individuals Over 25 Years in the State of Pernambuco in 2006: A Hierarchical Analysis of Risk Factors." The prevalence of type 2 diabetes mellitus was 16.0%, showing an increase of 3.8% compared to values found in 1996. No significant differences in the occurrence of the problem were found among the three geographical areas compared. In multivariate analysis, lack of education, income above 0.5 minimum wage per capita, male gender, and overweight/obesity status were identified as risk factors for the condition. **Conclusions**: Type 2 diabetes mellitus in adults showed a rapid increase in prevalence compared to the last survey (1996), with income, age, high body mass index, and male gender identified as the main factors related to its occurrence.

Keywords: diabetes mellitus; prevalence; risk factors.

ADVERSE EVENTS IN NEWBORNS ADMITTED TO THE NEONATAL INTENSIVE CARE UNIT AT THE PROF. FERNANDO FIGUEIRA INSTITUTE OF INTEGRAL MEDICINE (IMIP)

CLAUDIANE MARIA URBANO VENTURA

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2009 jun. 04

Objectives: To determine the incidence of adverse events in newborns admitted to the neonatal intensive care unit (NICU) at IMIP. **Methods**: This was an observational, prospective cohort study conducted from March to August 2008, with a total sample of 218 newborns. The newborns were monitored from the second day of admission until discharge from the unit, transfer, or death. A trigger tool was used in the prospective review of medical records to identify 14 types of adverse events. The adverse events were categorized by severity based on the 2006 National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) guidelines. **Results**: Of the 218 newborns who participated in the study, 183 (84%) experienced adverse events, totaling 579 events, at a rate of 2.6 events per patient. Among the 14 types of adverse events identified, thermoregulation and glucose disorders were the most frequent, occurring in 29% and 17.1% of cases, respectively. Hospital-acquired infections related to healthcare were present in 13.5% of cases, with the percentage of newborns without this event decreasing as the length of stay increased. Of the 75 newborns on mechanical ventilation, 58 (10.0%) had unplanned extubations, with the risk of this event increasing with the duration of tracheal intubation. Most identified adverse events were significantly associated with birth weight, being more common in very low-birth-weight newborns. Adverse events were categorized by severity, with 76% resulting in temporary harm and prolonged hospital stays. **Conclusions**: In this high-risk newborn population, the tool used identified a high percentage of adverse events. Implementing strategies to prevent and control these health issues is essential for improving the quality of care provided to these newborns.

Keywords: neonatal intensive care unit; newborns; adverse events; quality of neonatal care.

CRANIAL GROWTH AND PSYCHOMOTOR DEVELOPMENT OF CHILDREN FULL-TERM AND PREMATURE BORN IN THE THIRD AND SIXTH MONTH OF LIVES

MARIA DO CARMO PINTO LIMA

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2009 jun. 26

Objectives: To assess the relationship between cranial growth and psychomotor development in term and preterm infants at three and six months of age. **Methods:** This descriptive case series study included 34 children, 10 preterm and 24 term. Measurements of weight, head circumference, and height were taken according to techniques recommended by the World Health Organization (WHO). Psychomotor development was assessed using the Bayley Scales of Infant Development and correlated with cranial growth at three and six months. The McNemar test was used to analyze the association between cranial measurements and motor scores at each age studied. Fisher's test and Student's t-test were used to compare motor development between the two groups. **Results:** Cranial growth was significantly associated with psychomotor development at three months ($\chi2=9$, $p\leq0.045$; $\chi2=22$) and at six months ($\chi2=5.44$, $p\leq0.001$; $\chi2=23$) for the group of preterm and term infants, respectively. **Conclusions:** This finding suggests that head circumference may be a prognostic indicator of psychomotor development and monitoring it during the first months of life could justify referring a child for early neuromotor intervention.

Keywords: head circumference; motor development; prematurity.

STANDARDIZATION OF NEUROPHYSIOLOGICAL ASSESSMENT OF THE TEMPORAL BRANCH OF FACIAL NERVE IN ADULTS

PAULA FABIANA SOBRAL DA SILVA

Advisor: Prof. Maria Carolina Martins de Lima
Defense date: 2009 jun. 28

Objectives: To standardize an electrophysiological technique specifically for assessing the frontotemporal branch of the facial nerve, with potential future diagnostic applications. **Methods**: Volunteers were clinically evaluated, underwent cranial measurements, and were subjected to electroneurographic stimulation at two points along the temporal branch of the facial nerve on each side of the face. Stimulus 1, distal (ED), was applied at the temple, and Stimulus 2, proximal (EP), was applied at the retroauricular region near the nerve trunk. The stimulus points, their distances in relation to anatomical facial structures, and variables related to the resulting action potential (velocities, latencies, and amplitudes) were recorded for subsequent analysis and data comparison. **Results**: Based on the assessment of 115 individuals aged 20 to 68, reference values were established using the 2.5th and 97.5th percentiles for amplitudes (AD and AP≥0.3mV); velocity (VCN≥38.5m/s); and distal motor latency (LMD<4.4ms). When comparing the two sides of the face for the same individual, the side-to-side difference for each variable did not exceed 1.1ms for latency, 14.1m/s for velocity, 0.5mV for proximal amplitudes, and 0.9mV for distal amplitudes. **Conclusions**: There was considerable interindividual variability in amplitude, but the difference between the two sides of the same individual was not significant. The proposed reference values and the acceptable individual variability serve as initial tools for future applications in diagnosing and monitoring damage to the temporal branch of the facial nerve.

Keywords: craniotomy; electrodiagnosis; facial nerve; neurosurgery; facial paralysis.

LAPAROSCOPIC SURGICAL CORRECTION OF VESICOVAGINAL FISTULA: A CASE SERIES

GUILHERME CAVALCANTI LIMA

Advisor: Prof. Aurélio Antonio Ribeiro da Costa
Defense date: 2009 aug.

Objectives: To describe the main biological characteristics, intra- and postoperative outcomes, and complications in patients undergoing laparoscopic vesicovaginal fistula repair at IMIP. **Methods:** A descriptive, case-series study was conducted on patients who underwent laparoscopic surgical correction of vesicovaginal fistula at IMIP in Recife, Pernambuco. The following variables were analyzed: age, parity, associated diseases, previous surgeries, fistula etiology, procedure duration, blood loss, and intra- and postoperative complications. Statistical analysis included measures of central tendency and dispersion, as well as frequency distribution tables. **Results:** Eighteen patients were included; 12 had pure vesicovaginal fistula, and six had an associated ureterovaginal fistula. Among those with pure vesicovaginal fistula, the median age was 40 years. The primary obstetric cause of fistula was curettage following abortion, while the gynecological cause was hysterectomy. The median fistula size was one centimeter. No blood transfusions were required. Intraoperative complications included one case of intestinal loop injury, and postoperative complications included one case of lobar pneumonia. The median surgery duration was 100 minutes, and the median blood loss was 140 milliliters. No conversion to conventional surgery was needed. The median hospital stay was two days, and the median catheterization time was 10 days. There was one case of recurrence. **Conclusions:** Laparoscopy is an alternative access route for vesicovaginal fistula repair, without increasing intra- or postoperative complications.

Keywords: vesicovaginal fistula; laparoscopy; urinary fistula.

ALLERGIC RHINITIS AS A RISK FACTOR FOR DENTAL MALOCCLUSION IN CHILDREN: A CASE-CONTROL STUDY

PATRICIA VILAR DE LIRA

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2009 sep. 03

Objectives: To evaluate the relationship between these variables. **Methods:** Through a case-control study, 396 children aged four to nine years, attending a pediatric clinic in northeastern Brazil, were studied. Among them, 290 had malocclusion, while 106 served as controls. Exclusion criteria included facial anomalies, respiratory malformations, neuromuscular disorders, jaw discrepancies, facial trauma, and previous orthodontic treatment. **Results:** Allergic rhinitis was not associated with dental malocclusion in the univariate analysis (p=0.793). In the multivariate analysis, risk factors identified included marital status [OR=1.36 (95% CI, 1.02-1.83)], dentition phase [OR=2.22 (95% CI, 1.56-3.15)], pacifier use [OR=1.36 (95% CI, 1.15-1.55)], thumb sucking [OR=1.61 (95% CI, 1.02-2.54)], tongue thrust [OR=4.88 (95% CI, 2.59-9.21)], and deciduous tooth loss [OR=4.78 (95% CI, 2.01-11.37)]. Isolated allergic rhinitis, even in its most acute form, does not appear to be a risk factor for malocclusion. **Conclusions:** It is possible that the genetic pattern of the studied population, where mixing between Caucasoid, Negroid, and other races is common, may lead to differences in nasal cavity dimensions that protect against nasal obstruction due to allergic rhinitis. Further studies are needed to confirm this hypothesis.

Keywords: malocclusion; allergic rhinitis; non-nutritive sucking habit; child; risk.

STUDY OF HUMAN T-CELL LYMPHOTROPIC VIRUS (HTLV-1) IN BONE MARROW FROM PEDIATRIC PATIENTS WITH LYMPHOBLASTIC LEUKEMIA ACUTE T-CELL ANALYSIS (T-ALL)

HEIKE ERNA BRAND

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2008 sep. 22

Objectives: To determine the frequency of HTLV-1 and the expression of viral genes in the bone marrow of pediatric patients with T-cell acute lymphoblastic leukemia (T-ALL) and to describe cellular alterations and clinical characteristics in virus-infected patients. **Methods**: Bone marrow samples stored in a cell bank from 24 pediatric patients diagnosed with T-ALL between 2004-2007 at the Pediatric Oncology Service of the Instituto Materno Infantil Professor Fernando Figueira (IMIP) were subjected to polymerase chain reaction (PCR) for specific detection of the HTLV-1 genome and analysis of viral and cellular gene expression. **Results**: The HTLV-1 genome was found in 6 out of 24 (25%) bone marrow samples. Additionally, four of the negative patients showed viral gene expression. Considering both HTLV-1 genome and RNA results, the presence of HTLV-1 showed a frequency of 33%. The group of 10 children with T-ALL and HTLV-1 infection presented a lower peripheral leukocyte count ($p<0.02$) and lower cellular expression of the transcription factor c-fos ($p<0.01$) compared to the group of 14 children with T-ALL without infection. **Conclusions**: The frequency of HTLV-1 and viral gene expression in the bone marrow of children with T-ALL was reported for the first time. There was a lower leukocyte count and lower cellular expression of the transcription factor c-fos in children with T-ALL infected by HTLV-1. The data indicates early viral activity in young carriers. The presence of HTLV-1 in the bone marrow suggests involvement in leukemogenesis, warranting further studies.

Keywords: HTLV-1, Bone marrow, T-ALL, Child.

OPINION OF PRECEPTORS AND RESIDENTS OF A TEACHING HOSPITAL ON THE USE OF HANDHELD COMPUTER IN PROFESSIONAL PRACTICE

PAULO ROBERTO SAMPAIO DE MELO

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2009 sep. 30

Objectives: To study the opinion of medical professionals on the use of handheld computers in supporting decision-making in their clinical activities. **Methods:** A cross-sectional study was conducted, involving 144 first-year medical residents and preceptors from the Instituto de Medicina Integral Prof. Fernando Figueira. A structured questionnaire was used, covering some basic population characteristics and a Likert-scale response format, previously validated, to study opinions on the use of handheld computers. Response agreement was measured by the mean ranking (MR) of response scores, and Cronbach's alpha test was used to validate internal consistency. **Results:** Most participants were female and preceptors (59.0% and 57.6%, respectively). The median age was 34 years. The majority had an income of 10 or more minimum wages and had graduated 10 or more years prior (64.5% and 51.8%, respectively). Approximately one-third were pediatricians (37.8%) and 20.3% were gynecologists and obstetricians. It was found that 61.8% of professionals owned a handheld computer, and of these, 73.0% used it, mostly to access medical programs (85.9%) at a frequency of less than four times per day (76.9%), and mainly during medical rounds or in the office/clinic (51.6%). Ownership was more common among residents, those who had been practicing for less than 10 years, and those earning less than 10 minimum wages (p<0.001) and among younger professionals (Mann-Whitney p<0.001). Professionals agreed on the practicality of using the device (MR=3.80) and having sufficient time for its use (MR=3.36). They felt it was worthwhile to use medical programs on these devices (MR=4.45) as they were beneficial in supporting decision-making (MR=4.03), and they expressed interest in learning more about its use (MR=4.40). They disagreed that the device was too expensive for this purpose (MR=2.54) but agreed that only a few patients would require the use of a handheld computer to support clinical decision-making (MR=3.14). They felt comfortable using it in the presence of patients (MR=3.70). **Conclusions:** In the group studied, most possessed a handheld computer, although not all used it in their professional activities. There was a favorable opinion toward using the device to support clinical decision-making in all aspects assessed.

Keywords: medical education; decision-making computer; assisted; medical informatics Applications.

FREQUENCY OF MUTATIONS ASSOCIATED WITH ANTIRETROVIRAL RESISTANCE AND GENETIC VARIABILITY OF HIV IN RECENTLY DIAGNOSED PREGNANT WOMEN IN LUANDA, ANGOLA

EMINGARDA PATRÍCIA ANDRÉ FELIX CASTELBRANCO

Advisor: Prof. Luiz Claúdio Arraes de Alencar
Defense date: 2009 oct. 09

Objectives: To determine the frequency of primary resistance to antiretrovirals and describe the genetic variability of HIV-1 in recently diagnosed pregnant women at Lucrécia Paim and Augusto N'gangula Maternities in Luanda, Angola. **Methods:** Biological samples from 57 recently diagnosed HIV-positive pregnant women enrolled in the Prevention of Mother-to-Child Transmission Program (PMTCT) in Luanda, Angola, were collected between November 2008 and January 2009. Samples were tested for viral load and CD4+ T cells. Molecular characterization of HIV was performed using the Open Gene DNA Sequencing System targeting the pol region of the HIV-1LAV-1 genome. **Results:** Of the 57 samples, 36 (63.2%) were sequenced. One mutation (2.8%) associated with resistance to nucleoside reverse transcriptase inhibitors (NRTIs) and two mutations (5.6%) associated with resistance to non-nucleoside reverse transcriptase inhibitors (NNRTIs) were detected. Primary mutations associated with NNRTIs and NRTIs were found in two (5.6%) recently diagnosed HIV-1-positive pregnant women. No mutations associated with protease inhibitors were found. Subtypes F1, C, CRF02_AG, D, A1, G, H, and J were identified. **Conclusions:** The frequency of primary resistance in this treatment-naive population of pregnant women was low, but genetic variability was high.

Keywords: HIV infection; viral resistance; antiretroviral drugs; pregnancy.

FUNCTIONAL PERFORMANCE IN SELF-CARE, MOBILITY, AND SOCIAL FUNCTION AT 12 MONTHS OF LIFE IN PRETERM BORN CHILDREN

MÁRCIA LIMA CRÓCIA DE BARROS

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2009 dec. 27

Objectives: To investigate functional performance in self-care, mobility, and social function among preterm and full-term children. **Methods:** This analytical, cross-sectional study involved 85 children, including 59 full-term (≥37 weeks) and 26 preterm (between 32 and 36 weeks), who were assessed using the Pediatric Evaluation of Disability Inventory (PEDI) at 12 months of chronological age. Functional performance adequacy was analyzed in the areas of self-care, mobility, and social function using normative scores. The performance of the two groups was compared in these areas using raw scores, and the performance of full-term and preterm children was further analyzed for each test component. **Results:** All evaluated children in both groups showed adequate functional skills according to the Functional Skills scale. When comparing the performance of full-term and preterm groups, full-term children showed better performance than preterm children in the areas of Self-Care (p=0.039) and Social Function (p=0.002), but not in Mobility (p=0.163). In individual test analyses, a significant difference was found in the acquisition of independence for certain tasks in both full-term and preterm groups when compared to the normative sample. **Conclusions:** The results suggest that preterm children have a differentiated profile in acquiring independence, with lower performance compared to full-term children.

Keywords: preterm; child development.

INCIDENCE AND RISK FACTORS FOR HEALTHCARE-ASSOCIATED PNEUMONIA IN PATIENTS ADMITTED TO A PEDIATRIC INTENSIVE CARE UNIT

ROBERTO JOSÉ ALVES CASADO

Advisor: Prof. Maria Júlia Gonçalves de Mello
Defense date: 2010 mar. 30

Objectives: To determine the incidence and risk factors for hospital-acquired pneumonia in patients admitted to the Pediatric Intensive Care Unit (PICU). **Methods:** This study utilized primary data obtained from a prospective cohort study conducted from January 2005 to June 2006 at the PICU of the Instituto de Medicina Integral Professor Fernando Figueira (IMIP). The purpose was to study risk factors for healthcare-associated infections in the PICU. The study population consisted of individuals under 18 years old, excluding newborns, patients who stayed less than 24 hours or more than 90 days, and those admitted for clinical surveillance. The NNISS/CDC definition was used as the diagnostic criterion for hospital-acquired pneumonia. Statistical analysis was performed using STATA 9.1, including bivariate analysis and multivariate logistic regression to identify risk factors for hospital-acquired pneumonia. **Results:** Out of 765 participants, 51 (6.7%) developed hospital-acquired pneumonia, with an incidence density of 13.1 pneumonias per 1000 patient-days. Among ventilated patients, 39 (10.7%) developed ventilator-associated pneumonia (VAP), with an incidence density of 27.1 per 1000 ventilator days. In the multivariate analysis, independent risk factors for hospital-acquired pneumonia included a longer duration of ventilator use (OR=1.04, 95% CI=1.01-1.08), increasing the risk by 4% for each additional day on the ventilator, use of gastric tubes (OR=2.88, 95% CI=1.41-5.87), and use of sedatives (OR=2.45, 95% CI=1.27-4.72). **Conclusions:** Recommendations for clinical practice to reduce the incidence of healthcare-associated pneumonia in the PICU include minimizing the duration of ventilator use, removing gastric tubes when appropriate, and using sedatives judiciously to improve patient care.

Keywords: hospital infection; pneumonia; pediatric Intensive Care Unit; ventilator-associated pneumonia.

REQUENCY OF ISOLATED UROPATHOGENS AND THEIR ANTIMICROBIAL RESISTANCE PROFILE IN CHILDREN UNDER FIVE YEARS OLD ATTENDED AT A TEACHING HOSPITAL IN THE CITY OF RECIFE: COMPARISON BETWEEN TWO TIME PERIODS

ROBERTA SOUZA COSTA PINTO

Advisor: Prof. Maria Júlia Gonçalves de Mello
Defense date: 2010 apr. 28

Objectives: To identify the main uropathogens isolated in children under five years old, assess the changes in antimicrobial resistance profiles, and propose empirical therapy based on the results obtained. **Methods:** A cross-sectional study of urine cultures from children under five years old attended at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) was conducted over two periods (January 1999 to August 2001 and January to December 2008). Results from urine cultures were reviewed, and a culture was considered positive if a single microorganism was isolated with $\geq 10^5$ CFU/cm^3. Urine samples were processed in a non-automated microbiology laboratory, and antimicrobial susceptibility testing was performed using the standardized Kirby-Bauer disk diffusion method. The distribution of microorganisms and antimicrobial resistance profiles were compared between the two periods using the chi-square test. **Results:** A total of 4,113 out of 6,309 urine culture results were analyzed, with 601 considered positive (14.6%). The distribution of isolates in the two periods was as follows: E. coli (30% 95% CI: 25.1-35.4 and 40.6% 95% CI: 34.8-46.7), Klebsiella spp (27.2% 95% CI: 22.5-32.5 and 24.5% 95% CI: 19.5-30), other Gram negatives (22% and 24.1%), Gram positives (10.2% and 6.8%), and Candida spp (10.5% 95% CI: 7.4-14.5 and 4% 95% CI: 2.0-7.0). Resistance to nalidixic acid among E. coli strains doubled (23.7% and 52.8%) and tripled among Klebsiella spp isolates (15.9% and 47.7%). A sevenfold increase in Klebsiella spp resistance to ciprofloxacin was observed; however, E. coli, Klebsiella spp, and Pseudomonas spp showed ciprofloxacin resistance below 15% in both periods. A decrease in E. coli resistance to first-generation cephalosporins (CEF I) was noted; however, resistance to this antimicrobial remained above 30% among Gram-negative isolates in both periods. In 2008, the resistance observed in E. coli isolates to antimicrobials was, in decreasing order: sulfamethoxazole-trimethoprim (SMT-TMT 68%), nalidixic acid (50%), first-generation cephalosporins (30%), ciprofloxacin (15%), and nitrofurantoin (8%). According to the sensitivity analysis of the microorganisms isolated in 2008, the use of ciprofloxacin or nitrofurantoin would provide coverage of 88% (95% CI=83.4-91.6) and 75% (95% CI=68.6-80.5), respectively, while the use of CEF I or nalidixic acid would achieve approximately 55% coverage. The use of SMT-TMT would be effective in only 35% (95% CI=29.6-41.5). **Conclusions:** The importance of urine cultures collected before the initiation of antimicrobial therapy to determine the etiological agent and antimicrobial susceptibility is emphasized. Nitrofurantoin is recommended as empirical therapy for urinary tract infections (UTIs) in children under five, and this treatment should be adjusted based on antibiogram results. Ciprofloxacin would be indicated as a therapy for difficult-to-treat UTIs.

Keywords: urinary infections; cacterial resistance to antibiotics; urinary anti-infective agentes; infant; preschool.

RISK FACTORS FOR THE EXTENDED LENGTH OF STAY IN PEDIATRIC INTENSIVE CARE UNIT IN POSTOPERATIVE CARDIAC SURGERY PATIENTS

JULIANA BARRADAS DE SOUZA

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2010 apr. 29

Objectives: To evaluate the short-term effect of the Kangaroo position on the electromyographic activity of preterm infants. **Methods:** A comparative study with a cross-sectional design involving 89 children. Of these, 39 were included in the Kangaroo group, where they remained in the Kangaroo position for 24 hours. Electromyographic assessments were performed before and after this period. Twenty-five participated in the Kangaroo/Gentle Support group, where the children were placed in the Kangaroo position for 24 hours and then positioned in gentle support for an additional 24 hours. In this case, three electromyographic assessments were conducted: before and after the 24 hours in the Kangaroo position and after another 24 hours in gentle support. Another 25 children were included in the Gentle Support group, where infants were placed in gentle support for a period of 1 hour, and electromyographic assessments were made before and after this period. **Results:** An increase of 14.1% to 19.2% ($p<0.001$), depending on the muscle evaluated, in EMG activity was observed after 24 hours in the Kangaroo position. No difference in EMG activity was observed before and after the use of gentle support. An increase of 13.4% to 15% ($p<0.001$), depending on the muscle evaluated, in EMG activity was noted even after the infants were 24 hours outside the Kangaroo position. **Conclusions:** The Kangaroo position promotes an increase in EMG activity for at least 24 hours in preterm infants, indicating an enhancement in their muscle tone.

Keywords: kangaroo mother method; preterm infant; electromyography.

MATERNAL AND NEONATAL FACTORS ASSOCIATED WITH ATYPICAL MOTOR PERFORMANCE IN PRETERM INFANTS ACCORDING TO THE TEST OF INFANT MOTOR PERFORMANCE (TIMP)

ANA CARLA GOMES BOTELHO

Advisor: Prof. Maria Cynthia Braga
Defense date: 2010 apr. 30

Objectives: To study how communication with mastologists is perceived and interpreted by women during the diagnostic process of breast nodules with indications for biopsy. **Methods:** This was a qualitative study conducted with 16 women in a referral service in Recife, PE, between November 2009 and September 2010. In the Ultrasound department, women aged 35-65 years who were referred for breast nodule biopsy were selected. Semi-structured interviews were conducted. The main topics in the interview guide included perceptions about the nodule, doctor-patient communication, and meanings and feelings related to the breast. The sample size was determined by saturation. Two groups of women were formed (Group 1 with a diagnostic hypothesis of cancer and Group 2 without) and the influence of the professional's gender was considered. A hermeneutic and critical approach was adopted. Two thematic areas were developed: the doctor-patient relational process and configurations of communicative practices. Ethical principles of research were respected. **Results:** The reports indicated that in a critical and exhausting situation, no woman mentioned the physician's interest in her life context and interpretation of the illness. In the relationship with mastologists, the attention given and the supportive attitude were highlighted, with greater satisfaction reported by Group 1, especially in consultations with female professionals (FG). Doctor-patient communication was informational, with FG establishing longer and clearer conversations, particularly with Group 1, although both genders did not address the psychosocial aspects of the illness. The trivialization of benign nodules by physicians restricted communication, leading to dissatisfaction in Group 2. The patient's right to express her preferences was overlooked, and no woman sought to negotiate an individual therapeutic plan. **Conclusions:** Attention should be given to the repercussions of the reception and adherence to conduct stemming from doctor-patient communication that maintains asymmetry related to domination. Qualified assistance requires valuing the communicational dimension by patients, in medical training, and a commitment from management to facilitate changes in the work process.

Keywords: breast tumors; health communication; comprehensive health care; quality of health care; qualitative research.

CORRELATION BETWEEN OVERWEIGHT/OBESITY AND INTRAOCULAR PRESSURE IN CHILDREN AND TEENAGER

LUCIANO LIRA DE ALBUQUERQUE

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2010 May 31

Objectives: To verify the association between overweight/obesity and intraocular pressure (IOP) in children and teenagers. **Methods**: A cross-sectional study was conducted with individuals aged six to 17 years, with and without overweight/obese, who attended at IMIP. Body mass index (BMI) was calculated for each study participant, and IOP, corneal thickness, and blood pressure were measured. The research project was approved by the IMIP Research Ethics Committee. **Results**: A total of 77 children and teenagers were studied. No significant differences in IOP were observed between individuals with and without overweight/obesity, with averages of 13.0±1.7 and 13.2±1.6 mm Hg, respectively (p=0.619). IOP corrected for corneal pachymetry also remained similar between the two groups. **Conclusions**: There was no association between BMI and IOP in children and teenagers.

Keywords: intraocular pressure; obesity; child; teenager.

INCIDENCE AND FACTORS ASSOCIATED WITH HYPERTENSION IN ADULTS IN THE STATE OF PERNAMBUCO

MÉRCIA CRISTINA BATISTA VERAS

Advisor: Prof. Malaquias Batista Filho
Defense date: 2010 jun. 01

Objectives: To estimate the prevalence of hypertension (HTN) and analyze associated risk factors in adults in the state of Pernambuco. **Methods:** This cross-sectional, descriptive, and analytical study utilized data from the "Chronic Diseases and Non-Communicable Health Conditions in the State of Pernambuco: Prevalence and Risk Factors" survey, conducted in 2006, with a sample of 1,800 adults. Hypertension was recorded as a diagnosed condition based on direct blood pressure assessment with a mercury column sphygmomanometer. Hypertensive cases were identified as those with blood pressure ≥140/90 mmHg or the use of antihypertensive medication. Self-reported hypertension was also noted if informed by the interviewee. HTN was analyzed as an outcome in relation to a simplified explanatory model that included geographically, socioeconomically, and biologically hierarchical factors. The study was approved by the Ethics Committee of the Instituto de Medicina Integral Prof. Fernando Figueira-IMIP. **Results:** The prevalence of diagnosed hypertension was 33.2%, and as a self-reported condition, it was 26.9%, with an occurrence rate of 40.2% among men and 28.4% among women. The frequency of hypertension increased linearly with age, reaching prevalence ratios of 3.5 or higher for those aged 55 and above, compared to the reference group (ages 25-34). Low educational level, overweight, and obesity were also significantly associated with hypertension risk. **Conclusions:** The results from this study on hypertension in Pernambuco highlight the significant magnitude of the problem, demonstrate its rapid increase in prevalence over the last 10 years, and emphasize the urgent need to direct and systematize health actions for its prevention, identification, and case management.

Keywords: hypertension; prevalence; risk factors; chronic disease.

PROGNOSTIC FACTORS FOR RECURRENCE IN A PEDIATRIC COHORT OF PATIENTS WITH HODGKIN'S LYMPHOMA IN BRAZIL (1994-2009)

ERIKA FURTADO DE AZEVEDO

Advisor: Prof. Isabella Chagas Samico
Defense date: 2010 jun. 16

Objectives: To analyze factors related to relapse in Hodgkin's Lymphoma (HL) among patients in a pediatric oncology unit in northeastern Brazil. **Methods:** This historical cohort study involved children and teenagers with a histopathological diagnosis of HL from January 1994 to January 2009. Socio-demographic, clinical, laboratory, and biological factors documented at admission were evaluated. The association of pre-treatment factors with relapse was assessed through univariate and multivariate analysis, and relapse probability was calculated using the Kaplan-Meier method. **Results:** A total of 100 patients (ages 2-17) were included; 16% experienced relapses, with 75% of these being late relapses. The 10-year relapse-free survival (RFS) rate and cumulative relapse risk were 73% and 27.4%, respectively, with a median follow-up of 44 months. Multivariate analysis showed that pain (p=0.023; HR=4.24), tachypnea (p=0.016; HR=8.44), hemoglobin levels <10 g/dL (p=0.018; HR=5.33), lymphocyte count <1,000 cells/mm^3 (p=0.021; HR=5.07), and the use of the SJCR-1980 protocol (p=0.012; HR=5.63) were significantly associated with relapse. Other factors commonly associated with prognosis, such as advanced stage, B symptoms, and poor response post-chemotherapy, did not reach statistical significance in this study. **Conclusions:** The study found a low RFS (73%) and a high cumulative relapse risk over 10 years (27.4%). Factors influencing relapse risk included low hemoglobin and lymphocyte levels, use of the SJCR-1980 protocol, as well as tachypnea and pain symptoms. Prospective multicenter studies, including various regions and a large number of children, are recommended to further elucidate prognostic factors for HL relapse and mortality in Brazil.

Keywords: Hodgkin's lymphoma; oncology; pediatrics; survival analysis.

PREVALENCE OF ENAMEL DEFECTS AND EARLY CARIES IN CHILDREN HOSPITALIZED MALNUTRITED

VERÔNICA MARIA DA ROCHA KOZMHINSKY

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2010 jun. 16

Objectives: To determine the prevalence of enamel defects and early caries in children aged six to 60 months with a diagnosis of primary and/or secondary acute malnutrition, moderate or severe, admitted to the General Pediatric Hospital at the Instituto de Medicina Integral Professor Fernando Figueira (IMIP). An exploratory analysis was also conducted to evaluate the association between some of the studied variables and the occurrence of enamel defects and early caries. **Methods:** A prevalence study was conducted from May to December 2009, involving 55 children. Data were collected by two previously calibrated examiners (Kappa inter-examiner reliability for enamel defect: 0.96, 95% CI 0.93-0.99; for dental caries: 1.00, 95% CI 1.00-1.00), following the signing of informed consent by parents or guardians and approval by the IMIP Human Research Ethics Committee (protocol: 1388). Data analysis used descriptive statistics, including frequency distribution and measures of central tendency and dispersion (medians, quartiles), as well as minimum and maximum values. For the exploratory analysis of associations between some studied variables and the presence of enamel defect and early caries, the chi-square or Fisher's exact test was used when indicated, with a 5% significance level. **Results:** Children's ages ranged from six to 59 months, with a median age of 19.00 months (1st quartile = 12.00 months and 3rd quartile = 25.00 months), with 69.0% of children aged 24 months or younger. The percentage of children with enamel defects was 65.5%, and the frequency of early caries was 16.4%. Delayed tooth eruption was observed in 10 (52.6%) children aged 24 months or older. There was a high prevalence of enamel defects and a low prevalence of early caries. Most children came from rural areas and belonged to families with a monthly per capita income of less than half the minimum wage.

Keywords: nutrition; malnutrition; dental caries; enamel defects; oral health; age group.

CORRELATION BETWEEN DIAGNOSTIC METHODS OF ANAL HPV LESIONS INDUCED IN WOMEN WITH CERVICAL NEOPLASIA IN PERNAMBUCO

SANDRA DE ANDRADE GOUVEIA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2010 jun. 29

Objectives: This study aims to determine the agreement between various screening methods for HPV-induced anal intraepithelial lesions: anal cytology, anoscopy, and the presence of viral DNA via polymerase chain reaction (PCR). **Methods:** A cross-sectional observational study was conducted on 324 women diagnosed with intraepithelial neoplasia and cervical cancer from December 2008 to December 2009 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). The research was approved by the Institutional Ethics and Research Committee. For statistical analysis, the chi-square association test (Pearson) was used at a 5% significance level. To assess the agreement between anoscopy, cytology, and PCR results for HPV, the Kappa coefficient was used, with a 95% confidence interval. **Results:** A total of 324 anal cytologies were performed, of which 6.2% (n=20) were unsatisfactory, 62.3% (n=202) were within normal/benign alterations, and 31.5% (n=102) exhibited some degree of squamous atypia. This included low-grade anal intraepithelial lesion (LIEAbg) in 19.1% (n=62), high-grade anal intraepithelial lesion (LIEAag) in 3.1% (n=10), and atypical squamous cells of undetermined significance (ASC-US) in 9.3% (n=30) of cases. Of the patients who underwent biopsy, 25.7% (n=20) were positive, with seven showing histology compatible with HPV infection; five with grade one intraepithelial neoplasia (NIA1); six with grade two anal intraepithelial neoplasia (NIA2), and two with grade three intraepithelial neoplasia (NIA3). Of the 303 adequate samples for HPV detection by PCR, 84.2% (n=255) were positive for HPV DNA. The agreement between anoscopy and cytology was weak, with a Kappa of 0.31 (p=0.00; 95% CI: 0.22-0.40), a slight agreement between cytology and PCR for HPV with a Kappa of 0.08 (p=0.01; 95% CI: 0.01-0.15), and no agreement between anoscopy and PCR for HPV. **Conclusions:** The agreement between different diagnostic methods for HPV-induced anal lesions ranges from slight to weak; however, anal cytology allows the identification of cases with HPV-induced lesions and facilitates referral for anoscopy and biopsy. Further studies are necessary to establish an anal screening program for HPV-induced lesions in this specific at-risk group.

Keywords: cytology; HPV; anal intraepithelial neoplasia; cervical intraepithelial neoplasia; anal cancer; anal canal.

COMPARATIVE STUDY OF MOTOR DEVELOPMENT OF PRE-TERM IN AGE EQUIVALENT TO TERM AND TERM NEWBORN, BORN IN IMIP

CARMEN LÚCIA NEVES GUIMARÃES

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2010 jun. 30

Objectives: To investigate the motor development of preterm infants at term-equivalent age. **Methods:** This was a cross-sectional study comparing the motor performance of preterm infants (preterm birth group) with a gestational age at birth of 28 to 33 weeks, assessed at term-equivalent age, and full-term newborns (full-term birth group), assessed within 48 hours of life, using the Test of Infant Motor Performance (TIMP) between December 2008 and March 2010 at a referral hospital for preterm care in Recife, PE, Brazil. The sample consisted of 92 infants, with 46 in each group. The test was applied at a gestational age of 38 to 40 weeks (corrected, for the preterm group). **Results:** Among the 46 preterm infants evaluated, 26.1% were classified as atypical, whereas in the full-term group, 100% were classified as typical for their age ($p<0.001$). There was also a significant difference in the average raw score between the two groups, with the preterm group having a lower mean score ($p<0.001$). **Conclusions:** Prematurity may be associated with impairments in motor development, as assessed by the TIMP.

Keywords: motor skills; newborn; premature; early diagnosis; neuropsychological tests/standards; motor skills disorders/diagnosis.

RESTRICTION OF FUNCTIONAL SKILLS IN PELVIC GIRDLE PAIN SYNDROMES DURING THE SECOND TRIMESTER OF LOW-RISK PREGNANCY: A CROSS-SECTIONAL STUDY

JULIANA MENEZES SILVA

Advisor: Prof. Aurélio Antonio Ribeiro da Costa
Defense date: 2010 jul. 13

Objectives: To assess functional impairment using the Oswestry Low Back Pain Disability Questionnaire in pregnant women with pregnancy-related pelvic girdle pain. **Methods**: This descriptive, cross-sectional study included 165 pregnant women in their second trimester, aged between 18 and 38 years, attending low-risk prenatal care at the Women's Outpatient Clinic. The disability questionnaire (Oswestry) was administered and related to pelvic syndromes and physical activity levels for pregnant women (physical activity questionnaire for pregnant women). **Results**: Among the 165 pregnant women evaluated, 56.4% (n=93) showed moderate disability, 29.7% (n=49) minimal disability, 11.5% (n=19) severe disability, and 2.4% (n=4) were classified as functionally incapacitated. The most frequent pelvic syndromes involved more than one joint, also associated with greater functional restriction. A total of 70.8% (n=102) demonstrated moderate/severe disability and were diagnosed with pelvic girdle syndrome. Employment and Visual Analog Scale (VAS) scores were the only variables that correlated, appearing in the final logistic regression model. **Conclusions**: Pregnancy-related pelvic girdle pain has a moderate impact on functionality, with higher levels of functional restriction associated with multiple joint involvement, intense pain, and lack of paid employment.

Keywords: pelvic pain; pregnancy complications; motor skills disorders; physical activity.

AWARENESS, ATTITUDE, AND PRACTICE ABOUT PHOTOTHERAPY AMONG NURSING PROFESSIONALS IN TWO TEACHING HOSPITALS IN THE CITY OF RECIFE

SIMONE PIRES CAVALCANTI MACHADO

Advisor: Prof. Isabella Chagas Samico
Defense date: 2010 aug. 25

Objectives: To assess knowledge, attitudes, and practices (KAP) regarding phototherapy among nursing professionals at two teaching hospitals in Recife, Brazil. **Methods:** A cross-sectional KAP survey study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) and the Centro Integrado de Saúde Amaury de Medeiros (CISAM) from December 2009 to March 2010. A total of 111 nursing professionals from the neonatal units of both hospitals participated. Data were collected through a semi-structured questionnaire. The Epi-Info 3.4.3 program was used for data analysis, and Student's t-test was applied to compare mean scores, with statistical significance set at p<0.05. **Results:** Most nursing professionals surveyed were female and over 30 years old. Regarding knowledge, the lowest percentage of correct answers for both professional categories (higher and medium level) related to the irradiance level for lamp replacement and the positioning of phototherapy devices. In terms of attitude, seven out of 11 statements had a 50% or higher accuracy rate among higher-level professionals, while only four reached over 50% accuracy among medium-level professionals. Regarding practice, both higher- and medium-level professionals scored below 50% for correct responses in some areas. Statistically significant differences were found in mean knowledge and practice scores across all variables. **Conclusions:** The study results highlight the need to implement activities that help balance knowledge, attitudes, and practices among nursing professionals regarding phototherapy.

Keywords: knowledge; atitudes and practices in health; nursing research; jaundice; phototherapy; newborn.

RISK FACTORS FOR INCREASE IN THE PERIOD OF HOSPITALITY IN PEDIATRIC INTENSIVE CARE UNIT FOR PATIENTS IN THE POST OPERATION OF CARDIAC SURGERY

FABIANA GOMES ARAGÃO

Advisor: Prof. Maria Júlia Gonçalves de Mello
Defense date: 2010 oct. 22

Objectives: To determine the pre-, intra-, and post-operative risk factors that prolong PICU stays in children undergoing cardiac surgery. **Methods**: A retrospective cohort study was conducted using database records and chart reviews of a cohort of hospitalized patients at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from January 1, 2005, to June 30, 2006. The study population consisted of 246 patients under 18 years old in the postoperative period of cardiac surgery. Patients who died within 24 hours were excluded. Univariate and multivariate logistic regression was conducted to identify risk factors for prolonged hospitalization using the STATA SE statistical program (version 10.0). The significance level was set at 0.05. **Results**: Of the patients in the cohort, 53 (21.5%) remained hospitalized for more than three days. In multivariate analysis, independent risk factors for a stay exceeding three days included age less than 12 months (OR=3.3, CI=1.50–7.36), presence of associated clinical problems (OR=3.1, CI=1.23–7.83), tracheal intubation time greater than 4 hours (OR=2.9, CI=1.11–6.22), and platelet use (OR=4.7, CI=1.34–16.38). Tracheal intubation duration and procedure complexity according to the ABC classification were factors associated with a longer PICU stay post-cardiac surgery. **Conclusions**: Early surgical indication before malnutrition occurs, as well as judicious platelet use, may be important for improving postoperative care and reducing hospital stay duration, morbidity, mortality, and costs associated with cardiac surgery.

Keywords: risk factors; thoracic surgery; hospitalization duration; postoperative care; pediatric intensive care units.

PREVALENCE AND RISK FACTORS ASSOCIATED WITH HYPERTENSION IN ADULTS IN THE STATE OF PERNAMBUCO

PATRICIA RODRIGUES ARAÚJO NEVES

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2010 oct. 27

Objectives: To evaluate the short-term efficacy of a physical conditioning program on improving functional capacity, lung function, and reported dyspnea in patients with cystic fibrosis (CF). **Methods**: A randomized clinical trial was conducted at the IMIP Physiotherapy outpatient clinic. The study involved 17 children and teenagers with moderate CF (Shwachman-Kulczycki score between 41 and 70 points and FEV1 between 40 and 60% of predicted). Participants with physical activity limitations, pulmonary infection exacerbation, significant cognitive deficits, and a body mass index below the 2.5 percentile were excluded. Eligible participants were randomized into two groups: control and intervention. The intervention group received aerobic training for 30 minutes three times a week for six weeks. All participants underwent assessments at the 1st, 3rd, and 6th weeks, including a 6-minute walk test, pulmonary function tests, dyspnea perception measured by the Borg scale, and respiratory muscle strength values (MIP, MEP). Co-interventions were similar between the two groups. The significance of the coefficients was evaluated using the Z-test, with a significance level of 0.05. **Results**: The intervention group showed a significant increase in the 6-minute walk test (p=0.036). There was no statistical difference in FEV1 and vital capacity (VC) between the groups. Dyspnea perception decreased in the intervention group at the final evaluation and was better compared to the control group (p<0.001). Regarding MIP, an increase was observed only in the control group (p=0.011). **Conclusions**: The physical conditioning program was effective in reducing perceived dyspnea in patients with moderate cystic fibrosis in the short term. Further studies with larger sample sizes are necessary to evaluate the behavior of respiratory muscle strength and pulmonary function.

Keywords: cystic fibrosis; rehabilitation; exercise tolerance; children; teenager; randomized trial.

DOCTOR-PATIENT COMMUNICATION IN THE DIAGNOSIS OF BREAST NODULES WITH BIOPSY INDICATION: HEARING WOMEN'S VOICES

ANA CLARA MIRANDA

Advisor: Prof. Katia Virginia de Oliveira Feliciano
Defense date: 2011 feb 16

Objectives: To study how communication with breast specialists is perceived and interpreted by women during the diagnostic process of a breast nodule requiring biopsy. **Methods**: This qualitative study was conducted with 16 women at a reference service in Recife, PE, between November 2009 and September 2010. Women aged 35-65 years, referred for breast nodule biopsy in the Ultrasound department, were selected. Semi-structured interviews were carried out. The main themes in the interview guide included perceptions about the nodule, doctor-patient communication, and meanings and feelings related to the breast. The sample size was determined by saturation. Two groups of women were formed: Group 1, with a diagnostic hypothesis of cancer, and Group 2, without such a hypothesis. The influence of the healthcare professional's gender was also considered. A hermeneutic and critical approach was adopted. Two thematic areas were developed: the doctor-patient relational process and configurations of communicative practices. Ethical principles of research were respected. **Results**: The reports revealed that, in a critical and stressful situation, none of the women indicated that the doctor showed interest in their life context or interpretation of the disease. Key aspects of the relationship with breast specialists included the attention given and a supportive attitude, with greater satisfaction noted in Group 1, particularly among those attended by female professionals (FP). Doctor-patient communication was informative, with female professionals establishing longer and clearer conversations, especially with Group 1, although both genders failed to address the psychosocial aspects of illness. The trivialization of benign nodules by the doctor limited communication, causing dissatisfaction in Group 2. The patient's right to express her preferences was disregarded, and none of the women sought to negotiate an individualized therapeutic plan. Attention should be given to the repercussions on the reception and adherence to medical recommendations stemming from doctor-patient communication that maintains asymmetry linked to domination. **Conclusions**: Quality care requires valuing the communicational dimension by patients, medical training, and management commitment to bring about changes in work processes.

Keywords: breast tumors; health communication; comprehensive health care; quality of health care; qualitative research.

ANEMIA AND VITAMIN A DEFICIENCY IN WOMEN OF REPRODUCTIVE AGE IN THE STATE OF PERNAMBUCO: INTERRELATED FACTORS AND ASSOCIATIONS

MANUELA FREIRE HAZIN COSTA

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2011 feb. 18

Objectives: To evaluate the prevalence of the coexistence of anemia and vitamin A deficiency (VAD) and their associated factors in the mentioned group in the State of Pernambuco. **Methods**: This was a cross-sectional study with analysis of secondary data from the population survey of the III State Health and Nutrition Survey (III PESN-2006). An ad hoc database was constructed from the original file, comprising 801 women aged 10 to 49 years residing in Pernambuco. After excluding 40 pregnant women, the final sample totaled 761 women. This sample size was representative of women of childbearing age in the state, according to previously calculated sample size requirements. Socio-demographic (age, origin, education, race/color, and family income) and biological (body mass index) independent variables were selected, as well as dependent variables (anemia, VAD, anemia associated with VAD, hemoglobin levels, and serum retinol levels). The data were entered and analyzed using EPI INFO software, version 6.04b, and STATA version 10.1. **Results**: The prevalence of anemia was 15.1%, VAD was 8.2%, and the simultaneous occurrence of both deficiencies was found in only seven women (0.9%). No association was observed between anemia and VAD (p=0.380). The analyzed socio-demographic variables were not associated with either deficiency condition. A slight correlation was observed between retinol values and hemoglobin concentration (r=0.13; p=0.001). **Conclusions**: Anemia was considered a problem of mild magnitude, while VAD did not characterize an epidemiological problem in Pernambuco. The scarcity of studies on the association between VAD and anemia in women hinders the external validation of these results.

Keywords: anemia; vitamin A deficiency; women of childbearing age.

ANEMIA AS A CAUSE FOR SUSPENSION OF PRIMARY SURGERIES IN CHILDREN WITH CREATED LIP AND/OR PALATE CARE AT A SPECIALIZED CENTER IN THE NORTHEAST OF BRAZIL

MANOELA ALMEIDA SANTOS FIGUEIRA

Advisor: Prof. Malaquias Batista Filho
Defense date: 2011 feb. 28

Objectives: To estimate the frequency of anemia and evaluate its significance as a cause for postponing primary surgeries in children with cleft lip and/or palate (CL/P) treated at a specialized center in Northeast Brazil (Center for Facial Defects at the Instituto de Medicina Integral Prof. Fernando Figueira - CADEFI). **Methods**: This was a cross-sectional, descriptive study based on medical record data, involving 303 cases of planned primary reconstructive surgeries for children aged 0 to 24 months with isolated CL/P in 2009. The population criterion for anemia presence was defined as Hb <11 g/dL, while the clinical criterion was Hb <10 g/dL. **Results**: Anemia was present in 58.4% (128/219) of the cases evaluated, with hemoglobin levels below 10 g/dL in 25.8%. Over half of the analyzed cases (54.5% - 164/301) had their surgeries postponed for various reasons, with anemia being the primary cause (32.6% - 45/138). Among the total number of postponed surgeries, 72.5% (74/102) of the children were anemic, and 49.0% had Hb levels <10 g/dL. **Conclusions**: The high prevalence of anemia and its role as a primary reason for surgical postponement highlight the fundamental importance of this issue in the pre-surgical care of children with CL/P.

Keywords: cleft lip; cleft palate; congenital abnormalities; anemia; plastic surgery.

VULNERABILITY OF WOMEN LIVING WITH HIV

HELANA MARIA FERREIRA RENESTO

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2011mar. 28

Objectives: To unveil the vulnerability of women living with HIV, considering the psychosocial dimension of vulnerability. **Methods:** This was a qualitative study conducted at the Specialized HIV/AIDS Assistance Service of the Prof. Fernando Figueira Institute of Integral Medicine in Recife-PE, between January and September 2010. Eight asymptomatic women living with HIV, aged 27 to 37, heterosexual, infected through sexual transmission, and receiving services for at least a year, participated. Semi-structured interviews explored perceptions and feelings related to personal experiences after diagnosis and living with HIV within family and social settings. Interviews were recorded and fully transcribed, with sample size determined by saturation. Content analysis was chosen in the thematic modality according to Bardin, and statements were interpreted through Paiva et al.'s psychosocial dimension of vulnerability. Ethical principles of scientific research involving human subjects were observed. **Results:** The emergent thematic category was stigma and discrimination. Vulnerability in living with HIV was strongly linked to stigma, perceived as discrimination from the moment of diagnosis communication, affecting everyday experiences within family and social dynamics. The disclosure of infection was felt as limiting to a normal life, creating the need to conceal the diagnosis. Discriminatory attitudes from some health professionals outside specialized HIV/AIDS services negatively impacted health-seeking behavior and later experiences within the Specialized HIV/AIDS Service. In addition to institutional stigma, the women perceived that the Specialized Service did not provide space for expressing needs beyond the disease, which could aid in coping with the infection.

Keywords: acquired immunodeficiency syndrome; health vulnerability; women's health; qualitative research.

MEANINGS OF BREASTFEEDING FOR MOTHERS ATTENDED AT A BABY-FRIENDLY HOSPITAL IN NORTHEAST BRAZIL: THE PSYCHOANALYTIC THEORY PERSPECTIVE

MARIA LIA AVELAR DA FONTE

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2011mar. 30

Objectives: To understand, from the perspective of psychoanalytic theory, the meanings of breastfeeding for mothers attended by the Childcare Service at the Prof. Fernando Figueira Institute of Integral Medicine in Recife – PE, between December 2009 and July 2010. Methods: This was a qualitative study involving mothers of babies up to the fourth month of life, selected by convenience. Semi-structured interviews were conducted using a guide script to explore the mother's subjectivity, considering the following elements: unconscious desire; fantasies; identification; anxiety, and the effects of the superego. The interviews were recorded and fully transcribed. The final sample was defined based on the representativeness and quality of the information obtained. Ethical principles of research involving human beings were respected. **Results:** Understanding the meanings of breastfeeding for the interviewed mothers, based on the reconstruction of their experiences and difficulties, allowed the identification of anxiety as a central point, linked to the following elements: the mother's regressive identification with the baby, the mother's identification with her own mother, fantasies of death, and the effects of superego imperatives, especially guilt, inhibition, and symptoms that could potentially affect the breastfeeding process. In this study, anxiety emerged as one of the possible meanings of breastfeeding for mothers, mobilizing unconscious aspects of their subjectivity and transforming this experience into a challenge marked by psychic suffering. **Conclusions:** The results indicated the need for more effective training for professionals dealing with breastfeeding mothers, to expand their knowledge and increase their sensitivity to the mother's suffering and difficulties at this stage of motherhood. The creation of listening and intervention spaces is proposed to offer mothers the possibility to review and process their own conflicts and unconscious desires related to breastfeeding.

Keywords: breastfeeding; women's health; mother-child relationship; psychoanalysis; qualitative research.

NUTRITIONAL STATUS OF CHILDREN UNDER FIVE ASSISTED BY THE FAMILY HEALTH STRATEGY IN THE STATE OF PERNAMBUCO

WESLLA KARLA A. SILVA DE PAULA

Advisor: Prof. Malaquias Batista Filho
Defense date: 2011apr. 25

Objectives: To describe and analyze the nutritional status of children under five years old assisted by the Family Health Strategy (ESF) in the State of Pernambuco, in the year 2006.**Methods:** A cross-sectional study, using secondary information extracted from the database of the III State Health and Nutrition Survey (PESN), conducted in 2006 in the State of Pernambuco. The sample consisted of 1,084 children under five, forming an "ad hoc" file with the variables of interest for this study. Outcome variables considered were stunting, overweight/obesity, anemia, and Vitamin A deficiency (VAD). Predictor variables were related to socioeconomic, demographic, environmental, and biological factors. Statistical analysis was performed using the statistical packages R 2.11.1 and Stata 9.2 SE, describing the sample characteristics of the population investigated and performing univariate and multivariate analyses, estimating crude and adjusted prevalence ratios (PR), the respective 95% confidence intervals (CI), and significance levels of 5%. Variables with a p-value <0.05 were included in the final explanatory model. The current research was approved by the Research Ethics Committee (CEP) of the Prof. Fernando Figueira Institute of Integral Medicine - IMIP, under opinion nº 1025/2010.**Results:** The prevalences of malnutrition and overweight/obesity in the studied population were similar, at 6.9% and 6%, respectively. Significantly associated with the malnutrition outcome (p<0.05) in the final model were the following variables: geographic stratum referring to Rural Interior (p=0.028), distance to health service ≥30 minutes (p=0.038), no maternal schooling (p=0.025), lack of prenatal care (p=0.016), waste disposal not connected to the general network (p=0.027), and birth weight <2,500g (p<0.001). Considering overweight/obesity, associations were found with possessing 3-5 consumer goods (p=0.005), maternal BMI ≥25Kg/m^2 (p=0.037), and child age <2 years (p=0.011). The prevalence of anemia was 35%, decreasing with the increase in the number of people per room, maternal age, and child age. Regarding VAD, its prevalence was 16%, increasing in areas where waste disposal was inadequate and among children who had diarrhea in the past fifteen days. **Conclusions:** Among children assisted by the ESF in Pernambuco, malnutrition and overweight/obesity had similar prevalences but were associated with different factors. The prevalence of anemia was more than double that of VAD, highlighting the influence of environmental factors on VAD. These findings should be considered in health promotion and prevention interventions conducted by ESF teams.

Keywords:nutritional status; anemia; vitamin a deficiency; family health program; preschooler.

EVALUATION OF THE IMPLEMENTATION DEGREE OF THE NATIONAL AUDITORY HEALTH CARE POLICY IN PRIMARY CARE AND HIGH-COMPLEXITY UNITS IN RECIFE-PE

MIRELLA MUZZI DE LIMA

Objectives: to evaluate the implementation degree of the National Auditory Health Care Policy, considering the assistance provided in primary care units and specialized high-complexity care in a reference service in the city of Recife, Brazil. **Methods:** normative evaluation, assessing **structure** and **process** at two levels of analysis: primary care units and high-complexity services. A logical model of the policy was developed, which supported the creation of analysis matrices and data collection instruments. Data was collected through interviews using semi-structured questionnaires. The study was conducted with 17 Family Health Teams (ESF) and at the high-complexity service at the Instituto de Medicina Integral Prof. Fernando Figueira – IMIP. The following cut-off points and classifications were used for the implementation degree of the policy: **adequate:** 75 to 100%; **partially adequate:** 50 to 74.99%; **incipient:** 25 to 49.99%; and **critical:** less than 25%. **Results:** the policy was considered partially adequate, while the two levels of analysis, primary care and high complexity, were classified as partially adequate and adequate, respectively. Weaknesses were identified primarily in the process dimension at both levels and were present in actions targeting both prevention and diagnosis and rehabilitation. **Conclusions:** both evaluated levels require intervention to ensure the policy's development and improvement. However, primary care assistance requires special attention due to the impact it has on the auditory health of the population.

Keywords: public health policies; health evaluation; hearing; hearing loss.

FACTORS ASSOCIATED WITH THE USE OF MECHANICAL VENTILATION IN WOMEN ADMITTED TO AN OBSTETRIC ICU FOR NON-OBSTETRIC REASONS: A COHORT STUDY

MARTA DE ANDRADE LIMA COELHO

Advisor: Prof. Leila Katz
Defense date: 2011 jun. 20

Objectives: To determine the factors associated with the use of mechanical ventilation in women admitted for non-obstetric reasons to an obstetric ICU during the perinatal period. **Methods:** An ambidirectional cohort study was conducted, analyzing patients admitted to the obstetric ICU of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from January 1, 2005, to July 30, 2010, using retrospective data (through medical records) and prospective data (by monitoring patients admitted to the ICU from August 1 to October 31, 2010). A total of 500 patients were studied. Biological, sociodemographic, clinical, and obstetric variables of the patients were analyzed to determine their association with the use of mechanical ventilation in women admitted to the IMIP obstetric ICU for non-obstetric reasons. Frequency distribution tables with corresponding confidence intervals were constructed for categorical variables and means and standard deviations were calculated for quantitative variables. Contingency tables were then prepared to determine associations between independent variables (predictive factors) and mechanical ventilation, calculating the Relative Risk (RR) and its 95% Confidence Interval (CI95%) as a measure of relative risk. A 5% significance level was adopted, assigning a reference risk of 1.0. A hierarchical logistic regression analysis followed, wherein variables were analyzed according to levels, considering significant variables in each block, and then those that persisted associated with the outcome in the final block at the 5% level. The study began only after approval by the Institution's Research Ethics Committee (protocol number 0116.0.099.000-10), and informed consent was obtained from all participants in the prospective phase. No conflicts of interest were reported. **Results:** Nearly 10% of admissions to the IMIP obstetric ICU were for non-obstetric causes. The most frequent reasons included cardiopathy, deep vein thrombosis, urinary tract infection, asthma, acute pulmonary edema, community-acquired pneumonia, epilepsy, hospital-acquired pneumonia, and diabetic ketoacidosis. Eleven percent of these patients require mechanical ventilation (MV). Among the variables studied, those associated with MV use were peripheral oxygen saturation (SpO2) below 92%, respiratory rate (RR) above 30 breaths per minute, presence of near-miss criteria upon ICU admission, use of antimicrobials, and use of central venous catheter (CVC). Four percent of patients admitted for non-obstetric reasons died. **Conclusions:** The findings of this study highlight the importance of this patient group, potentially improving the preparedness of ICU obstetricians and specialists to care for these patients. Additionally, it raises awareness of signs that may be present upon ICU admission, increasing the likelihood of requiring MV.

Keywords: maternal mortality; morbidity; intensive care unit; artificial respiration; cohort studies.

KNOWLEDGE OF HEALTH PROFESSIONALS ABOUT INHALATION THERAPY FOR ASTHMA CRISIS IN TEACHING HOSPITALS IN RECIFE

GEOVANNA MENEZES DE MEDEIROS LUSTOSA

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2011 jun. 28

Objectives: To assess the knowledge of health professionals regarding the treatment of acute asthma crisis in children.**Methods:** A descriptive study was conducted in the pediatric emergency departments of two teaching hospitals in Pernambuco, from January to April 2010, where doctors and nurses answered a questionnaire with closed questions.**Results:** Of the 45 professionals in the sample, 34 were doctors and 7 were nurses. All professionals reported that they did not use a metered-dose inhaler at their workplace. When asked about the risk of infection from using the devices, 96.7% stated there was no difference between a nebulizer and a metered-dose inhaler. Among the nurses, 71.4% were unaware of the use of a mouthpiece for nebulization in any age group. Regarding the time the patient should hold their breath when using a metered-dose inhaler, 64.7% of doctors responded incorrectly. **Conclusions:** Health professionals lack sufficient knowledge about inhalation therapy using a metered-dose inhaler.

Keywords: asthma; knowledge; administration by inhalation; metered-dose inhalers.

SURVIVAL, CLINICAL PROFILE, AND PREDICTORS OF DEATH IN CHILDREN AND TEENAGER WITH CARDIOMYOPATHIES ATTENDED AT THE CHILD CARDIOLOGY OUTPATIENT CLINIC OF THE INSTITUTE OF INTEGRAL MEDICINE PROF. FERNANDO FIGUEIRA

LUZIENE ALENCAR BONATES LIMA

Advisor: Prof. Maria Júlia Gonçalves de Mello
Defense date: 2011jul. 26

Objectives: To determine survival, describe the clinical profile, and identify predictors of death in children under 18 years with cardiomyopathy followed at the Child Cardiology Outpatient Clinic of the Institute of Integral Medicine Prof. Fernando Figueira (IMIP) between January 2004 and May 2010.**Methods:** A bidirectional cohort study that included patients diagnosed with cardiomyopathy according to the criteria of the World Health Organization or the American Heart Association. The association between independent variables and death was determined by calculating the Odds Ratio (OR) and 95% Confidence Interval (CI), controlling for follow-up time in the cohort using STATA version 10.1. Analysis of the risk of death due to myocarditis was stratified by age group, which accounted for 53.2% of cardiomyopathies. The R software was used to establish the survival curve and probability using the Kaplan-Meier method. The study was approved by the Human Research Ethics Committee of IMIP. **Results:** A total of 107 patients were enrolled in the cohort, 82.2% were diagnosed with dilated cardiomyopathy, with a median age of 19 months. The median follow-up time was 32 months (ranging from 2 to 60 months). The estimated survival probability was 83.7% (95% CI 75.9 to 92.3) one year after diagnosis, with a predominance of cases among survivors attributed to viral myocarditis (68.1%). The analysis did not show statistically significant differences in clinical-laboratory and therapeutic characteristics at the time of admission between children who died and those who survived. Other forms of cardiomyopathy occurred in insufficient numbers to allow for adequate statistical evaluation. **Conclusions:** The higher mortality observed in the first year after the diagnosis of dilated cardiomyopathy indicates the need for clinical evaluations at short intervals during this period. The high percentage of cases attributed to viral myocarditis highlights the need for investments in more specific laboratory methods for better understanding of this finding.

Keywords: cardiomyopathies; myocarditis; epidemiology; risk factors; infant; child; teenager.

ACUTE INFANTILE DIARRHEA IN THE POST-ROTAVIRUS VACCINATION ERA: ROLE OF ESCHERICHIA COLI AND ANTIMICROBIAL SENSITIVITY

MARIA DO ROSÁRIO S. A. LELIS DE MOURA

Advisor: Prof. Jailson de Barros Correia
Defense date: 2011 dec. 07

Objectives: To determine the frequency of diarrheagenic Escherichia coli and its sensitivity to antimicrobials in children under five years old hospitalized for acute diarrhea. **Methods:** A prospective cross-sectional study conducted at the Institute of Integral Medicine Prof. Fernando Figueira (IMIP). Children with acute diarrhea were recruited between January 2010 and February 2011, excluding those with immunodeficiency or currently using antimicrobials. For each patient, a single rectal swab was collected within the first 24 hours of hospitalization. Pathogens were identified through culture and serological tests. Antibiograms were obtained using the disk diffusion method. **Results:** A total of 140 children were enrolled, most of whom came from low-income families in the Metropolitan Region of Recife. Ninety-nine microorganisms were isolated: 9 (6.4%) identified as EPEC (Enteropathogenic E. coli); 4 (2.9%) as EIEC (Enteroinvasive E. coli); 80 (57.1%) as other non-EPEC, non-EIEC E. coli; 3 (2.1%) as Shigella spp.; and 3 (2.1%) as Salmonella spp. The antimicrobial sensitivity profile showed high levels of resistance to ampicillin and sulfamethoxazole-trimethoprim. **Conclusions:** The study observed a low frequency of EPEC and EIEC isolates in children under five years hospitalized for acute diarrhea in Recife. The antimicrobial sensitivity profile reinforces the importance of rational use of these drugs.

Keywords: childhood diarrhea; child; bacteria; etiology; bacterial resistance to antibiotics.

ACCESS TO SPEECH-LANGUAGE THERAPY SERVICES AMONG CHILDREN UNDER TEN YEARS OLD ATTENDED AT A POLYCLINIC IN THE CITY OF RECIFE

ÂNGELA SIQUEIRA LIMA

Advisor: Prof. Kátia Virginia de Oliveira Feliciano
Defense date: 2011 dec. 26

Objectives: To evaluate the organizational and geographical accessibility of children to speech therapy in a medium-complexity service in Recife. **Methods:** A descriptive, census-based study with a cross-sectional approach (characterization of the service) and a longitudinal, retrospective nature (trajectory of the child), conducted from February to October 2011. A total of 38 children under ten years old, residing in Recife, were included along with the speech therapist and two employees from the Medical Archive Service (SAME). Two forms were applied by the researcher (for children and professionals) and a self-administered questionnaire for the staff. Children were compared based on their registration status in the Family Health Unit (USF), using chi-square and Fisher's exact tests, with a significance level of 5%. **Results:** It was found that the speech therapist attended three times a week for one shift, and SAME offered 17 vacancies for the population of the district by October 2011. There was systematic rejection of demand for speech therapy services. Around 84.2% of the accompanying individuals were responsible for the child, and 73.7% of the children were male, with 73.7% aged 5 to 9 years, and 94.7% diagnosed at the polyclinic. Four children were referred to two or three services, and three utilized two services. For the first consultation at the polyclinic, 89.5% were referred to by a doctor; 76.3% had appointments scheduled through SAME, with 63.9% arriving early in the morning to schedule, and the median waiting time was four hours and 30 minutes. 83.3% had their appointment on the first attempt, 22.2% faced difficulties, and 76.3% waited up to 15 days for care. A trend of greater difficulty in scheduling was observed for those registered (p=0.069), causing more dissatisfaction. Follow-up appointments were scheduled by the speech therapist. For travel to the service, 78.9% used buses, and half spent 16-30 minutes traveling; 68.4% rated geographical accessibility as very satisfactory, with greater dissatisfaction reported among those registered. **Conclusions:** In a context of unmet demand, with limitations in service availability, scheduling, and care coordination, the speed of scheduling and carrying out the first consultation may not reflect the standard of organizational accessibility to the speech therapist. The absence of macrostructural actions left decisions regarding accessibility subject to local contingencies. It is the responsibility of the health districts to undertake the crucial task of building negotiation spaces to structure polyclinics and patient flows, linked to a centralized appointment system for consultations and specialized exams, ensuring access to care.

Keywords: accessibility; access; health system; communication; speech therapy.

EFFICACY OF INTERMITTENT NASAL POSITIVE PRESSURE VERSUS CONTINUOUS NASAL POSITIVE AIRWAY PRESSURE AFTER SCHEDULED EXTUBATION IN PRETERM NEONATES: A RANDOMIZED CLINICAL TRIAL

LAISE NEVES CARVALHO

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2011 dec. 27

Objectives: To compare the efficacy of non-synchronized intermittent positive pressure ventilation (IPPB) versus continuous positive airway pressure (CPAP) in preventing extubation failure in preterm newborns. **Methods:** A randomized clinical trial was conducted in which 48 newborns were allocated to receive either non-synchronized intermittent positive pressure (IPPB) or continuous positive airway pressure (CPAP). Newborns with accidental extubation, extubation not performed by physiotherapy, severe congenital malformations, neuromuscular disease, or airway abnormalities were excluded. Participants were monitored for 48 hours or until they met the criteria for extubation failure. In addition to the frequency of extubation failure, complications related to non-invasive ventilation were analyzed. Data analysis was performed using the parametric Student's t-test for independent samples, with results expressed as mean and standard deviation, and a significance level of <0.05. Descriptive analyses utilized probability distribution (percentage analysis). **Results:** The groups were similar concerning clinical characteristics, except for gestational age. The frequency of extubation failure in the CPAP group was lower (9.5%) compared to the IPPB group (37%), but the difference was not significant. Regardless of the non-invasive ventilation modality used, the overall extubation failure rate was 25%. Among the complications associated with non-invasive ventilation, only septal injury was observed in 14.8% of newborns in the IPPB group. **Conclusions:** Although the frequency of extubation failure was higher in the non-synchronized IPPB group compared to the CPAP group, both modes of ventilation are considered effective in preventing re-intubation in preterm newborns following planned extubation.

Keywords: intermittent positive pressure ventilation; continuous positive airway pressure; weaning from ventilator; premature.

FUNCTIONAL ASSESSMENT OF THE THYMUS USING T CELL REARRANGEMENT EXCISION CIRCLES IN NEWBORNS WITH INTRAUTERINE GROWTH RESTRICTION

JOSÉ ROBERTO DA SILVA JUNIOR

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2012jan. 31

Objectives: To evaluate thymus function in newborns with low birth weight due to intrauterine growth retardation (IUGR).**Methods:** A cross-sectional study was conducted, including 10 newborns with low birth weight due to IUGR and 10 newborns with appropriate weight treated at the Centro de Assistência à Mulher (CAM) of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Recife, Brazil. Thymus function was assessed using quantitative real-time PCR (qRT-PCR) to determine the TREC content in each sample. The difference in TREC between the groups was analyzed using the Wilcoxon Test, and correlation between variables was evaluated using Pearson's correlation coefficient, with a significance level of 5%.**Results:** A statistically significant difference was observed between the median TREC values when comparing the two groups (p=0.01). When comparing the number of TREC/µL concerning sex, no statistically significant difference was found (p=0.939). Additionally, no significant correlation was identified between gestational age and TREC copy quantification (r=0.073 / p=0.76).**Conclusions:** The number of TREC in newborns with low birth weight due to IUGR may be reduced. Our findings require confirmation, and it is essential to determine whether these alterations in TREC numbers persist in postnatal life.

Keywords: T lymphocytes; thymus; low birth weight newborn; intrauterine growth retardation; IUGR.

SURGICAL SITE INFECTION IN LAPAROSCOPIC CHOLECYSTECTOMIES USING PERACETIC ACID AS A STERILIZATION METHOD

EDLUZA MARIA VIANA BEZERRA DE MELO

Advisor: Prof. Cristiano de Souza Leão
Defense date: 2012 may 23

Objectives: To determine the frequency of surgical site infections (SSI) in patients undergoing laparoscopic cholecystectomy (LC) using peracetic acid as a sterilizing agent. **Methods:** A descriptive retrospective cross-sectional study was conducted from February 2008 to February 2009 at the Fundação Prof. Martiniano Fernandes/Instituto de Medicina Integral Prof. Fernando Figueira.**Results:** Among 247 patients, two cases of SSI were diagnosed (0.8%). Patient A experienced a deep SSI and was readmitted for systemic antibiotics and percutaneous drainage. Patient B had a superficial SSI and was monitored on an outpatient basis. **Conclusions:** The characteristics of the patients are similar to those described in the literature. The infection rate was lower than the values recommended by the CDC, reflecting the quality of the product and process employed in sterilizing the instruments.

Keywords: surgical wound infection; hospital infection; laparoscopic cholecystectomy; peracetic acid; sterilization.

QUALITY OF LIFE OF ELDERLY PARTICIPANTS IN THE ACADEMIA DA CIDADE PROGRAM, RECIFE-PE: A DESCRIPTIVE STUDY

EDUARDO JORGE ABRANTES DA FONTE

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2012 may 31

Objectives: To describe the quality of life of elderly individuals participating in the Academia da Cidade Program (PAC) using the World Health Organization quality of life questionnaires (WHOQOL) and to assess the prevalence of continuously used medications in this population. **Methods:** The study produced two articles. The first article involved a cross-sectional study where 81 individuals aged 60 and older, participating at least twice a week in the PAC, were selected from March to December 2011. Their scores from WHOQOL – OLD and WHOQOL – Bref were plotted in a scatter graph based on the duration of their participation in the program and analyzed through linear regression. The second article was a retrospective study involving 150 elderly patients being treated for type 2 diabetes mellitus (DM) and/or hypertension (HAS) who had participated in the program for at least six months. The number of medications used at the start of PAC and at the time of data collection were compared. **Results:** The average score for WHOQOL – OLD was 66.38 ± 9.4, and for WHOQOL – Bref it was 68.24 ± 7.87. There was a tendency for increased scores with longer participation in PAC, with $p=0.04$ for the WHOQOL - Bref score. Among hypertensive elderly participants, 23.8% experienced a reduction in the number of medications after starting PAC, while among diabetics, this figure was 28.6%. **Conclusions:** The PAC appears to positively influence the quality of life of elderly individuals, especially those who remain in the program for longer periods, and seems to correlate positively with better medication management.

Keywords: elderly; quality of life; exercise.

RISK FACTORS FOR WILMS TUMOR RECURRENCE IN PATIENTS TREATED AT IMIP FROM 1996 TO 2008 – COHORT STUDY

LUCIANA SANTANA LIMA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2012 jun. 03

Objectives: To determine the frequency and risk factors for recurrence in children treated for Wilms Tumor (WT) at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) between 1996 and 2008. **Methods:** A retrospective cohort study was conducted analyzing the medical records of children diagnosed with WT admitted to the Pediatric Oncology Service at IMIP from January 1996 to December 2008. A total of 135 patients were studied. Biological variables, characteristics of WT, treatment regimens, and recurrence were analyzed to assess the association between risk factors and recurrence. The frequency of recurrence was calculated, and a table was constructed detailing each recurrence case. A bivariate analysis was performed to determine the risk ratio as a measure of the relative risk of recurrence (dependent variable) according to the risk factors (independent variables). A 95% confidence interval was calculated, and chi-square and Fisher's exact tests were used where appropriate. A stepwise multiple logistic regression analysis was conducted to determine the adjusted risk of recurrence while controlling potentially confounding variables. Variables were selected for inclusion in the model based on a hierarchical analysis scheme proposed by Victora, including biological and clinical characteristics as level 1, anatomical-pathological characteristics as level 2, and treatment characteristics as level 3. The final model included all independent variables that remained significantly associated with recurrence at a 5% significance level. A Kaplan-Meier survival analysis was performed using the Log Rank test to compare patient survival according to the presence or absence of recurrence. All analyses were conducted with a significant level of 5%. This study received approval from the Research Ethics Committee of IMIP, under number 1774, in 2010. **Results:** Of the 135 eligible cases, 29 (21.5%) had a recurrence. In the bivariate analysis, significant associations with recurrence were found for age over five years (RR=2.16; 95% CI=1.14–4.11), neoplastic involvement of intra-abdominal lymph nodes (RR=2.36; 95% CI=1.21-4.58), unfavorable tumor histology (RR=2.99; 95% CI=1.59-5.60), and tumor invasion into the renal capsule (RR=3.79; 95% CI=1.40-10.28). No significant associations were found between recurrence and treatment administered at diagnosis, type of surgery, intraoperative tumor rupture, intraoperative lymphadenectomy, type of chemotherapy used, abdominal radiotherapy (tumor bed or total abdomen), or pulmonary radiotherapy. In the multivariate logistic regression analysis using a hierarchical model, the variables that remained significantly associated with recurrence risk were unfavorable tumor histology (OR=4.21; 95% CI=1.18-15.06), tumor invasion into the renal capsule (OR=3.62; 95% CI=1.13-11.66), and age over five years (OR=2.87; 95% CI=1.16-7.13). Among the 29 cases of recurrence, 21 patients (72.4%) died, while none of the patients

without recurrence died (p>0.01).**Conclusions:** The findings of this study align with literature indicating a worse prognosis for patients experiencing recurrence; the risk of recurrence was higher in patients with WT exhibiting unfavorable histology, tumor invasion into the renal capsule, and age over five years. Preventive measures considering the associated risk factors studied can be intensified to improve this index. The five-year survival rate for patients who did not experience recurrence, despite being treated in a developing country, is similar to those from major international centers for the treatment of this disease. Research on genetic factors should be developed in our context.

Keywords: wilms tumor; recurrence; risk factors.

SUBLINGUAL MISOPROSTOL 12.5 µg FOR INDUCTION OF LABOR IN LIVE TERM FETUS: OPEN CLINICAL TRIAL

DANIELE SOFIA DE M. BARROS GATTÁS

Advisor: Prof. Alex Sandro Rolland de Souza
Defense date: 2012 jun. 13

Objectives: To describe maternal and perinatal outcomes using 12.5 µg of sublingual misoprostol for labor induction in pregnant women with live term fetuses. **Methods:** A multicenter, open-label, non-randomized clinical trial was conducted from July to December 2009. Thirty pregnant women with an indication for labor induction at term, live fetus, Bishop score of six or less, cephalic presentation, estimated fetal weight less than 4,000 g, and amniotic fluid index greater than five were included. Women with uterine scars, fetal vitality alterations, congenital anomalies, multiple pregnancies, intrauterine growth restriction, genital bleeding, and contraindications to vaginal delivery were excluded. The sublingual misoprostol tablet (12.5 µg) was administered every six hours until the onset of labor, with a maximum of eight doses. **Results:** Labor was successfully induced in 90% of the participants. The mean intervals between the first dose and the onset of uterine contractions and the time to delivery were 14.3 (±11.7) hours and 25.4 (±13) hours, respectively. The rate of vaginal delivery was 60%. Tachysystole occurred in two participants and was reversed in both cases without the need for cesarean section. Meconium passage was observed in four patients, and one newborn had an Apgar score of less than seven at five minutes. **Conclusions:** Maternal and perinatal outcomes were favorable after labor induction with sublingual misoprostol at a dose of 12.5 µg every six hours. However, controlled clinical trials comparing this dosage regimen with other doses and administration routes are necessary.

Keywords: labor; induced labor; misoprostol/administration & dosage; sublingual administration; multicenter study; clinical trial.

BARRIERS TO ASSESSING THE ALLOCATIVE EFFICIENCY OF A CONTINUOUS HEALTH CARE NETWORK

ALEX-SAND MENDES CORREIA DE ARAÚJO

Advisor: Prof. Fernando Antonio Ribeiro Gusmão Filho
Defense date: 2012 jun. 21

This research presents a descriptive-exploratory study on the allocative efficiency of the Continuous Health Care Network (RCCS) of Microrregion 3.3 (MR 3.3) of Health District 3 (DS 3) in the municipality of Recife - PE, aiming to identify the barriers to conducting an evaluation. In the data analysis, the RCCS of MR 3.3 in DS 3 and the administrative and financial organization of the Municipal Health Department (SMS) of the municipality of Recife were described, after which the survey of barriers to assessing allocative efficiency was conducted.To support this, the analysis model of the impact of the Integrated Health Services Network (Riss) on equity of access, efficiency, and continuity of care was used as a basis, which served as a foundation for the research "Impact on Access Equity and Efficiency of Riss in Colombia and Brazil - Equity-Latin America (LA)," whose evaluative indicators originated from this study for identifying the barriers that hinder the assessment of allocative efficiency of the network.The results demonstrated: deficiencies in the updating of health information systems; centralization of budgetary and financial planning; lack of administrative and financial autonomy of district offices; deficiencies in the use of management instruments focused on districts and microrregions; inversion of priorities regarding financial planning and monitoring of expenditures at the MR and DS levels; and the absence of calculation of budgetary and expenditure indicators by RCCS.In summary, it was concluded that there is a need for institutional strengthening to achieve the assessment of the allocative efficiency of networks capable of driving changes in the organizational culture of planning, administrative, financial, and management sectors, which remain inert to the policy of districtization and microrregionalization of health services.

Keywords: continuous health care network; efficiency; health institution planning; health expenditures; resource allocation.

RECURRENCE OF PREGNANCY IN ADOLESCENCE: A CASE-CONTROL STUDY

ANDREA DE ALBUQUERQUE ARRUDA SILVA

Advisor: Prof. Isabela Cristina Coutinho de A. Neiva Coelho
Defense date: 2012jun. 29

Objectives: To determine the risk factors associated with the recurrence of pregnancy in adolescence. **Methods:** A case-control study was conducted, evaluating 180 postpartum women admitted to the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from March 2010 to February 2012. The cases included teenager who had more than one pregnancy, including the current one, while the controls were women who had only one previous pregnancy in adolescence and one or more pregnancies in adulthood. The studied variables included: age of the postpartum woman, color/race, marital status, religion, school dropout, school repetition, teenager pregnancy of the postpartum woman's mother, education of the postpartum woman, her mother, and her partner, family income, relationship with parents, family acceptance of the previous pregnancy, type of previous delivery, planning of the current and previous pregnancies, access to health services during the current and previous pregnancies, age at menarche, age at first sexual intercourse, age at first pregnancy, and use of contraceptive methods. Statistical analysis was performed using the public domain program Epi-Info 3.5.3. The chi-square test of association and Fisher's exact test were used to determine associations between dependent and independent variables, with a significance level of 5%. Odds Ratios (OR) and their 95% confidence intervals were calculated. Finally, multiple and hierarchical logistic regression analysis was performed. **Results:** The factors that remained associated with the recurrence of pregnancy in adolescence were: coitarche ≤ 15 years (OR 5.04; 95% CI 2.16-117.5), age at first pregnancy ≤ 16 years (OR 2.73; 95% CI 1.26-5.91), partner change (OR 0.44; 95% CI 0.21-0.93), not caring for children (OR 4.00; 95% CI 1.37-11.68), and family income ≤ one minimum wage (OR 2.77; 95% CI 1.20-6.39). **Conclusions:** The recurrence of pregnancy in adolescence is mainly associated with socioeconomic factors, such as low income and not being a caregiver for children, as well as reproductive factors, such as partner change, early age of first sexual intercourse, and first pregnancy. Partner change was a protective factor against the recurrence of pregnancy in adolescence.

Keywords: teenager; teenager pregnancy; teenager health; unplanned pregnancy; risk factors; recurrence.

ADVERSE PERINATAL OUTCOMES AMONG NEAR MISS MATERNAL PATIENTS ADMITTED TO A PUBLIC HOSPITAL IN RECIFE

LEONAM COSTA OLIVEIRA

Advisor: Prof. Aurélio Antonio Ribeiro da Costa
Defense date: 2012jul. 13

Objectives: To determine the clinical and epidemiological profile of women with near miss maternal outcomes, the prevalence of adverse perinatal outcomes (fetal death or newborns with life-threatening conditions), and possible factors associated with these outcomes.**Methods:** A descriptive, cross-sectional study was conducted by analyzing the medical records of patients admitted to the obstetric ICU of a tertiary hospital in Recife, Brazil, from January 2007 to December 2010. Women presenting at least one of the clinical, laboratory, or management criteria for near miss maternal outcomes defined by the WHO were included. Statistical analysis was performed using Epi-info 3.3.2, utilizing chi-square and Fisher's exact tests, with a significance level of 5%. A hierarchical logistic regression model was constructed with the adverse perinatal outcome as the response variable. **Results:** A total of 255 near miss cases were identified. The near miss maternal ratio was 12.8 per 1,000 live births. Among the women, 11.8% were 35 years or older, 18.8% had no partners, 43.2% had less than eight years of schooling, 44.7% were primigravida, and 20.5% had a previous cesarean section. The most frequent diagnosis was hypertensive disorders (62.7%), many complicated by HELLP syndrome (41.2%). Cesarean delivery was the primary mode of delivery, with 188 cases (76.4%). Premature births accounted for 54.5%. Laboratory criteria for near miss were the most observed (59.6%), mainly due to the high frequency of acute thrombocytopenia (32.5%). Adverse perinatal outcomes occurred in 41.9% of women, with 48 (19.5%) fetal deaths and 55 (22.4%) newborns in life-threatening conditions at birth. In bivariate analysis, the following were significantly associated with adverse perinatal outcomes (p < 0.05): history of abortion, severe preeclampsia, HELLP syndrome, postpartum hemorrhage, premature placental abruption, cesarean delivery, prematurity, and laboratory and management criteria for near miss maternal outcomes. However, in multivariate analysis, the variables that remained significantly associated with adverse perinatal outcomes were history of abortion, HELLP syndrome, premature placental abruption, cesarean delivery, prematurity, and the laboratory criteria for near miss maternal outcomes.**Conclusions:** Among near miss maternal cases, there was a higher frequency of women with low education and primigravida status. Women over 34 years old, with a history of cesarean delivery, and without partners were not the most prevalent; however, they showed frequencies similar to those in other studies that identify them as variables associated with near miss maternal outcomes. With the new WHO criteria, hypertensive disorders in pregnancy continue to be the most common among near miss maternal cases. Most births among near miss patients are premature, and cesarean delivery is the main mode of termination. Adverse perinatal

outcomes occurred in nearly half of the women, demonstrating the influence of near miss maternal conditions on perinatal morbidity and mortality. There was a significant association with adverse perinatal outcomes in women who had a history of abortion, premature placental abruption, HELLP syndrome, cesarean delivery, premature birth, or laboratory criteria for near miss maternal outcomes.

Keywords: near miss; maternal mortality; severe maternal morbidity; Brazil; fetal death.

ELECTROMYOGRAPHIC ACTIVITY PROFILE OF PRETERM NEWBORNS UNDERGOING KANGAROO POSITION

KAISA TROVÃO DINIZ

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2012 jul. 27

Objectives: The aim of this study was to evaluate the effect of the Kangaroo Position on the electromyographic activity of Preterm Newborns (PTNB). **Methods:** A prospective cohort study was conducted from July to November 2011, involving 30 PTNBs. Surface electromyography was used to assess the myoelectric activity of the biceps brachii muscle. The first electromyographic evaluation was performed immediately before placing the child in the Kangaroo Position (0h). Subsequent evaluations occurred at 24h, 48h, 72h, and 96h during the position, and finally, when the child reached a term-equivalent age (40±1 weeks). To compare the means of electromyographic activity across different time intervals, repeated measures analysis of variance was performed, followed by Tukey's multiple comparisons test. **Results:** The values of electromyographic activity of the biceps brachii varied throughout the analysis period: ($F_{(5,174)}=27.56$; $p<0.001$), showing a gradual increase up to 96h. The electromyographic recording at term-equivalent age was higher compared to the other evaluations, except for that at 96h. The correlations between the gestational age of PTNBs and the electromyographic activity values recorded at 0h and 96h did not reveal statistical significance. **Conclusions:** The Kangaroo Position induced an increase in the electromyographic activity of the biceps brachii of PTNBs, which was progressively higher until 96h, and this response persisted until the 21st day after this period.

Keywords: kangaroo mother method; electromyography; muscle tone; child development.

TRANSLATION, TRANSCULTURAL ADAPTATION, AND EVALUATION OF THE PSYCHOMETRIC PROPERTIES OF A QUESTIONNAIRE ON PALLIATIVE CARE AMONG HEALTH PROFESSIONALS

NANCY BARROS CORREIA

Advisor: Prof. Maria Julia Gonçalves de Mello
Defense date: 2012 jul. 27

Objectives: To translate into Brazilian Portuguese, adapt transculturally, and evaluate the psychometric properties of a Japanese questionnaire that assesses the knowledge, skills, and attitudes of health professionals. **Methods:** A prospective validation study was conducted in Clinical Oncology, within the home care service of the Instituto de Medicina Integral Prof. Fernando Figueira and in Family Health Units in the city of Recife. The transcultural adaptation was performed by a panel of experts after translation and back-translation. Thirteen doctors and nurses participated in the validity assessment. To determine the reliability of the instrument, the questionnaire was administered to 96 primary care doctors and nurses. For the Likert-type questions, the internal consistency was analyzed using Cronbach's alpha coefficient, and for the dichotomous knowledge-related questions, Kuder-Richardson (KR-20) was used.**Results:** The final questionnaire contains 143 questions, with a global Cronbach's alpha coefficient of 0.98, varying from 0.87 to 0.97 in the subgroups, and the Kuder-Richardson (KR-20) coefficient was 0.89.**Conclusions:** The Brazilian Portuguese version of the questionnaire, which encompasses domains related to philosophy, dyspnea, gastrointestinal disorders, psychiatric disorders, and communication in palliative care, shows good feasibility, validity, and reliability, and can be used in future studies. Although lengthy and requiring adjustments, this questionnaire assesses not only specific knowledge and skills but the overall complex understanding of palliative care.

Keywords: translations; validation studies; questionnaires/usage; cross-cultural comparison; palliative care; bioethics/education; community health services; family health program.

ASSESSMENT OF ACCESS TO EMERGENCY CONTRACEPTION IN FAMILY HEALTH UNITS IN RECIFE

MARIA BENITA ALVES DA SILVA SPINELLI

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2012 aug. 03

Objectives: To evaluate access to emergency contraception in family health units in Recife during the year 2011. **Methods:** A cross-sectional study was conducted, using the theoretical framework by Penchansky and Thomas for assessing access, focusing on two out of the five dimensions: availability and acceptability. Data collection took place from March to September 2011. For the instrument testing survey, a pilot study was conducted, selecting one Family Health Unit (FHU) per micro-region of each Health District (HD) by random draw. From this pilot, a random sample of 250 professionals, including doctors and nurses from Recife's FHUs, was selected. A questionnaire with closed and open questions was administered, and responses were categorized for analysis. The project was approved by the institution's Ethics and Research Committee where the study was conducted. **Results:** A total of 234 professionals responded to the questionnaire, including 154 nurses and 80 doctors, resulting in a 6.4% loss. The majority were female (85.9%). Among the doctors, most had been in practice for over 10 years (80%) and were over 40 years old (62.5%), while 54.6% of nurses had less than 10 years of practice, and 65.6% were under 40 years old. Nearly all professionals (90.6%) reported that emergency contraception (EC) was available at the FHU; 51.3% knew its mechanism of action, 77.8% were familiar with usage indications, and 85.0% had already prescribed it. A shortage of EC was identified in 13 of the 100 FHUs assessed, and about 30% of professionals were aware of the flow and distribution logistics through the "Women's Health Kit." Doctors and/or nurses were the primary dispensers, totaling 73.9%. Most healthcare professionals (80.7%) were familiar with the Ministry of Health's Family Planning Manual, and about half (51.2%) knew of the Municipality of Recife's Reproductive Rights Manual. The professionals showed good acceptability, with 77.4% regularly informing women about EC. Among those who did not inform women, the reasons cited were forgetfulness (10.4%), lack of opportunity (20.8%), and a desire to prevent EC from becoming routine (22.9%). Only 8.4% considered EC a woman's right, and 65.8% agreed that religion influences decisions on prescribing or advising on EC. **Conclusions:** Health professionals show sufficient technical knowledge to use EC; however, they lack recognition of EC as a women's right. Additionally, professionals' preconceptions and religious influence may interfere with the decision to prescribe or advise on EC use. Despite EC being available at FHUs, dissemination by health teams remains limited, revealing health professionals' barriers regarding acceptability.

Keywords: emergency contraception; contraception; access; women's health; reproductive rights.

LANGUAGE AND COGNITIVE DEVELOPMENT OF PRETERM CHILDREN ASSISTED BY THE KANGAROO METHOD

CLAUDIA LONGMAN MENDONÇA

Advisor: Prof. José Eulálio Cabral Filho
Defense date: 2012aug. 10

Objectives: To analyze the long-term effects of the Kangaroo Method on cognitive and language development in preterm children aged 10 to 16 months. **Methods:** An observational, cross-sectional study comparing language and cognitive development between a group of preterm children assisted by the Kangaroo Method and another group of preterm children not assisted by this method. The Bayley III test was used as the evaluation tool, employing the Cognitive, Expressive Language, and Receptive Language scales and assessing the respective Balanced and Composite scores. **Results:** Both cognitive and language composite scores showed that the Kangaroo group performed better than the non-Kangaroo group. The differences persisted even after adjusting for the potential confounding factor of maternal education level, with significant differences in cognitive scores ($p > 0.001$) and language scores ($p < 0.012$). The increase in composite scores between groups was 23.1% for cognition and 19.2% for language. **Conclusions:** Including preterm newborns in the Kangaroo Method improves cognitive and linguistic performance, suggesting a positive effect on their neurodevelopment.

Keywords: preterm; cognition; language development; kangaroo method; bayley.

EVALUATION OF THE NEWBORN SCREENING PROGRAM FOR HEMOGLOBINOPATHIES IN THE STATE OF PERNAMBUCO, BRAZIL, 2003 TO 2010

ANA CAROLINE NOVAES SOARES

Advisor: Prof. Isabella Chagas Samico
Defense date: 2012 aug. 22

Objectives: To evaluate the National Newborn Screening Program (PNTN) for hemoglobinopathies in the state of Pernambuco from 2003 to 2010.**Methods:** A descriptive, evaluative, retrospective, cross-sectional study. Data collection was conducted through secondary databases, including the Live Birth Information System (SINASC), the Central Laboratory of Pernambuco (LACEN/PE), and medical records from the Pernambuco Foundation for Hematology and Hemotherapy (HEMOPE) of children who underwent neonatal screening for hemoglobinopathies between 2003 and 2010.**Results:** The state collection network coverage was 51.9%, and the prevalence of hemoglobinopathies in Pernambuco is 1:2005 live births. Of the hemoglobinopathy cases detected, 8.9% were not under follow-up at the reference center. Among mothers with children previously diagnosed with the disease, 64.2% were in their second pregnancy, and 30.2% were in their third or later pregnancies. Regarding the influence of residence region on periodic follow-up, children living in Zona da Mata, Sertão, and Vale do São Francisco showed absenteeism rates of 45.2%, 50%, and 55.6% at the outpatient clinic, respectively.**Conclusions:** The PNTN coverage in Pernambuco is below the target achieved by other states in the same program phase; many children are tested after the recommended age, and results are delivered to families with delays. A significant number of children with the disease do not begin outpatient follow-up, and even those who start treatment early are not attending subsequent consultations. Many children are born after the second pregnancy, suggesting a lack of family understanding regarding the counseling provided by the healthcare team.

Keywords: hemoglobinopathies; sickle cell disease; neonatal screening; health coverage; program evaluation; genetic counseling.

FOLLOW-UP OF WOMEN WITH BREAST CANCER IN THE SUS: FROM DIAGNOSTIC SUSPICION TO TREATMENT

ISABEL CRISTINA AREIA LOPES PEREIRA

Advisor: Prof. Fernando Antonio Ribeiro Gusmão-Filho
Defense date: 2012aug. 08

Objectives: To analyze the stages from diagnostic suspicion to the beginning of treatment and the use of referral and counter-referral instruments across care levels for women with breast cancer in SUS healthcare services in Recife, PE. **Methods:** A descriptive, cross-sectional study was conducted, including 60 women diagnosed with breast cancer between 2005 and 2009, who resided in Recife and were treated in primary care and four reference services. Data collection involved variables on the time intervals between consultations across care levels, diagnosis, and treatment, as well as the use of referral and counter-referral tools across care levels. A descriptive analysis and a survival analysis were conducted, using the Kaplan-Meier estimator to obtain medians. **Results:** The average age was 57.9 ± 13.1 years. Most women were mixed race (65%), without a partner (68.3%), and had completed elementary education (41.7%). Initial staging was recorded in only 45% of cases, with stage II being most common. The median interval from biopsy registration to treatment initiation was 31 days, and the time from the first consultation at the Reference Service to treatment initiation was 143 days (~5 months). Referral tools were used in only 10% of cases, and no counter-referral was found (0%).**Conclusions:** The lack of records in primary and reference care service charts, the absence of referral and counter-referral instruments across care levels, and the long intervals observed (5 months from the first consultation at the reference service to treatment) suggest failures in the follow-up process for patients with suspected breast cancer. The findings showed inadequate coordination to provide timely breast cancer treatment and highlighted a lack of communication and integration between primary care and reference services, worsening the disease and compromising survival in women with breast cancer.

Keywords: breast cancer; access; care coordination; health services; Sistema Único de Saúde (SUS).

FREQUENCY AND FACTORS ASSOCIATED WITH OVERWEIGHT IN WOMEN AGED 20 TO 49 YEARS IN A TEACHING HOSPITAL IN NORTHEASTERN BRAZIL

MARIA DA GUIA BEZERRA DA SILVA

Advisor: Prof. Leila Katz
Defense date: 08/30/2012

Objectives: To describe the frequency of overweight among women attending the gynecology outpatient clinic of a teaching hospital in Recife, PE, and to determine the associated factors. **Methods:** A cross-sectional study was conducted, evaluating 486 women from March 2011 to March 2012. Included were women aged 20 to 49 attending the gynecology clinic at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP), excluding pregnant or breastfeeding women, those with mental or neurological conditions (making anthropometric assessment impossible), those who had undergone obesity surgery, those with generalized edema, and those receiving nutritional counseling. Anthropometric variables (weight and height), socioeconomic, demographic, reproductive, hereditary, and behavioral factors were assessed. Women with a BMI over 25 kg/m^2 were considered overweight. Measures of central tendency/dispersion and frequency distribution were calculated to characterize the sample, with Chi-square and Fisher's exact tests at a 95% significance level to compare proportions, and a multivariate analysis with hierarchical multiple logistic regression. The study was approved by the institution's ethics committee. **Results:** The percentage of overweight was 84.6%, with 48.4% classified as overweight and 36.2% as obese. Multivariate analysis showed that overweight was higher among women with partners (p=0.004), those with less than seven years of schooling (p=0.02), a family history of obesity (p<0.001), and those classified as inactive (p=0.04). **Conclusions:** The prevalence of overweight aligns with epidemic levels and underscores the multifactorial nature of its etiology.

Keywords: obesity; overweight; risk factors; prevalence.

INFLUENCE OF DELIVERY MODE ON PELVIC FLOOR FUNCTION IN PRIMIPAROUS WOMEN

NEYLA SÚCIE DE MENEZES SALES SIQUEIRA

Advisor: Prof. Aurélio Antonio Ribeiro da Costa
Defense date: 2013 jan. 24

Objectives: To evaluate the influence of different delivery modes on pelvic floor function in primiparous women.**Methods:** A cross-sectional, group comparison study was conducted with 120 women, at least one year postpartum, divided into three groups: nulliparous women (n=40), primiparous women who had vaginal delivery (n=40), and primiparous women who had a cesarean section (n=40). Pelvic floor function was assessed through digital palpation, manometry, and surface electromyography (EMG). Group comparisons were made using analysis of variance (ANOVA) and the Chi-square test.**Results:** The association between delivery mode and pelvic floor muscle function, evaluated through AFA (p=0.553), manometry during rest (p=0.488), manometry during maximal contraction (p=0.161), EMG during rest (p=0.511), and EMG during phasic contraction (p=0.404), showed no statistically significant difference despite some numerical variations. There was no association between delivery mode and the presence of urinary dysfunction symptoms, except for pelvic organ prolapse. The numerical differences observed in other variables were not statistically significant between the analyzed groups. **Conclusions:** The association between the evaluated variables and delivery mode did not reach statistical significance. Cesarean delivery did not emerge as a protective factor for better pelvic floor function based on the assessment tools used in this study. Functional assessment of the pelvic floor in nulliparous and primiparous women, subject to different delivery modes, may provide data that encourage preventive and therapeutic practices for these women.

Keywords: pelvic floor; delivery; urinary incontinence; evaluation; electromyography.

INFLUENCE OF DELIVERY METHOD ON PELVIC FLOOR FUNCTION IN PRIMIPAROUS WOMEN

NEYLA SÚCIE DE MENEZES SALES SIQUEIRA

Advisor: Prof. Aurélio Antonio Ribeiro da Costa
Defense date: 2013jan. 24

Objectives: To evaluate the influence of different delivery methods on pelvic floor function in primiparous women. **Methods:** This is a cross-sectional group comparison study of 120 women, at least one year postpartum, divided into three groups: nulliparous (n=40), primiparous women who had vaginal delivery (n=40), and primiparous women who had a cesarean section (n=40). Pelvic floor function was assessed through digital palpation, manometry, and surface electromyography (sEMG). Group comparisons were performed using analysis of variance (ANOVA) and the Chi-Square test. **Results:** The association between delivery method and pelvic floor muscle function, assessed through the instruments used, AFA (p=0.553), resting manometry (p=0.488), maximum contraction manometry (p=0.161), resting EMGs (p=0.511), and phasic contraction EMGs (p=0.404), showed no statistically significant difference, despite numerical differences. There was no association between delivery methods and the presence of urinary dysfunction symptoms analyzed, except for pelvic organ prolapse. The numerical differences found for the other variables did not demonstrate significance between the analyzed groups. **Conclusions:** The association between the evaluated variables and delivery method did not reach statistical significance. The cesarean section did not prove to be a protective factor for better pelvic floor function, according to the evaluation instruments used in this research. Functional assessment of the pelvic floor in nulliparous and primiparous women who underwent different delivery methods may provide data that encourage preventive and therapeutic practices targeted at these women.

Keywords: pelvic floor; delivery; urinary incontinence; assessment; electromyography.

PRENATAL CARE IN THE STATE OF PERNAMBUCO: A COMPARATIVE STUDY OF SURVEYS CONDUCTED IN 1997 AND 2006

RACHEL DE SÁ BARRETO LUNA CALLOU CRUZ

Advisor: Prof. Malaquias Batista Filho
Defense date: 2013 May 15

Objectives: To describe and compare the main characteristics of prenatal care in the years 1997 and 2006 in the state of Pernambuco. **Methods:** A cross-sectional, population-based study was conducted using data from the II and III State Health and Nutrition Surveys in Pernambuco. Prenatal care was deemed satisfactory if it met three minimum recommendations from the Ministry of Health: initiation of care by the 16th week of pregnancy, completion of six or more visits, and provision of guidance on breastfeeding. Both surveys used as data sources were approved by Research Ethics Committees (RECs), and this study was approved by the REC of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) on December 26, 2011, under protocol number 2800-11. **Results:** Prenatal care in 2006 was significantly more satisfactory than in 1997, with a 17.1% increase in quality. Positive aspects included improved access to early prenatal care, an increase in the number of visits (six or more), breastfeeding guidance, and a notable rise in home visits by community health agents. Vulnerable groups, with lower income and education levels, had less access to health services and likely experienced poorer pregnancy outcomes. **Conclusions:** Limiting the assessment to three basic criteria does not capture other factors affecting the quality of care, which also depends on ongoing technical training for health teams to address common issues in primary care and their commitment to underserved populations. Emphasizing early engagement of pregnant women and actively following up with those who miss appointments is critical in improving prenatal care.

Keywords: prenatal care; women's health; child health.

PROTECTIVE FACTORS FOR EXCLUSIVE BREASTFEEDING FOR SIX MONTHS IN THE STATE OF PERNAMBUCO

SANDRA HIPÓLITO CAVALCANTI

Advisor: Prof. Malaquias Batista Filho
Defense date: 2013 May 30

Objectives: To analyze the protective factors associated with six months of exclusive breastfeeding (EBF) compared with children who were fully weaned by the second month of life in the state of Pernambuco in 2006.**Methods:** This was a nested case-control study within a prevalence survey. After applying inclusion criteria (exclusive breastfeeding for six months for cases and full weaning by the second month for controls) and exclusion criteria (incomplete or duplicate data, adopted children, or those not matching age criteria), children were matched by age and sex, resulting in a sample of 124 cases (exclusively breastfed for six months) and 248 controls (fully weaned by the second month). Subjects were drawn from the database of the III State Health and Nutrition Survey (III PESN) conducted in Pernambuco in 2006. The survey was a joint initiative of the Instituto de Medicina Integral Professor Fernando Figueira (IMIP) and the Nutrition Department at the Federal University of Pernambuco (UFPE), supported by the National Council for Scientific and Technological Development. The III PESN aimed to provide an updated diagnosis of health, nutrition, and socioeconomic conditions, focusing on maternal and child groups across different geoeconomic areas of the state.To analyze protective factors for exclusive breastfeeding, odds ratios were calculated as a measure of association, with a 95% confidence interval and p<5% for the independence test. Variables with a p<20% in bivariate analysis entered logistic regression analysis, and for the final model, variables with p<5% were retained. The study was approved by the IMIP Research Ethics Committee under protocol number 3006-12 on June 12, 2012.**Results:** Of the factors initially screened (maternal age and education, per capita family income, area of residence, number of prenatal visits, professional assisting birth, type of delivery, and prenatal breastfeeding guidance), only two remained significantly associated with exclusive breastfeeding after multivariate regression adjustment: maternal age between 20 and 35 years and maternal education of 5 to 8 years of schooling.**Conclusions:** Maternal age and education were protective factors for exclusive breastfeeding for six months.

Keywords: breastfeeding; early weaning; promotion; breast milk; maternal and child health; health promotion.

MASTER'S DEGREE IN COMPREHENSIVE HEALTHCARE

PREVALENCE AND ASSOCIATED FACTORS OF PHYSICAL, PSYCHOLOGICAL, AND SEXUAL VIOLENCE AMONG WOMEN INCARCERATED FOR DRUG TRAFFICKING AT THE RECIFE WOMEN'S PENAL COLONY IN PERNAMBUCO: A CROSS-SECTIONAL STUDY

VALQUIRIA PEREIRA FERREIRA

Advisor: Gilliatt Hanois Falbo Neto
Defense date: 2013 jan 23

Context: The complexity and scale of violence against women make it a public health issue, as gender-based violence is linked to increased risks of various physical and mental health issues, as well as heightened vulnerability to oppression, domination, and abuse in the forms of physical, psychological, and sexual violence. Histories of violence are frequently present in the lives of incarcerated women, associated with a range of socioeconomic, structural, and cultural pressures that often contribute to their involvement in crime.**Objectives:** To estimate the prevalence and associated factors of physical, psychological, and sexual violence experienced by women incarcerated for drug trafficking at the Recife Women's Penal Colony in Pernambuco, within 24 months prior to incarceration.**Method:** A quantitative, descriptive, cross-sectional study was conducted with 290 women incarcerated for drug trafficking, each with up to twelve months of incarceration at the time of data collection. Data collection was performed using a questionnaire to assess biological, socioeconomic, demographic characteristics, violence risk factors, and involvement in drug trafficking. Measures of central tendency, dispersion, and frequency distributions were used to describe the sample. Associations and strength of relationships between exposure and outcome variables were assessed using chi-square and Fisher's exact tests at a 5% significance level. After bivariate analysis, multivariate logistic regression was conducted to control confounding variables. **Results:** Most women were young (71.4%), non-white (78.9%), single with children (85.8%), with low education levels (83.3%) and incomes below the minimum wage (72.6%). In the 24 months before incarceration, 128 women (44.1%) experienced violence, with 35.2% experiencing physical violence, 31.8% psychological violence, and 3.8% sexual violence. Logistic regression analysis showed that age <25 years (p<0.05) and being single/separated (p<0.04) were associated with experiencing violence within the 24 months prior to incarceration. Additionally, 56.9% of the women reported illicit drug use, and 67.1% were actively involved in drug trafficking. Financial need was cited as the primary reason for entering and remaining in drug trafficking by 52.8%, while awaiting a legal decision accounted for 74.8% of the women's incarceration conditions.

Keywords: violence against women; prevalence; illicit drugs; prisons.

CHARACTERIZATION OF THE EDUCATIONAL ENVIRONMENT AND THE ACQUISITION OF GENERAL COMPETENCIES BASED ON NATIONAL CURRICULAR GUIDELINES IN THE FIRST YEAR OF MEDICAL INTERNSHIP AT UNIVASF

CLAUDIA DE AGUIAR MAIA GOMES

Advisor: Fernando Antonio Menezes da Silva
Defense date: 2013 apr. 26

Introduction: Various studies indicate that a suitable educational environment, assessed by the Dundee Ready Education Environment Measure (DREEM), enables better student development. The Objective Structured Clinical Examination (OSCE) is a good tool for evaluating this development. **Objectives:** To assess the influence of the educational environment on the acquisition of general competencies through the OSCE during the medical internship at UNIVASF. **Methods:** The proposed study was conducted in 2011 with 42 students from the fifth class of medicine at UNIVASF. At the end of the first internship rotation, students completed the DREEM, and at the end, the OSCE was conducted. During the UNIVASF internship, the class is divided into five groups, each starting in one of the core areas: Surgery, Internal Medicine, Obstetrics and Gynecology, Family and Community Medicine, and Pediatrics. The OSCE had 11 stations, including a rest station and two for each internship area. All students participated and were evaluated at each station. Statistical analysis included ANOVA, Kruskal-Wallis, and Tukey's procedure. **Results:** The total DREEM mean score was 129.4/200; there was no significant difference among DREEM scores across the five areas. The following means were obtained for DREEM subscales: (a) Student Perception of Learning (SPL), 29.2/48; (b) Student Perception of Teachers (SPT), 30.7/44; (c) Students' Academic Self-Perception (SASP), 20.45/32; (d) Student Perception of the Environment (SPA), 32.4/48; and (e) Students' Social Self-Perception (SSP), 16.59/28. All results indicate a positive perception of the academic environment. A significant difference was found between the total OSCE scores in Internal Medicine and Pediatrics. Analysis of OSCE station scores showed statistically significant differences among groups only in the Surgery, Internal Medicine, and Family and Community Medicine stations. Each group performed better when the evaluated station coincided with their current rotation. **Conclusion:** The results demonstrate that the academic environment of the UNIVASF internship is good and similar to those found worldwide. The environmental evaluation for each area is quite homogeneous. Although this study aimed to assess the influence of the environment on competency acquisition as measured by the OSCE, no significant difference was found among the various environments to allow for such a comparison.

Keywords: medical education; educational environment.

CORRELATION OF VISCERAL ADIPOSITY AROUND THE 20TH WEEK OF GESTATION WITH LIPID PROFILE, GLUCOSE, INSULIN LEVELS, AND HOMA INDEX BETWEEN THE 26TH – 36TH WEEKS OF GESTATION – COHORT STUDY

ANDREA CAMPELLO CARDOSO PONTUAL

Advisor: João Guilherme Bezerra Alves
Defense date: 2013apr. 29

Obesity is an important risk factor for adverse perinatal outcomes, with visceral adiposity showing a stronger correlation than subcutaneous fat in relation to these outcomes. Visceral adiposity is also more associated with cardiovascular disease, diabetes mellitus, and dyslipidemia. However, few studies have examined the association between visceral adiposity in pregnant women and adverse perinatal outcomes. During pregnancy, maternal visceral adipose tissue accumulates to support fetal growth and development, accompanied by insulin resistance and increased lipoprotein levels. This study aims to correlate the visceral adiposity thickness of pregnant women around the 20th week of pregnancy with insulin and lipoprotein levels (cholesterol, triglycerides, LDL, and HDL) in later pregnancy stages (26th – 36th weeks). This cohort study includes 109 pregnant women followed at IMIP, from the first half of pregnancy to the 32nd week. Visceral adiposity measurement will be conducted via ultrasound between the 10th and 20th gestational weeks. Blood glucose, triglycerides, total cholesterol, high-density lipoprotein (HDL), and low-density lipoprotein (LDL) levels will be measured using blood samples and the colorimetric method with the BioSystems Model 310. Insulin will also be collected from blood samples and measured using chemiluminescence with the Immulite 1000 (DPC Medlab). Insulin resistance will be estimated using the Homeostasis Model Assessment of Insulin Resistance (HOMA-IR). Pearson's coefficient will be calculated to evaluate the univariate correlation between visceral adiposity thickness and serum levels of insulin, glucose, HOMA-IR, and lipoproteins. A significant level of $p < 0.05$ will be adopted.

Keywords: obesity; visceral adipose fat; insulin resistance; dyslipidemias.

OBJECTIVE AND SUBJECTIVE METHODS IN INDIVIDUALS UNDERGOING PALATOPLASTY USING THE VON LANGENBECK TECHNIQUE IN VELOPHARYNGEAL DYSFUNCTION

AMANDA ALMEIDA DE OLIVEIRA

Advisor: José Eulálio Cabral Filho
Defense date: 2013 feb. 05

Introduction: Failure of fusion between palatine and embryonic facial processes during the first trimester of pregnancy results in one of the most common congenital facial defects in humans, the cleft lip and palate (CLP). Palatoplasty is a surgical procedure aiming to correct velopharyngeal function, facilitating clear speech production. Velopharyngeal dysfunction (VPD) can be diagnosed through subjective speech evaluation (perceptual-auditory) and objective evaluation (nasoendoscopy and videofluoroscopy) of the corresponding structures. **Objective:** To determine the concordance between perceptual-auditory, nasoendoscopic, and videofluoroscopic methods in diagnosing VPD in individuals with transforamen clefts who have undergone primary palatoplasty. **Method:** A diagnostic test study was conducted to assess the reliability of evaluation methods for velopharyngeal dysfunctions (incompetence, insufficiency, and adequacy) in 44 individuals with transforamen cleft lip and palate who underwent the von Langenbeck surgical procedure at the Facial Defects Center of the Prof. Fernando Figueira Institute of Integral Medicine (IMIP) in Recife, PE. The study took place from February 2011 to October 2012. The data analysis used the Marginal Homogeneity test and the Kappa concordance index. **Results:** There was strong concordance between perceptual-auditory and videofluoroscopic evaluations, with very similar total values between the two methods (Marginal Homogeneity test, $p=0.368$) and an optimal Kappa index strength ($K=0.882$, $p<0.001$). The comparison between nasoendoscopy and video fluoroscopy showed very low marginal homogeneity ($p<0.001$) and poor Kappa concordance strength ($K=0.103$, $p<0.057$). Comparison between perceptual-auditory evaluation and nasoendoscopy also showed low values, with significant differences in marginal homogeneity ($p<0.001$) and Kappa index strength ($K=0.10$, $p<0.06$). **Conclusion:** Instrumental exams are fundamental in diagnosing velopharyngeal dysfunction, and combined with an appropriate perceptual-auditory evaluation, can provide reliable information on this dysfunction. Perceptual-auditory evaluation can be very useful when suitable diagnostic equipment is unavailable.

Keywords: cleft palate; speech disorders; diagnosis; velopharyngeal insufficiency.

EFFECTIVENESS OF CRYOTHERAPY FOR CONTROLLING PERINEAL PAIN AFTER VAGINAL DELIVERY: A RANDOMIZED CLINICAL TRIAL

ITALO MORAIS TORRES

Advisor: Melania Maria Ramos de Amorim
Defense date: 2013 jul. 07

Objective: To determine the clinical effectiveness of cryotherapy in controlling perineal pain immediately after vaginal delivery. **Methods:** A sham-controlled randomized clinical trial was conducted, including women who had a term pregnancy with a single fetus in a cephalic presentation, delivering vaginally at the Aconchego Unit of IMIP in Recife, Pernambuco, Brazil, from October 2011 to October 2012. This unit provides low-risk care in PPP suites (pre-labor, labor, and postpartum) by obstetric nurses. Exclusion criteria included previous perineal injury, episiotomy during the current delivery, instrumental delivery, and active perineal bleeding. All deliveries were assisted in a humanized approach following guidelines from the World Health Organization (1996) and the Brazilian Ministry of Health (2001). The independent variable was perineal cryotherapy post-vaginal delivery, and outcome variables included primary (perineal pain) and secondary outcomes (perineal edema, use of medication for pain relief, and adverse reactions). The experimental group received crushed ice packs applied to the perineum, reducing the temperature to 10°C–15°C. The sham group received a cold-water bag on the perineum, which did not lower the temperature to this level. Chi-square and Fisher's exact tests were used to determine associations between the independent variable (cryotherapy) and dependent variables (perineal pain, edema, and doses of analgesic medications). Risk Ratio (RR) with a 95% Confidence Interval (CI) was calculated, and repeated measures analysis of variance was conducted. A 5% significance level was used. The study was approved by the Research Ethics Committee, and all patients were informed about the objectives, voluntarily consenting by signing the Informed Consent Form. **Results:** Baseline characteristics of the participants and neonates were similar between the cryotherapy and sham groups. There was no statistically significant difference between the groups in perineal pain scores and edema. Cryotherapy did not influence the amount of analgesic medication used. No adverse effects were reported from perineal cryotherapy. **Conclusion:** Cryotherapy was found ineffective in controlling perineal pain and edema following minimally interventionist (humanized) vaginal deliveries. However, the therapy posed no harm to the participants. Further research is needed to assess the effectiveness of cryotherapy in other contexts (e.g., deliveries with interventions).

Keywords: cryotherapy; pain; perineum; natural childbirth.

CORRELATION OF ELECTROMYOGRAPHIC AND PERINEOMETRIC FINDINGS OF THE PELVIC FLOOR MUSCLES IN NULLIGRAVID WOMEN: A CROSS-SECTIONAL STUDY

LORENA CARNEIRO DE MACEDO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2013 jul. 29

Background: Pelvic floor muscles (PFM), along with ligaments and fasciae, play key roles in supporting pelvic organs, aiding in urinary and anal continence, and contributing to sexual function. Various methods can assess PFM function to aid in diagnosing genitourinary and anal tract dysfunctions, including surface electromyography (EMG) and perineometry, which evaluate muscle electrical activity and perineal muscle pressure, respectively. While perineometry provides an objective measure of perineal muscle pressure, it can be influenced by the contraction of other muscle groups. Surface EMG offers a detailed assessment of PFM function, enabling the isolation of PFM contractions, though it is costly and requires complex interpretation. There is a need to understand if simpler methods can effectively represent PFM activity as captured by EMG. There is limited research on EMG assessment of PFM in nulligravid women, with no studies correlating EMG with perineometry. **Objective:** To correlate the EMG and perineometric findings of PFM in nulligravid women. **Methods:** This observational, cross-sectional study included 38 nulligravid women with an active sexual life. Exclusion criteria were genital prolapse, history of pelvic or urogenital surgery, and neurological diseases with muscle impairment. The study was approved by the IMIP Research Ethics Committee (CAAE 02808612.0.0000.5201). Participants underwent a clinical evaluation of the pelvic floor for perineal contraction, followed by an EMG assessment. Seventy-two hours later, they returned for a perineometric evaluation. Participants received biofeedback training to isolate PFM contractions, minimizing interference from thigh adductors and abdominal muscles. Data were presented as medians with ranges and interquartile intervals. Spearman's correlation coefficient was used, with a significant level of 5%. **Results:** The average age was 23.8 (±3.2) years, and all women exhibited voluntary PFM contractions. The median EMG activity for PFM was 57.94%, 65.39% for the levator ani muscle, and the median PFM pressure recorded by perineometry was 16.5 cmH_2O. A statistically significant and very strong positive correlation (r = 0.968; p<0.001) was found between EMG and perineometric findings for PFM. **Conclusions:** A strong correlation was found between perineometric and EMG findings in the functional assessment of PFM in nulligravid women.

Keywords: electromyography; pelvic floor muscles; manometry; nulligravid.

IMMUNOLOGICAL EVALUATION OF PATIENTS WITH RECURRENT RESPIRATORY PAPILLOMATOSIS

NAIARA DA PAIXÃO AMORIM

Advisor: Leuridan Cavalcante Torres
Defense date: 2013jul. 31

Introduction: Recurrent respiratory papillomatosis (RRP) is an infectious disease caused by Human Papillomaviruses (HPV), especially types 6 and 11, characterized by the growth of papillomatous lesions in the respiratory tract, particularly the larynx, with frequent recurrence. Recent immunological studies have shown functional defects in NK cells, dysfunction in HPV-specific cytotoxic T cells and Th1 cells, and an imbalance in Th1, Th2, and Th17 lymphocyte expression with altered cytokine production. Specifically, increased IL-4 and IL-10 levels, combined with reduced IFN-γ and TNF-α, have been observed in tumor regions. **Objective:** To evaluate the immune response in patients with recurrent respiratory papillomatosis. **Methods:** This case series study included 14 patients aged between 2 and 20 years with a histopathological diagnosis of RRP, followed at the otolaryngology clinic of IMIP. Data were collected from March 2012 to April 2013. Laboratory variables included total and differential leukocyte counts, serum immunoglobulin levels (IgA, IgG, IgM, IgE), anti-HBs antibody levels, T, B, and NK cell immunophenotyping and subpopulations, percentages of CD4+ and CD8+ T cells expressing CD28, and inflammatory cytokines (IL-1β, IL-6, TNF-α, IL-8, IL-10, IL-2, IFN-γ, IL-4, IL-17a). Statistical analysis used GraphPad Prism 5, with the Mann-Whitney test for comparison between patients and healthy controls (significance level of 5%). **Ethics:** The study was approved by the IMIP Ethics Committee under protocol 2787/2012. **Results:** Patients had normal total and differential leukocyte counts and normal IgA, IgG, and IgM levels, with elevated IgE in most cases. Most had normal T cell counts but decreased CD8+/CD28+ T cells (p=0.02) compared to controls. Seven of 13 patients showed reduced B cells, and eight had abnormal NK cell counts. Patients exhibited lower cytokine levels compared to controls, with significant differences in TNF-α (p=0.02) and IL-1β (p=0.04). No significant differences were found for IL-6, IL-8, IL-10, IL-2, IL-4, IFN-γ, and IL-17a. **Conclusions:** Most RRP patients show numerical immune cell alterations, reduced CD28 expression in CD8+ T cells, and impaired cytokine production, particularly inflammatory cytokines. Functional tests are needed for a better understanding of these patients' immune systems.

Keywords:recurrent respiratory papillomatosis; immunology; cytokines; cd28.

ELECTROMYOGRAPHIC ACTIVITY OF PRETERM NEWBORNS SUBJECTED AND NOT SUBJECTED TO KANGAROO POSITION

RAFAEL MOURA MIRANDA

Advisor: José Eulálio Cabral Filho
Defense date: 2013aug. 08

Objective: This study aimed to compare the electromyographic activity of preterm newborns who were and were not subjected to the kangaroo position. **Methods:** A cohort study was conducted from July 2012 to January 2013 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Recife, Brazil. The sample consisted of 64 newborns divided into three groups: preterms subjected to the kangaroo position, preterms not subjected to the kangaroo position, and term newborns. Inclusion criteria were preterm newborns with a gestational age of 27 to 34 weeks, corrected age of less than 35 weeks during the first electromyographic evaluation, and no prior kangaroo care experience, as well as term newborns with gestational ages of 38 to 41 weeks. Surface electromyography (EMG) was used to measure resting muscle activity in the biceps brachii. In the preterm kangaroo group, EMG activity was recorded before kangaroo care (0h), after 48 hours of kangaroo care, and at term-equivalent age. In the preterm non-kangaroo group, measurements were taken at 0h and after 48h. The term newborn group had one measurement. Muscle activity was converted to Root Mean Square (RMS) values and normalized. Mean values across groups and intervals were analyzed using repeated measures ANOVA and post hoc Holm-Sidak multiple comparisons. **Results:** RMS values across all evaluations showed significant differences ($F_{(5,108)}= 56.69$; $p<0.001$). Multiple comparisons revealed that the preterm kangaroo group had higher RMS values at 48h compared to 0h, while the non-kangaroo group did not. RMS values at term-equivalent age in the kangaroo group were also higher compared to the term group. **Conclusions:** Kangaroo care increases electromyographic activity in the biceps brachii of preterm newborns, persisting at term-equivalent age. Sensory/vestibular stimulation in the kangaroo group may induce greater muscle activity. Future research should investigate these effects on other muscles and explore kangaroo care's impact on term newborns.

Keywords: kangaroo-mother care method; muscle tonus; electromyography; child development.

EFFECTIVENESS OF PLACENTAL DRAINAGE IN THE THIRD STAGE OF LABOR: RANDOMIZED CLINICAL TRIAL

FERNANDA BARROS LIMA VASCONCELOS

Advisor: Leila Katz
Defense date: 2013aug. 12

Background: Postpartum hemorrhage remains a significant cause of maternal morbidity and mortality worldwide, with the highest risk occurring during the third stage of labor. Active management involves measures to shorten this period and reduce blood loss. **Objective:** To determine the effectiveness of placental drainage in reducing the duration and blood loss in the third stage of labor. **Methods:** This open randomized clinical trial included 113 postpartum women in a placental drainage group and 113 in a non-drainage group. The study was conducted from February to May 2013 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Recife and the Hospital Municipal Petronila Campos in São Lourenço da Mata, both in Pernambuco, Brazil. Low-risk obstetric patients with single, term, live pregnancies were included, excluding those with instrumental or cesarean delivery. Primary outcomes were the duration of the third stage and postpartum blood loss volume. Secondary outcomes included postpartum hemorrhage (>500 ml), severe postpartum hemorrhage (>1000 ml), maternal hemoglobin below 8 g/dL within 24-48 hours postpartum, need for blood transfusion, postpartum abdominal pain, therapeutic use of oxytocics within the first hour and up to 24 hours postpartum, third stage longer than 30 and 60 minutes, need for uterine curettage, manual placental removal or uterine curettage, anemia symptoms within 48 hours postpartum, and maternal satisfaction with third-stage management. Statistical analysis was performed using Epi Info 7, calculating the Risk Ratio (RR) with a 95% Confidence Interval (CI). A p-value less than 0.05 was considered statistically significant. **Results:** No statistically significant difference was found in the primary outcomes between groups. The mean third stage duration was 14 minutes in both groups, with standard deviations of 13 and 12 minutes, respectively (p=0.74). Similarly, no significant difference was observed in mean blood loss [248 ml (SD ±254) vs. 208 ml (SD ±187), p=0.18] or postpartum hematocrit [32.2% (SD ±4.06) vs. 32.8% (SD ±4.25), p=0.30]. Secondary outcome frequencies were also similar. Postpartum hemorrhage greater than 500 ml occurred in 10.6% vs. 8% (RR 1.3, 95% CI 0.58-3.09), and severe hemorrhage over 1000 ml in 3.5% vs. 2.7% (RR 1.3, 95% CI 0.30-5.82). Hemoglobin below 8 g/dL was observed in 3.5% vs. 0.9% (RR 4.0, 95% CI 0.45-35.23). Most women reported postpartum abdominal pain [51.6% vs. 48.4% (p=0.68)], and therapeutic uterotonic use within the first hour and up to 24 hours postpartum was similar across groups. Longer third stages were observed in 8% vs. 8.8% (p=0.81) for over 30 minutes and 0.9% vs. 0% (p=0.50) for over 60 minutes. Similar rates were found for uterine curettage and manual placental removal. Anemia symptoms within 48 hours postpartum occurred in 13.4% vs. 10.7% (p=0.53), and the majority of women were satisfied with third-stage management [44.2% vs. 39.8% (p=0.50)]. **Conclusion:** Placental drainage was not effective in reducing the duration of the third stage of labor or blood loss.

Keywords: drainage; pregnancy; active management; postpartum hemorrhage.

SPONTANEOUS PERINEAL LACERATIONS IN VAGINAL DELIVERIES WITHOUT EPISIOTOMY: ASSOCIATED FACTORS IN A TEACHING MATERNITY HOSPITAL IN RECIFE

VANESSA MARIA LARANJEIRAS LINS

Advisor: Leila Katz
Defense date: 2013aug. 13

Background: Spontaneous lacerations can occur during vaginal delivery, even with the restriction of episiotomies, which is the primary factor for reducing perineal trauma. Reducing the incidence of this type of trauma associated with normal delivery should be a priority for women and healthcare facilities. Thus, it is essential to investigate the factors that may be associated with these injuries to minimize their occurrence.**Objectives:** To determine the frequency of perineal lacerations in women who had vaginal deliveries, the severity of the injuries, and the factors associated with their occurrence.**Methods:** An observational study with a prospective cohort design was conducted, following the women from their admission in labor at the maternity hospital to the immediate postpartum period, identifying factors associated with spontaneous perineal lacerations. The study included low-risk term pregnant women (37 to 42 weeks), with a single fetus in cephalic presentation, admitted in active labor in the Aconchego sector of the Instituto de Medicina Integral Prof. Fernando Figueira – IMIP, in Recife, Pernambuco. Women with malformed fetuses were excluded. Women transferred to other sectors and those who underwent episiotomy, cesarean section, or curettage during the study period were considered losses and were not included in the analysis. The following variables were analyzed: frequency and severity of lacerations; maternal biological, sociodemographic, clinical-obstetric, neonatal characteristics, delivery characteristics, and interventions. Data analysis was performed using the Epi-Info 7 software for Windows. Frequency distribution tables were created for categorical variables, with means and standard deviations calculated for quantitative variables. Contingency tables were then formulated to determine the association between independent variables (predictive factors) and the presence of spontaneous lacerations (outcome), calculating the Risk Ratio (RR) and its 95% Confidence Interval (95% CI) as a measure of relative risk. A significant level of 5% was adopted. Multiple logistic regression analysis was conducted to identify the variables most strongly associated with perineal laceration. **Results:** First-degree spontaneous lacerations were recorded in 47% of the women, second-degree in 31%, and third-degree in 1.8%. No cases of fourth-degree lacerations were observed. Previous experience of normal delivery was a protective factor against vaginal lacerations (OR = 0.46; 95% CI = 0.23 - 0.91; p = 0.027). A lower frequency of lacerations was observed in the group that used some form of perineal protection strategy, although this was not statistically significant (OR = 0.45; 95% CI = 0.20 - 1.02; p = 0.058). **Conclusion:** The main protective factor against spontaneous lacerations was prior experience with normal delivery. Intrapartum perineal protection strategies should be encouraged, especially for women without previous experience of normal delivery.

Keywords: risk factors; wounds and injuries; perineum; normal delivery.

NON-DIETARY FACTORS AND NECROTIZING ENTEROCOLITIS IN VERY LOW BIRTH WEIGHT NEWBORNS

CAROLINE FREITAS TIMOTEO DE LIMA

Advisor: Melania Maria Ramos de Amorim
Defense date: 2013aug. 19

Introduction: Necrotizing enterocolitis (NEC) remains one of the most significant causes of morbidity and mortality among very low birth weight (VLBW) newborns, with an approximate prevalence of 7% in preterm infants with birth weights between 500 and 1500 grams. With multifactorial etiology, prematurity is the primary risk factor. Although NEC is strongly associated with nutritional practices, non-nutritional factors are also suggested to play a role in the disease's pathogenesis.**Objective:** To assess the association between non-enteral diet-related factors and the occurrence of NEC in very low birth weight newborns.**Method:** This case-control study used a pre-existing database from an intervention study for NEC prevention, involving VLBW newborns admitted to the neonatal unit at IMIP between 2003 and 2007. Cases of NEC stage >2 (Bell staging) were included, with two controls selected for each case, without NEC diagnosis. Data was entered and analyzed using Epi Info 7 and MedCalc version 12.1. Odds Ratios were calculated as risk estimates, with a 95% confidence interval. Multivariate analysis was performed to determine the adjusted risk of NEC. **Results:** The only variable that remained significantly associated with NEC was anemia, which was more common in cases (64.6%) compared to controls (34.4%) when considering hematocrit levels below 35% (adjusted OR=3.48; 95% CI=1.68-7.20; p=0.0008). No significant associations were found with other variables. **Conclusion:** Anemia was strongly associated with the occurrence of NEC in preterm infants. Further prospective studies are needed to strengthen the link between anemia and NEC incidence and explore other non-nutritional factors associated with NEC.

Keywords: necrotizing enterocolitis; risk factors; preterm.

MAMMOGRAPHY IN WOMEN AGED 40 TO 49 WITH AVERAGE RISK OF BREAST CANCER: A CROSS-SECTIONAL STUDY

FLAVIO XAVIER DA SILVA

Advisor: Melania Maria Ramos de Amorim
Defense date: 2013aug. 19

Introduction: There is controversy regarding mammographic screening for women aged 40 to 49. The balance between the benefits (such as mortality reduction) and potential harms (such as false-positive results) is not sufficient to recommend regular mammography for asymptomatic women in this age group with no high risk of breast cancer. However, many professionals and healthcare services still recommend and incorporate routine annual mammography starting at age 40 into daily clinical practice.**Objective:** To describe mammographic findings and interventions resulting from mammographic screening in women aged 40 to 49 with an average risk for breast cancer.**Methods:** A cross-sectional study was conducted, including women aged 40 to 49 who underwent mammographic screening at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, Brazil, from January 2010 to October 2011. Biological, sociodemographic, gynecological, and reproductive variables were analyzed along with mammographic and histopathological findings and performed interventions. Women with breast complaints, physical exam abnormalities, or high breast cancer risk were excluded. Descriptive analysis included calculating measures of central tendency and dispersion for numerical variables and frequency distribution tables for categorical variables. The chi-square test or Fisher's exact test was used to determine associations between biological, sociodemographic, gynecological, and reproductive variables with BI-RADS categories three, four, and five. Prevalence ratios and 95% confidence intervals (95% CI) were calculated to assess the strength of the association. A significance level of 5% was used throughout the analysis. The study was approved by the Research Ethics Committee (CEP) of the institution (CAAE No. 03191212.0.0000.5201 of 06/26/2012) and only commenced after approval. A waiver of Informed Consent was requested, and all relevant research data were obtained retrospectively from medical records.**Results:** Of the 1,000 mammograms included, 232 (23.2%) were inconclusive (BI-RADS 0), 454 (45.4%) were negative for malignancy (BI-RADS 1), 294 (29.4%) had benign findings (BI-RADS 2), 16 (1.6%) were probably benign (BI-RADS 3), two (0.2%) had low suspicion of malignancy (BI-RADS 4A), one (0.1%) showed suspicion of malignancy (BI-RADS 4C), and one (0.1%) had high suspicion of malignancy (BI-RADS 5). Only one case of grade II invasive ductal carcinoma was identified, corresponding to the mammogram categorized as BI-RADS 5. Additionally, there was a high number of interventions following screening, including 469 ultrasounds, 53 referrals to mastology, 11 cytologies, and eight biopsies, totaling 541 interventions. **Conclusion:** Mammographic screening in women aged 40 to 49 with average risk for breast cancer results in many unnecessary interventions due to the low prevalence of malignant lesions.

Keywords: breast cancer; mammography; screening programs.

GESTATIONAL DIABETES MELLITUS: MICROVASCULAR ASSESSMENT WITH LASER DOPPLER FLOWMETRY

ISABELLE EUNICE DE ALBUQUERQUE PONTES

Advisor: João Guilherme Bezerra Alves
Defense date: 2013 nov. 11

Introduction: With the rising prevalence of obesity, particularly among women of reproductive age, gestational diabetes mellitus (GDM) has become an increasing global health issue. GDM is associated with adverse perinatal outcomes for both mother and fetus. However, there is still controversy in the literature regarding microvascular changes in GDM.**Objectives:** To evaluate the microcirculation in pregnant women with and without hyperglycemia. **Methods:** A cross-sectional study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), including 110 pregnant women—55 with GDM and 55 normoglycemic. Laser Doppler flowmetry (LDF) was used to assess skin microcirculatory function non-invasively. The "t student" test and Mann-Whitney test were used for group comparisons. **Results:** The average age of the sample was 27.5 years (± 6 years), with an average body mass index (BMI) of 29 kg/m^2 (± 4). No significant differences were observed regarding primiparity between the two groups (54.5% for GDM and 57.4% for normoglycemic). Regarding LDF-derived variables, no statistically significant differences were found in resting flow, maximum flow, or response to inspiratory pause between the groups. **Conclusion:** No differences in microcirculatory parameters were found between the two groups.

Keywords: gestational diabetes mellitus; pregnancy, microcirculation.

IMPACT OF CHRONIC KIDNEY DISEASE ON QUALITY OF LIFE, PULMONARY FUNCTION, AND FUNCTIONAL CAPACITY IN A PEDIATRIC NEPHROLOGY REFERENCE CENTER

CAROLINA GUIMARÃES TEIXEIRA DE ANDRADE LIMA

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2013 dec. 09

Introduction: Chronic kidney disease (CKD) is characterized by the slow, progressive, and irreversible loss of kidney function, leading to high rates of cardiovascular morbidity and mortality, hospitalization, and specific issues common in children and teenager, such as growth impairment and severe pulmonary and biopsychosocial alterations. These factors may explain the presence of changes in the quality of life, pulmonary function, and functional capacity of these children. **Objectives:** To evaluate the impact of CKD on quality of life, pulmonary function, and functional capacity in children and teenagers aged 8 to 17 years at a Pediatric Nephrology Reference Center. **Methods:** A cross-sectional observational study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), involving children and teenagers aged 8 to 17 with CKD. Children unable to perform the tests or with chronic pulmonary diseases were excluded. Data was obtained through interviews with the caregivers and children and from medical records. After the interview, a quality-of-life questionnaire (PedsQL™), muscle strength tests, pulmonary function tests, and a 6-minute walk test (6MWT) were applied. Frequency distribution tables for categorical variables were constructed and means and standard deviations were calculated for quantitative variables. The Kolmogorov-Smirnov test was used to check for normality, the student's t-test for comparing means between two groups, and ANOVA for comparing means between two or more groups. Pearson's correlation was used to evaluate correlations. A significant level of 5.0% was considered. **Results:** Forty children and teenager with CKD were evaluated, with an average age of 13 ± 2.6 years, of whom 52.5% were male, 59.5% had school delay, and 85% did not engage in physical activity. The average distance covered in the 6MWT was 396 ± 71.2 meters, and the final PedsQL™ score was 50.9 ± 16.5. Transplanted children had higher quality of life scores compared to those undergoing hemodialysis ($p<0.001$). A significant association between quality of life and sex was observed in both parent and child perceptions, with boys showing better scores. Children who engaged in physical activity had better quality of life (69.22 ± 13.48) compared to sedentary children. Positive correlations were found between distance covered in the 6MWT and variables such as age, height, final PedsQL™ score, forced vital capacity (FVC), and forced expiratory volume in the first second (FEV1). A negative correlation was found between FEV1/FVC and distance covered. **Conclusion:** The studied sample showed a reduction in quality of life and functional capacity, influenced by treatment type, sex, and physical activity level. No influence of respiratory muscle strength on the outcomes studied was found, suggesting that further studies are needed to better understand the impact of chronic kidney disease in this population.

Keywords: Chronic kidney disease; children; pulmonary function; quality of life.

FACIAL RESPONSES TO BASIC TASTES IN NEWBORN INFANTS OF MOTHERS WITH GESTATIONAL DIABETES MELLITUS

ANDREA ZACCHE DE SÁ ABREU E LIMA

Advisor: João Guilherme Bezerra Alves
Defense date: 2013 dec. 17

Introduction: Infants are primarily exposed to taste during fetal life through the swallowing of amniotic fluid in utero. Gestational diabetes mellitus (GDM) may increase glucose levels in amniotic fluid and influence fetal taste development. **Objective:** The aim of this study was to compare the preference for basic tastes between newborns of mothers with and without GDM. **Methods:** Two hundred newborns (100 from mothers with GDM and 100 from mothers without GDM) were studied at the Instituto de Medicina Integral Prof. Fernando Figueira – IMIP (Recife, Brazil). Basic tastes were tested using glucose (25%), sodium chloride (25%), citric acid (1.4%), and quinine hydrochloride (25%). The facial responses of all newborns were filmed, and the facial reactions were coded according to the Baby Facial Action Coding System (FACS Baby). The frequency of action units was compared between newborns of mothers with and without GDM. **Results:** The facial responses to the salty taste were more pleasant in newborns of mothers with GDM compared to controls (34 (61.8%) vs. 21 (38.2%), $p = 0.040$). No differences were found in facial responses to sweet, sour, or bitter tastes between the groups. Facial expressions to basic tastes showed no differences between newborns of mothers with GDM with or without metabolic control. **Conclusions:** Newborns of mothers with GDM appear to have more pleasant facial responses to salt. Further studies are needed to confirm these findings during the neonatal period and determine whether they persist throughout life.

Keywords: gestational diabetes mellitus; facial expression; taste perception.

DIAGNOSIS OF PEDIATRIC NON-HODGKIN'S LYMPHOMA WITH ABDOMINAL INVOLVEMENT THROUGH SURGICAL AND NON-SURGICAL PROCEDURES

ARTHUR ALMEIDA AGUIAR

Advisor: João Guilherme Bezerra Alves
Defense date: 2013dec. 23

Introduction: The abdomen is one of the primary sites for pediatric non-Hodgkin's lymphoma (NHL). However, there is still no consensus on the best method for obtaining biological material for its diagnosis in this location. **Objectives:** To describe the success rate and adverse events of diagnostic procedures in children and teenagers with abdominal non-Hodgkin's lymphoma (NHL). **Methods:** This was an observational, retrospective, cross-sectional study. The study population consisted of children with abdominal NHL diagnosed between September 1994 and December 2012. The sample included 100 patients who underwent 120 diagnostic procedures, divided into urgent surgical procedures (22), elective surgical procedures (37), and non-surgical procedures (61). **Results:** The most commonly used diagnostic procedures were laparotomy (45.8%), ultrasound-guided percutaneous biopsy (25.8%), and paracentesis (16.6%). The success rate was 90.9% for urgent surgical procedures, 94.6% for elective surgical procedures, and 76.6% for non-surgical procedures (p = 0.036). The incidence of adverse events associated with the procedure was 95.5% in the urgent surgical group, 83.8% in the elective surgical group, and 11.7% in the non-surgical group (p < 0.001). Multiple comparisons between group pairs showed that the time to initiate full diet and chemotherapy were significantly shorter in patients who underwent non-surgical procedures compared to the other groups. **Conclusion:** Non-surgical procedures are an effective option with low morbidity for diagnosing pediatric NHL with abdominal involvement, generally allowing early initiation of diet and chemotherapy.

Keywords: non-Hodgkin's lymphoma, abdomen, diagnosis, biopsy, children, teenager.

MOTHER-CHILD RELATIONSHIP AND ITS IMPLICATIONS IN OBESITY FROM THE PERSPECTIVE OF PSYCHOANALYTIC THEORY

MARIA DO SOCORRO DA MATA TRINDADE HENRIQUES

Advisor: Ana Rodrigues Falbo
Defense date: 2014 may 30

Introduction: Obesity is related to eating habits but is not limited to them. Food, in addition to being a biological necessity, is also linked to symbolic compensation, which refers, among other aspects, to maternal functions and related processes: alienation and separation; the alternation of presence-absence; the establishment of demand and the installation of paternal function, all intertwined with feeding beyond the satisfaction of basic needs. While the complex and multifactorial etiology of obesity is widely accepted, biological and behavioral aspects tied to lifestyle tend to receive more focus. It is crucial to explore the symbolic content involved in the mother-child-food relationship, extending beyond organic necessity. **Objective:** To analyze the mother-child relationship and its implications for obesity from the perspective of psychoanalytic theory. **Method:** The study involved five mothers of obese teenagers from the Nutrition Outpatient Clinic at the Institute of Integral Medicine Prof. Fernando Figueira (IMIP), selected by convenience. The final sample was determined based on the representativeness and quality of the information collected. Semi-structured individual interviews were conducted, recorded with the mothers' consent, and transcribed verbatim. The analysis focused on a detailed examination of each interview, correlating them with observations made during the interviews and notes from the teenagers' medical records. Cross-sectional analysis of the data was performed, prioritizing the psychological content reflected in the statements, based on the adopted theoretical framework. The study was approved by the Research Ethics Committee in Human Beings at IMIP. **Results:** The findings align with the analytical framework of understanding the study's object, presented through discourse and observations during interviews. The constructed material highlighted challenges in fulfilling the maternal function, particularly the mothers' struggles to address their own deficiencies, which created obstacles to the process of alienation and separation. The mothers' statements revealed difficulties with the alternation of presence-absence, demonstrating limitations in dealing with the illusion of completeness and symbolic castration, preventing their children from discovering their distinct identities. For the mothers, the real object of need (food) was not transformed into an object of gift, reducing the object of demand to one of necessity. Difficulty in positioning the father's role in promoting law (paternal function) was also observed. **Conclusions:** The study emphasizes the importance of considering the complex and multifactorial etiology of obesity, which includes understanding the mother-child relationship and its implications in the child's obesity, offering a broader perspective on the issue.

Keywords: obesity, mother-child relationships, psychoanalysis, qualitative research.

CERVICAL ADENOCARCINOMA: ASSOCIATED FACTORS AND FREQUENCY OF HPV TYPES. A CASE-CONTROL STUDY

TELMA MARIA LUBAMBO COSTA

Advisor: Alex Sandro Rolland de Souza
Defense date: 2014aug. 26

Introduction: Cervical adenocarcinoma is a type of malignant tumor originating from epithelial cells with a glandular growth pattern. This type is significantly less common than squamous cell carcinoma, but it presents more diagnostic challenges, with a higher rate of false-negative cytology results and poorer prognosis due to treatment response failure. Identifying factors associated with cervical adenocarcinoma in our population will contribute to the development of appropriate preventive strategies.**Objectives**: To determine the factors associated with cervical adenocarcinoma and to perform Human Papillomavirus (HPV) genotyping.**Methods**: A case-control study was conducted at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP) in Recife, Pernambuco, Brazil, from February 2001 to February 2014. Sixty-four patients with a histopathological diagnosis of cervical adenocarcinoma (case) and 260 women without the disease (control) were included. The control group consisted of women with normal cytology and colposcopy results, using data from a database from a previously conducted study at IMIP. For the cases, information was collected from medical records, and HPV DNA was extracted from biopsy blocks and surgical specimens for genotyping. Variables studied included biological, sociodemographic, reproductive characteristics, lifestyle habits, immune status, and HPV type. Statistical analysis was conducted using the Epi-Info statistical software version 7.1.4. Pearson's chi-square association and Fisher's exact tests were applied for categorical variables. The Odds Ratio (OR) was calculated as a measure of risk, along with its 95% confidence interval (CI). A multivariate logistic regression analysis was conducted to determine risk factors that remained associated with cervical adenocarcinoma, with a significance level of 5% adopted for all steps.**Ethical Aspects**: This study was submitted to and approved by the Research Ethics Committee (CEP) of IMIP and began after its approval.**Results**: Among the patients with adenocarcinoma, 98.4% (n=63) had a diagnosis of invasive adenocarcinoma. It was observed that adenocarcinoma was associated with age ≥40 years (OR 2.95; 95% CI 1.13–7.71), education ≤3 years (OR 2.34; 95% CI 1.02–5.37), HPV presence (OR 6.75; 95% CI 2.41–18.91), menopausal status (OR 4.76; 95% CI 1.70–13.31), black race (OR 6.71; 95% CI 2.11–21.32), and never having undergone a Pap smear test (OR 9.92; 95% CI 2.41–40.81). Among the HPV types found, HPV 18 showed a strong association with cervical adenocarcinoma (OR 99.1; 95% CI 12.96–757.78) but only when associated with one or more HPV types. Similarly, HPV 31 was associated with adenocarcinoma only when other HPV types were also present in the same patient (OR 4.76; 95% CI 2.62–8.66). However, HPV 16, whether isolated (OR 0.71; 95% CI 0.36–1.39; p=0.32) or associated with one or more HPV types (OR 1.62; 95% CI 0.93–

2.84; p=0.09), showed no association with adenocarcinoma. Regarding HPV 33, a significant association was observed, both isolated (p=0.002) and when associated with one or more HPV types (OR 22.1; 95% CI 8.97–54.45).**Conclusions**: Factors associated with adenocarcinoma were age ≥40 years, education ≤3 years, black race, menopausal status, never having undergone a Pap smear test, and HPV presence when studied without identifying the specific type. HPV 18 was associated with adenocarcinoma only when other HPV types were also present in the same patient. In contrast, HPV 16 was not associated with adenocarcinoma, either isolated or in association with other types, suggesting that not only HPV types are involved in the genesis of cervical adenocarcinoma but also that certain associations between HPV types may present an even greater risk factor.

Keywords: cervical adenocarcinoma; risk factors; HPV; genotyping.

ASSESSMENT OF MICROVASCULAR FUNCTION IN PREGNANT WOMEN WITH SEVERE PREECLAMPSIA ATTENDED AT IMIP: A CROSS-SECTIONAL STUDY

KARINE FERREIRA AGRA

Advisor: João Guilherme Bezerra Alves
Defense date: 2014 mar. 26

Background: Preeclampsia is a hypertensive syndrome associated with pregnancy, diagnosed based on the presence of hypertension and proteinuria. It can be classified as mild or severe according to the clinical signs presented. This condition represents a significant public health concern, as it is one of the leading causes of maternal and perinatal morbidity and mortality. Although its etiology is not completely understood, pre-eclampsia is known to be related to circulatory factors and endothelial damage, which suggests a link to microvascular function. Thus, evaluating the microvascular function of pregnant women with preeclampsia could provide valuable insights into the disease's impact on these structures. **Objective:** To assess the microvascular function of pregnant women with and without severe preeclampsia. **Method:** This observational, cross-sectional study with an analytical component was conducted at the Women's Health Center (CAM) of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). Data was collected between October 2012 and July 2013. Participants included pregnant women at ≥26 weeks of gestation, diagnosed with severe preeclampsia, and carrying a single fetus. For the comparison group, we included healthy pregnant women with similar characteristics. Exclusion criteria for both groups included chronic hypertension, gestational diabetes, or any associated maternal illness. Sample size was determined using PASS software following a pilot study, comparing means of the MF/RF variable with a student's t-test, considering an 80% power and a significance level of 0.05. Participants were evaluated through anthropometry, and biological and obstetric data were collected using a standardized form. Microvascular function assessment was conducted using laser-Doppler flowmetry, which measured microvascular blood flow at rest, and in response to arterial occlusion and inspiratory apnea. Statistical analysis was performed with Stata 12.1, adopting a significance level of 0.05. Data normality was evaluated using the Shapiro–Wilk test. Descriptive variables were analyzed with the student's t-test, and microvascular variables were analyzed using the Mann-Whitney test. Potential confounding factors were assessed through Spearman's correlation coefficient. The study complied with ethical principles and was approved by the IMIP Research Ethics Committee under CAAE:05617512.4.0000.5201. **Results:** A total of 72 pregnant women were evaluated, including 36 in the comparison group (C) and 36 with severe preeclampsia (PEG). The groups were homogeneous in terms of age and gestational age. Microvascular blood flow assessment showed significant differences between the study groups both at rest [C=8.1PU (4.6); PEG=12.0PU (7.6); p<0.001] and in response to inspiratory apnea [C=62.4% (27.8);

PEG=33.0% (50.6), p=0.008]. There was no significant difference between the groups regarding microvascular response to occlusion, as indicated by the maximum flow. Stratified analysis revealed that skin temperature during the exam, BMI, and medication use by the participants did not act as confounders for the associations between microvascular variables. **Conclusion:** The results of this study suggest that there is a difference in the microvascular function of pregnant women with severe preeclampsia compared to healthy pregnant women.

Keywords: pre-eclampsia; microvascular function; laser-doppler flowmetry.

CORRELATION BETWEEN SUBCUTANEOUS AND VISCERAL FAT THICKNESS AND THE ANTHROPOMETRIC AND METABOLIC PROFILE OF FULL-TERM NEWBORNS

ANNA PAULA ACA FERREIRA

Advisor: João Guilherme Bezerra Alves
Defense date: 2014 dec. 02

Background: The distribution of abdominal fat in newborns (NB) is not well understood and may be associated with chronic diseases later in life. Additionally, evidence suggests that adverse conditions during intrauterine life encourage visceral fat accumulation as an energy preservation mechanism for survival. It is known that increased visceral adipose tissue is associated with insulin resistance and dyslipidemia in both adults and children; however, this correlation has not been evaluated in newborns.**Objective:** To correlate abdominal fat thickness (subcutaneous and visceral) with weight, length, abdominal circumference, and concentrations of lipoproteins, glucose, and insulin in full-term newborns.**Method:** This was a cross-sectional, descriptive study with an analytical component, conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from November 2012 to August 2013. Ninety-nine full-term newborns between 7 and 28 days of life with an Apgar score ≥ 7 at the fifth minute were studied. Newborns with congenital malformations and those born to mothers with diabetes, preeclampsia, or severe postpartum complications were excluded. Subcutaneous and visceral fat thicknesses were measured via abdominal ultrasound. Anthropometric measurements, including weight, length, and abdominal circumference, were taken using a Welmy digital scale for infants up to 15 kg, a horizontal wooden infantometer, and a measuring tape, respectively. Biochemical analyses were conducted with the following methods: hexokinase/g-6-pdh for glucose, electrochemiluminescence for insulin, enzymatic automation chod-pod for total cholesterol, enzymatic colorimetric automation for HDL and LDL cholesterol, and enzymatic gpo-pod for triglycerides.Data analysis was conducted using Stata 12.1, with Pearson correlation coefficients calculated between visceral and subcutaneous fat thickness and the newborn's weight, length, abdominal circumference, and serum levels of cholesterol and fractions (HDL, LDL, and VLDL), triglycerides, glucose, and insulin. A significant level of 5% was adopted, and all p-values were two-tailed. **Results:** No correlation was found between subcutaneous and visceral fat thickness with total cholesterol, HDL cholesterol, LDL cholesterol, VLDL cholesterol, glucose, and insulin levels. However, a positive correlation was observed between subcutaneous fat thickness and weight (r = 0.31; p < 0.001), as well as between visceral fat thickness and abdominal circumference (r = 0.26; p = 0.009). Visceral fat thickness also showed a positive correlation with abdominal circumference (r = 0.23; p = 0.010). **Conclusions:** No correlation was found between the thickness of visceral and subcutaneous fat with lipoprotein profile, glucose, and insulin levels in newborns. Regarding the anthropometric profile, findings indicate that subcutaneous fat is correlated with weight and abdominal circumference, while visceral fat thickness is correlated with abdominal circumference. Further studies with different designs are needed to confirm these findings and assess potential lifelong impacts.

Keywords: visceral adipose tissue; subcutaneous; lipid profile; glucose; insulin.

EFFECTIVENESS OF ORAL VS. SUBLINGUAL LOADING DOSE OF NIFEDIPINE FOR PRETERM LABOR INHIBITION: A RANDOMIZED CLINICAL TRIAL

CARLOS CAMPOS LEAL JUNIOR

Advisor: Alex Sandro Rolland de Souza
Defense date: 2014aug. 26

Introduction: Preterm birth is a major cause of perinatal morbidity and mortality, with an incidence of 9% in high-income countries and up to 12% in middle-income countries. Tocolytic drugs, particularly nifedipine, are used therapeutically to address this problem. However, the optimal dose, administration schedule, and route remain unclear.**Objective:** To determine the effectiveness of an oral vs. sublingual loading dose of nifedipine for inhibiting preterm labor.**Method:** This open label randomized clinical trial was conducted from March 2013 to May 2014 in the high-risk pregnancy and triage departments at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) and Instituto de Saúde Elpídio de Almeida (ISEA). Eighty women in preterm labor were randomly assigned to two groups: oral or sublingual nifedipine, with a 20 mg loading dose, repeated every 30 minutes if needed, to a maximum dose of 60 mg. After enrollment, a numbered envelope was opened to assign the route of the nifedipine administration for the loading dose. Statistical analysis was performed using Epi-Info version 7.1.4. Categorical variables were compared using contingency tables and the chi-square or Fisher's exact test, as appropriate. Continuous variables with normal distribution were analyzed with the student's t-test, while non-normally distributed variables were assessed using the non-parametric Mann-Whitney test. All p-values were two-tailed, with a significant level of 5%. Risk ratios (RR) with 95% confidence intervals were calculated. **Results:** Time to achieve tocolysis was significantly shorter with sublingual nifedipine (160 min vs. 340 min; p=0.0003). Preterm labor was inhibited within 90 minutes more frequently with sublingual nifedipine (oral: 2.5% vs. sublingual: 20.0%; RR 8.0; 95% CI 1.05 – 61.0; p=0.01). However, no significant difference was observed between the groups at 12 and 48 hours. Similarly, the rate of preterm birth within 48 hours was comparable between groups. **Conclusion:** The sublingual loading dose of nifedipine proved more effective for rapid tocolysis in patients with preterm labor compared to the oral route.

Keywords: preterm birth; preterm labor; nifedipine; tocolysis.

TRANSCUTANEOUS NERVE STIMULATION FOR THE TREATMENT OF URGENCY OR URGE INCONTINENCE IN CHILDREN AND TEENAGER: PHASE II CLINICAL TRIAL

AMANDA CAROLINA ALMEIDA DE ALCANTARA

Advisor: Maria Julia Goncalves de Mello
Defense date: 2014 may 02

Introduction: Lower Urinary Tract Dysfunction (LUTD) is the term used to describe alterations in the lower urinary tract in children without neurological abnormalities. In children, when there is a delay in the acquisition of cortical inhibition, there is an increase in detrusor contractions during the filling phase, which can trigger symptoms such as urgency, urge incontinence, and nocturnal enuresis. Initial treatment may include behavioral therapy, medication, and transcutaneous electrical nerve stimulation (TENS). The advantage of TENS is that it is a non-invasive method, though the number and frequency of sessions have yet to be fully established. **Objective:** To determine the effectiveness of 20 sessions of paraspinal transcutaneous electrical nerve stimulation (TENS), with a frequency twice a week, in treating urgency or urge incontinence in children and teenagers. **Methods:** Phase II clinical trial involving children and teenagers aged 5 to 14 years with a diagnosis of urgency or urge incontinence. Children with anatomical bladder abnormalities caused by posterior urethral valve, ureterocele, or neurogenic bladder were excluded. In addition to socio-demographic information, the caregivers of the children and/or the children themselves were asked to complete a questionnaire regarding the patient's clinical history: onset and frequency of urgency and urge incontinence symptoms, whether symptom onset was associated with a traumatic event (e.g., separation or loss of a family member or caregiver, birth of a sibling), and the presence or absence of constipation. Twenty sessions of transcutaneous electrical nerve stimulation were conducted twice a week using a Dualpex 961® device. To assess the results, a micturition diary and parameters from dynamic lower urinary tract ultrasound were used before and after the 20 sessions. A questionnaire to evaluate urinary loss was completed at each session. Statistical analysis was performed using SPSS 13.0 software, and all tests were applied with 95% confidence. **Results:** The average age of the children was 7.80 ± 2.22 years, with a predominance of females (92%). According to micturition diary records, the comparison of urgency symptoms before treatment (25.4%) and after treatment (16.8%) was statistically significant ($p=0.040$). Dynamic lower urinary tract ultrasound showed detrusor contractions in 62.5% of the children before treatment, and in 43.5% of them after the twentieth session. The pre-micturition bladder volume was adequate in 4.2% of cases compared to 19.0% before and after electrostimulation treatment, though this difference was not statistically significant. Half of the patients showed regression of urinary incontinence after the 12th session. At the end of the treatment, patients who completed all sessions no longer exhibited urinary incontinence for three months. **Conclusions:** Electrostimulation performed twice a week showed effectiveness. However, it is necessary to increase the number of patients to ensure greater reliability of the results obtained.

Keywords: urinary incontinence; urgency urinary incontinence; transcutaneous electrical nerve stimulation.

DETERMINANTS OF PROLONGED MECHANICAL VENTILATION IN CHILDREN UNDERGOING CARDIAC SURGERY FOR CONGENITAL HEART DISEASE

Talline Silva Ribeiro

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2014aug. 26

Objective: To identify factors associated with prolonged mechanical ventilation (PMV) in children undergoing cardiac surgery for congenital heart disease. **Method:** A retrospective cohort study involving children and teenagers, aged one month to 17 years, who received mechanical ventilation (MV) following cardiac surgery in 2012. Participants were admitted to the Pediatric Intensive Care Unit (PICU) at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP) in Recife, Pernambuco, Brazil. Patients with chronic diseases (e.g., immunodeficiency, cystic fibrosis, severe neurological disease, or respiratory failure) were excluded. Data analysis included descriptive statistics followed by Poisson regression (simple and multivariate). **Results:** Of the 125 children who required MV following cardiac surgery for congenital heart disease, 70% were extubated within six hours. The most common diagnoses were Ventricular Septal Defect (22.8%) and Tetralogy of Fallot (19.9%). RACHS-1 categories 1 and 2 were the most frequent (24.4% and 52.8%, respectively). The median age was 52 months (ranging from two months to 17 years), median duration of cardiopulmonary bypass (CPB) was 60 minutes (20 to 205 minutes), and median MV duration was five hours (ranging from 1 to 192 hours). The overall mortality rate was 2.2%. In multivariate analysis, independent risk factors for prolonged MV (> 6 hours) included higher RACHS-1 categories, extended CPB time, and the presence of respiratory complications during MV. Higher PaO2 levels were associated with reduced risk for PMV. **Conclusion:** Extubation within the first six hours of post-cardiac surgery occurred in 70% of cases. Independent risk factors for prolonged MV included higher RACHS-1 categories, prolonged CPB time, and respiratory complications during MV, whereas higher pre-extubation PaO2 levels were protective against PMV. This model may be enhanced with prospective validation and the inclusion of data from additional centers in northeastern Brazil.

Keywords: congenital heart defects; artificial respiration; cardiopulmonary bypass; cardiac surgical procedures.

INFLUENCE OF BREASTFEEDING ON HOSPITALIZATION OF CHILDREN UNDER TWO YEARS OLD IN THE STATE OF PERNAMBUCO, IN 1997 AND 2006

THAYSA THATYANA ARAGÃO GUERRA MOTA

Advisor: Malaquias Batista Filho
Defense date: 2014aug. 28

The current practice of breastfeeding plays a key role in reducing infant morbidity and mortality. However, the impact of breastfeeding on the occurrence of diseases varies across different geographic and socioeconomic contexts and over time. From this perspective, the proposed study addressed the determining role of breastfeeding in the outcome of "hospitalization of children," considering the significant and rapid epidemiological and nutritional changes that have occurred over the past four decades. The study aimed to evaluate the influence of breastfeeding on the incidence of hospitalizations in children under two years old and to identify the most common causes of hospitalization in the State of Pernambuco in the years 1997 and 2006.This was a cross-sectional, descriptive study with an analytical component, using data from the II and III State Health and Nutrition Surveys conducted in Pernambuco in the specified years. Bivariate associations were analyzed using Pearson's chi-square test, Fisher's exact test was used to compare hospitalization risk between the two years, and multivariate analysis with Poisson regression was employed to identify potential factors associated with hospitalization. No statistically significant difference in hospitalization rates was observed between the two years studied. Improvements in living and health conditions were noted, along with considerable advances in breastfeeding practices and frequency. A lower risk of hospitalization was observed in children exclusively breastfed for the first four months of life, while a potentially higher risk was noted in those who were never breastfed. In the final model, only the weight/length index, represented by low weight, was associated with hospitalization in children under two years old.

Keywords: hospitalization; breastfeeding; child health; epidemiology.

INTIMATE PARTNER VIOLENCE AMONG WOMEN IN A HEALTH DISTRICT OF RECIFE, PERNAMBUCO: PREVALENCE AND CONTRIBUTING FACTORS IN A CROSS-SECTIONAL ANALYSIS

ERIKA NEVES DE BARROS

Advisor: Katia Virginia de Oliveira Feliciano
Defense date: 2014sep. 30

Context: Intimate Partner Violence (IPV) refers to any behavior within an intimate relationship that causes or may cause physical, emotional, or sexual harm to any member of the relationship, including physical aggression, sexual violence, emotional abuse, and controlling or domineering behavior. Although there are no official statistics revealing the full extent of the problem, data from the World Health Organization (WHO) point to a high incidence of IPV. **Objectives:** To estimate the prevalence of intimate partner violence among women in a health district in Recife/Pernambuco. **Method:** A descriptive, observational, cross-sectional study was conducted using a non-probabilistic sample of 245 women, aged 15 to 49 years, residing in a community within a health district from February to April 2014. A questionnaire containing sociodemographic variables, along with the WHO VAW STUDY (WVS) designed to investigate intimate partner violence, and the Self Report Questionnaire (SRQ-20) for screening symptoms of Common Mental Disorders (CMD), both validated for Brazil by the WHO, were used. The study was approved by the IMIP Research Ethics Committee, and all adult participants signed the Informed Consent Form (ICF). The teenager received parental consent through a signed appropriate ICF. **Results:** The lifetime prevalence of IPV was 33.3%. The frequencies of the types of violence experienced were emotional violence 52.7%, physical violence 46.1%, and sexual violence 13.6%. Regarding individual, relational, and behavioral aspects, most women reporting IPV were young, self-identified as mixed-race or Black, had eight or more years of education, were not living with a partner at the time of data collection, had no children, were unemployed, did not practice any religion, and had used drugs. The SRQ-20 results identified a high frequency of CMD symptoms across all four symptom groups studied: depressive-anxious mood 78.6%, somatic symptoms 77.8%, decreased vital energy 73.7%, and depressive thoughts 51.0%. Bivariate analysis showed an association between having a partner ($p = 0.001$) and drug use ($p < 0.001$). In multivariate logistic regression analysis, variables strongly associated with IPV were having sex out of fear (OR = 5.58), depressive-anxious mood (OR = 2.69), and drug use (OR = 2.57). **Conclusion:** The study identified the high prevalence of IPV in this community, especially emotional violence, which was associated with screening for signs of CMD. This finding highlights the urgent need for preventive care and overall health support for this population.

Keywords: violence against women; domestic violence; mental disorders; cross-sectional studies.

ELECTROMYOGRAPHIC ANALYSIS OF THE BICEPS BRACHII AND HAMSTRING MUSCLES IN PRETERM NEWBORNS SUBJECTED TO KANGAROO POSITION IN THE PRONE AND LATERAL DECUBITUS: A RANDOMIZED CLINICAL TRIAL

ANA STELA SALVINO DE BRITO

Advisor: José Eulálio Cabral Filho
Defense date: 07/28/2015

Background: Among neonatal intervention programs, the Kangaroo Method (KM) is a health care model for preterm newborns (PTNB) that provides significant clinical benefits. The hallmark of this method is the kangaroo position, in which the PTNB is held skin-to-skin with their mother or caregiver. However, there are few studies on the impact of the kangaroo position on the electromyographic activity of newborns. **Objective:** To test the hypothesis of a difference in electromyographic activity between preterm newborns subjected to the kangaroo position in the prone or lateral decubitus positions. **Methods:** A randomized clinical trial was conducted from January 2014 to March 2015 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), Brazil. PTNBs recruited from the Intermediate Neonatal Care Unit (UCINCa) at IMIP were randomly assigned and maintained in the kangaroo position (8 to 10 hours per day) until hospital discharge, in two groups: prone position (PPG, n=29) or lateral position (LPG, n=30). Surface Electromyography (EMG) recorded the myoelectric activity of the biceps brachii and hamstring muscles at four points: baseline (immediately before positioning), one week, at hospital discharge, and at term-equivalent age (TEA). The EMG signal was converted to Root Mean Square (RMS) (microvolts) and normalized (%). Statistical analyses were conducted after verifying normality and homogeneity of variances. Based on these criteria, comparisons within each group were performed using repeated measures ANOVA for nonparametric characteristics (Friedman Test). When significant, multiple post hoc comparisons were conducted using Dunn's Test. Comparisons between the PPG and LPG groups were made using Student's T-test or Mann-Whitney U Test, as appropriate. **Results:** Comparing LPG with PPG at each recording time, the results were as follows: for the biceps brachii muscle, RMS values were higher in LPG than in PPG at one week (p<0.001), at hospital discharge (p<0.001), and at TEA (p<0.001). For the hamstring muscles, RMS values were higher in LPG than in PPG at hospital discharge (p=0.01) and at TEA (p<0.001). **Conclusions:** In preterm newborns, the kangaroo position in lateral decubitus induces higher electromyographic activity and may provide a more physiologically supportive base for posture than the prone decubitus.

Keywords: Kangaroo Method; premature infant; electromyography; muscle tone.

ELECTROMYOGRAPHIC ACTIVITY AND GLOBAL MOTOR PERFORMANCE OF PRETERM NEWBORNS SUBJECTED TO KANGAROO POSITION: A FOLLOW-UP STUDY

CAMILA FERREIRA GOMES LOUREIRO

Advisor: José Eulálio Cabral Filho
Defense date: 2015aug. 26

Introduction: The Kangaroo Method is a humanized care approach for preterm and low-birth-weight newborns with clinically proven benefits. The Kangaroo Position, the method's main feature, involves skin-to-skin contact with the newborn placed chest-to-chest with the mother in a flexed posture, providing sensory-motor stimuli via the tactile, proprioceptive, and vestibular systems that simulate the intrauterine environment. **Objective:** To evaluate the electromyographic activity of the biceps brachii and hamstring muscles, as well as the global motor performance of preterm newborns subjected to the kangaroo position. **Methods:** A follow-up study was conducted from January to September 2014 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Recife, Brazil. The sample included 33 preterm newborns (PTNB Group) and 21 full-term newborns (FTNB Group). Preterm infants with gestational ages of 32–36 weeks and corrected gestational ages of 34–36 weeks at the start of assessments were included. Surface Electromyography (EMG) recorded the electrical activity of the biceps and hamstring muscles, followed by assessment with the Test of Infant Motor Performance (TIMP). For the PTNB group, EMG and TIMP measurements were taken at three points: baseline (immediately before initiation of the Kangaroo Position), hospital discharge, and term-equivalent age (TEA). Preterm newborns were kept in the kangaroo position for 8–10 hours daily. For the FTNB group, a single EMG and TIMP evaluation was conducted 48–72 hours after birth. Electromyographic activity was analyzed using Root Mean Square (RMS) amplitude values. Repeated measures ANOVA were used to assess differences over time within each group, and Dunn's post hoc test was employed for multiple comparisons. Spearman's correlation was performed to examine associations between EMG and TIMP. **Results:** ANOVA indicated significant differences between time points for both the biceps and hamstring muscles ($p<0.001$). RMS values were significantly higher at discharge and at TEA compared to baseline, for both muscle groups. Comparison of PTNB at TEA with FTNB showed no statistical difference for either muscle group. TIMP values also revealed a significant difference ($p<0.001$), with multiple comparisons showing an increase in R-Score from baseline to discharge and from discharge to TEA. The R-Score was higher in the PTNB group subjected to the Kangaroo Position at TEA compared to the FTNB group. No significant correlation was found between RMS and TIMP R-Score. **Conclusion:** The Kangaroo Position enhances electromyographic activity and motor performance in preterm newborns.

Keywords: Kangaroo Method; muscle tone; child development; preterm

FUNCTIONAL CAPACITY, INDEPENDENCE LEVEL, AND RESPIRATORY MUSCLE STRENGTH ASSESSMENT IN PATIENTS WITH MUCOPOLYSACCHARIDOSIS TYPE VI AT A BRAZILIAN INBORN ERRORS OF METABOLISM CENTER

BARBARA BERNARDO RINALDO DA SILVA FIGUEIREDO

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2015 May 20

Introduction: Mucopolysaccharidoses (MPS) are rare hereditary diseases caused by the deficiency of lysosomal enzymes responsible for glycosaminoglycan (GAG) degradation. The progressive accumulation of GAGs in tissues leads to functional and structural disorders. Among the different types, MPS type VI (Maroteaux-Lamy Syndrome) is one of the rarest globally. However, in Brazil, it is one of the most frequently diagnosed types, with an estimated incidence of 0.083 per 100,000 inhabitants, particularly high in the northeast region. All MPS types involve multiple systems, mainly affecting the musculoskeletal and cardiopulmonary systems. Key assessment tools for evaluating functional capacity, independence level, and respiratory muscle strength include the 6-Minute Walk Test (6MWT), manovacuometry, and functional independence questionnaires, such as the Pediatric Evaluation of Disability Inventory (PEDI) and the Functional Independence Measure (FIM). **Objectives:** To assess functional independence, functional capacity, and respiratory muscle strength in patients with MPS type VI at an Inborn Errors of Metabolism Center in Brazil. **Method:** This cross-sectional study evaluated functional independence using the Pediatric Evaluation of Disability Inventory (PEDI) or the Functional Independence Measure (FIM), depending on the patient's age. The study also performed 6-Minute Walk Tests and respiratory muscle strength tests. Relationships between muscle strength and distance covered in the 6MWT (6MWD) were analyzed using simple linear regression models. Inferential analysis included a t-test to compare mean differences between groups: G1 (children) and G2 (teenager and adults). Simple linear regression models were adjusted to examine relationships between muscle strength and 6MWD, considering the 6MWD as the response variable, with a significance level of 0.05. **Results:** Of the 24 MPS type VI patients, 12 assessed with the PEDI (33.3%) showed delays in self-care and mobility areas. In the social function domain, only one patient (8.3%) was considered delayed. Among the 12 assessed with the FIM, 58.3% showed modified dependency (requiring assistance with up to 25% of tasks), and 41.7% showed modified independence. The average 6MWD in G1 was 263m (n=7), and in G2, it was 336m (n=6), with a significant reduction relative to predicted values. Muscle strength was below predicted levels in both groups, except for inspiratory strength in children. **Conclusion:** The patients analyzed demonstrated reduced functional capacity and respiratory muscle strength, with one-third showing delayed functional independence.

Keywords: physical therapy; mucopolysaccharidosis VI; exercise tolerance; respiratory muscles; assessment

ELECTROMYOGRAPHIC ASSESSMENT OF THE STERNOCLEIDOMASTOID MUSCLE IN PRETERM NEWBORNS UNDERGOING KANGAROO POSITION: A FOLLOW-UP STUDY

DANIELA DE LUCENA MONTEIRO

Advisor: José Eulálio Cabral Filho
Defense date: 2015 sep. 14

Background: The Kangaroo Position (KP) aims to keep newborns (NB) in skin-to-skin contact with the chest of the mother or caregiver, promoting significant physiological effects for the infant. **Objective:** To evaluate the electromyographic activity of the sternocleidomastoid (SCM) muscle in preterm newborns (PTNB) subjected to the Kangaroo Position. **Method:** This follow-up study involved 31 PTNBs subjected to the Kangaroo Position (8-12 hours/day) and 21 full-term newborns (FTNBs) not subjected to KP. Electromyographic recordings were performed at four time points: at admission, after one week, at hospital discharge, and at Term-Equivalent Age (TEA). The recorded electromyographic signals were converted to Root Mean Square (RMS) values and normalized for analysis. Repeated measures ANOVA and Tukey's test were used for comparisons. Pearson's correlation was employed to determine the relationship between gestational age and RMS prior to KP exposure. Statistical analysis was conducted using Sigma-Stat version 3.5. **Results:** An increase in RMS (μV) was observed after one week ($p < 0.001$), and this increase persisted until TEA. No correlation was found between gestational age and RMS prior to KP. **Conclusions:** The increase in SCM activity in PTNBs subjected to the Kangaroo Position may aid or enhance cervical control in PTNBs.

Keywords: Kangaroo Mother Care; muscle tone; electromyography; sternocleidomastoid

KNOWLEDGE, ATTITUDE, AND PRACTICE OF BRAZILIAN OBSTETRICIANS REGARDING EPISIOTOMY

CAROLINA MARIA PIRES CUNHA

Advisor: Melania Maria Ramos de Amorim
Defense date: 08/24/2015

Introduction: Episiotomy is a surgical procedure used in obstetrics to widen the vaginal opening by making an incision in the perineum at the end of the second stage of labor. Although recent trends indicate a global reduction in episiotomy rates, these rates vary significantly by region. Currently, Brazil reports a 54% episiotomy rate. Thus, it is essential to investigate the knowledge, attitude, and practice of Brazilian obstetricians regarding this procedure. **Objectives:** To determine the level of knowledge, attitude, and practice of Brazilian obstetricians regarding episiotomy, and to identify factors associated with adequate knowledge, attitude, and practice. **Methods:** This cross-sectional Knowledge, Attitude, and Practice (KAP) survey included obstetricians residing in Brazil and affiliated with the Brazilian Federation of Gynecology and Obstetrics (FEBRASGO). All members were invited to participate via email, and those who agreed completed an electronic questionnaire about episiotomy. Professionals not practicing obstetrics were excluded. Data analysis was conducted using Epi Info 7.1.5, assessing participant characteristics and the adequacy of knowledge, attitude, and practice. Ethical approval was granted by the IMIP Research Ethics Committee, with CAAE number 23410613.9.0000.5201. **Results:** A total of 1,163 responses were obtained, with 50 physicians excluding for not practicing obstetrics. Among the respondents, 44.5% had adequate knowledge, 10.9% had an adequate attitude, and 26.8% reported adequate practice. Multivariate analysis identified factors associated with adequate knowledge, such as age under 40 years (OR=2.0), teaching activities (OR=1.6), and working in public healthcare (OR=1.5). Factors associated with adequate attitude included adequate knowledge (OR=3.0), adequate attitude (RP=5.0), age under 40 (OR=2.0), teaching activities (OR=1.6), and female gender (OR=1.0). Adequate practice remained associated with adequate knowledge (OR=3.1), adequate attitude (OR=5.0), age under 40 years (OR=1.9), working in the capital city (OR=1.5), teaching activities (OR=1.5), and public healthcare (OR=1.6). **Conclusions:** While factors such as professional experience, teaching activities, attending conferences, and using databases may improve knowledge, attitude, and practice, reported episiotomy rates remain above ideal levels. Better knowledge was observed compared to attitude and practice, suggesting that although improving knowledge is crucial, it alone is insufficient to change episiotomy practices in Brazil.

Keywords: episiotomy; epidemiological survey; childbirth; perineum.

STAGING OF LOCALLY ADVANCED CERVICAL CANCER USING POSITRON EMISSION TOMOGRAPHY AND COMPUTED TOMOGRAPHY: A CROSS-SECTIONAL STUDY

TIEN MAN CABRAL CHANG

Advisor: Melania Maria Ramos de Amorim
Defense date: 2015aug. 31

Introduction: Cervical cancer is the third most common type of cancer among Brazilian women and the second most common in the Northeast region, which is less developed compared to the South/Southeast. Cervical cancer is staged through physical examination according to the guidelines of the International Federation of Gynecology and Obstetrics (FIGO), which is not precise enough to identify nodal involvement. FDG PET/CT is increasingly used in developed countries to diagnose nodal involvement and assist in treatment planning. **Objective:** To compare clinical staging of cervical carcinoma with findings from Positron Emission Tomography/Computed Tomography (PET/CT) using [18F]-fluoro-2-deoxy-D-glucose (FDG). **Methods:** A cross-sectional study was conducted at a reference hospital in the Northeast of Brazil between March 2013 and August 2015. Patients aged 18-70 years with a recent diagnosis of squamous cell carcinoma of the cervix, FIGO stages Ib2-IVa, and an Eastern Cooperative Oncology Group (ECOG) performance status of 0-2 were included. Patients with other histological types of cervical cancer, pregnant or lactating women, recurrent cervical cancer, synchronous neoplasms, previous chemotherapy and/or radiotherapy, clinical complications before entry, or those who opted for treatment at another institution were excluded. All patients underwent FDG PET/CT. Clinical staging and FDG PET/CT modified staging were compared, and the Kappa coefficient was calculated. Over-staging and under-staging rates were calculated with a 95% confidence interval. A 5% significance level was adopted. The study was approved by the Ethics and Research Committee of the institution, and all patients provided informed consent. **Results:** Fifty-one patients with locally advanced cervical cancer were included. A low concordance was found between FIGO and PET/CT staging (Kappa = 0.06). There were 40 cases of discordance between clinical staging and FDG PET/CT. Thirty-eight cases were over-staged (95%) and two were under-staged (5%). Of those over-staged, 15 (39.4%) were classified as stage IVb – distant metastases. **Conclusion:** This study demonstrates that the use of FDG PET/CT enhances the accuracy of staging in patients with locally advanced cervical cancer by identifying metastatic lymph nodes.

Keywords: uterine neoplasms; positron emission tomography/computed tomography, lymph nodes; cancer staging.

RISK FACTORS FOR BLOODSTREAM INFECTIONS IN PEDIATRIC ONCOLOGY PATIENTS WITH TOTALLY IMPLANTABLE VENOUS CATHETERS: A COHORT STUDY

MICHELLE RIBEIRO VIANA TAVEIRA

Advisor: Maria Julia Goncalves de Mello
Defense date: 2015 dec. 22

Introduction: Totally implantable venous catheters (CVC-TI) are long-term venous access devices used for approximately 30 years to improve the quality of life for patients undergoing treatment for oncological diseases, particularly in pediatric cancer patients. These catheters enable the safe and comfortable administration of chemotherapy and other fluids. Although designed to reduce infection rates associated with venous catheters, infections remain a common complication in pediatric patients, leading to prolonged hospitalizations, catheter removal, and increased morbidity, mortality, and costs. **Objective:** To determine the incidence and risk factors for primary bloodstream infection (PBSI) in pediatric oncology patients with CVC-TI. **Methods:** This was a non-concurrent cohort study conducted at the Institute of Integral Medicine Prof. Fernando Figueira (IMIP) involving patients under 18 years of age who required CVC-TI placement between January 2010 and June 2012 during their oncological treatment. Patients who had previously used CVC-TI were excluded, and those diagnosed with PBSI (negative blood cultures) were also excluded from analysis. Biological and clinical variables, sociodemographic characteristics, and data related to the CVC-TI insertion were analyzed for their possible association with the outcome, the first episode of PBSI. Accumulated incidence and incidence density were calculated for the outcome studied. The main microorganisms isolated, the indication for catheter removal, and the patient's progression during the infectious episode were described. Bivariate analysis, relative risk calculation, and Poisson regression were performed to identify factors associated with PBSI. The Kaplan-Meier survival curve was used to calculate the probability of not developing bloodstream infection over time. The significance level of $p < 0.05$ was considered statistically significant. **Results:** Of the 188 patients studied, 94 (50%) were diagnosed with PBSI. The patients used CVC-TI for 4 to 778 days, totaling 77,541 catheter-days, with an incidence density of 1.21/1000 catheter-days. Coagulase-negative Staphylococcus was the most isolated microorganism, but Gram-negative bacteria predominated (46.8%), with Klebsiella pneumoniae being the most frequent. The risk factors for PBSI identified in the final model, after controlling for catheter use time, were: chronic malnutrition (Z-score < -2 for height/age index) (RR=1.40, 95% CI: 1.03 – 1.93, p=0.03), leukocyte count below 1000/mm3 on the day of catheter insertion (RR=1.64, 95% CI: 1.22 – 2.20, p<0.01), and insertion of CVC-TI before the initiation of chemotherapy (RR=1.56, 95% CI: 1.21 – 2.02, p<0.01). The median probability of not developing PBSI was 74.5 days of catheter use. **Conclusions:** The associations found in this study suggest that the risk of PBSI in pediatric oncology patients with CVC-TI may be

related to the adverse conditions present at the time of their cancer diagnosis. Unfavorable situations such as malnutrition and signs of bone marrow aplasia may increase this risk. The optimal timing for catheter insertion in pediatric cancer patients should be better evaluated, and since infections occurred primarily within the first 75 days of CVC-TI use, the protocols for catheter use should be reviewed and possibly adjusted.

Keywords: central venous catheter; risk factors; hospital infection; cohort studies; pediatric oncology.

WOMEN'S NEEDS RELATED TO FAMILY PLANNING: A META-SYNTHESIS

EVELYNE NASCIMENTO PEDROSA

Advisor: Katia Virginia de Oliveira Feliciano
Defense date: 2015 dec. 11

Introduction: The development of family planning actions is one of the goals to achieve universal access to reproductive health worldwide by 2015. Despite the increase in the use of contraceptive methods, the occurrence of unmet needs (unwanted pregnancy and unsafe abortion) highlights the importance of expanding the dialogue to ensure that family planning users can make informed decisions in this area. **Objective:** To understand the women's needs related to family planning services. **Method:** This meta-synthesis, based on Noblit and Hare's meta-ethnography, used triangulation of reviewers at each stage to expand and deepen the understanding of the subject. Inclusion criteria for the articles were: (a) investigating the perspective of women aged 18 years or older; (b) original studies using only qualitative methods; (c) published in English, Spanish, and/or Portuguese between January 2000 and December 2014; (d) meeting the quality criteria used in this study. Excluded were studies related to emergency contraception, immediate postpartum, women living with HIV/AIDS, drug users, and individuals with mental illness. A bibliographic search was conducted across six electronic databases, using descriptors such as "family planning," "family planning services," "reproductive health," "reproductive behavior," "women's health services," combined with "perception," "attitude," "qualitative research," and "health services needs and demand." A total of 1,311 articles were identified, with 11 assessed for quality using the Consolidated Criteria for Reporting Qualitative Research (COREQ), from which nine articles were selected for the final synthesis. Concepts were identified through thematic analysis. **Results:** The studies were conducted in Asia, North America, Eurasia, and the Middle East, with most participants being low-income women aged 18-49. The themes relating to women's needs in family planning encompassed various dimensions of access to healthcare services. Financial conditions, gender relations, religion, and informal support networks influence reproductive decisions. The proximity of public health services was considered a facilitator, while gender relations could restrict women's mobility. Organizational limitations in family planning services were frequently mentioned, such as the number of services and health professionals, working hours, demand organization, infrastructure, staff unpreparedness, lack of alternatives, and irregular supply of methods. There was dissatisfaction with healthcare resources, highlighting the gap between service offerings and demand, with public services perceived as more deficient. Health resources considered facilitators for male access were also mentioned, with the gender of the healthcare professional affecting care. The cost of acquiring contraceptive methods led to their suppression or discontinuation. Health insurance availability reduced costs, but no mention was made of transportation

expenses. There was no reference to physical exams or anamnesis, and poor receptivity and discourtesy limited communication. In most studies, women reported not receiving information on contraceptive methods. They wanted to be informed about side effects and the variety of methods available. There was a lack of counseling and dialogical communication, and women desired professional support in negotiating methods with their partners. Some secondary interpretations differed from the women's perceptions, particularly regarding the negative influence of informal networks and educational practices designed to address misconceptions. **Conclusions:** To ensure informed decision-making in family planning, it is essential to create organizational conditions for equitable access and the development of care based on technical excellence and sensitivity to the needs and perspectives of individuals. Healthcare services should also address men's needs and train professionals to mediate gender equity in family planning.

Keywords: family planning; health services need and demands; perception; qualitative research.

OCCURRENCE AND ASSOCIATED FACTORS WITH REPEATED VIOLENCE ACROSS GENERATIONS IN FAMILIES ASSISTED BY REFERENCE CENTERS IN RECIFE, PERNAMBUCO: A CROSS-SECTIONAL STUDY

CAMILA MARTINS VIEIRA

Advisor: Maria de Fátima Costa Caminha
Defense date: 2015 mar. 16

Introduction: Violence is a serious public health problem worldwide, including in the state of Pernambuco, Brazil. A set of factors contributes to the occurrence of violence, which can bring both immediate and future consequences, especially when present in families across generations. **Objective:** To identify the occurrence of repeated violence across generations and its associated factors in families assisted by Reference Centers in Recife, Pernambuco. **Methods:** A cross-sectional study was conducted from October 2013 to February 2014 with a convenience sample of 118 parents whose children, both children and teenager, had experienced violence and were being followed up in two specialized services for such cases: the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) and the Centro de Referência de Atendimento às Crianças e Teenagers Vítimas de Violência Sexual (CERCA). The sampling process and data collection were carried out by the graduate student and her collaborators. Two instruments were used: the sociodemographic and violent characterization form and the Childhood Trauma Questionnaire (QUESI), which investigated physical, emotional, and sexual violence, as well as physical and emotional neglect in the parents' childhood. The data was entered into Excel and analyzed in Stata 12.1. In the descriptive analysis, absolute and relative values of the sample were calculated. To analyze the associated factors with violence in the parents, Poisson regression was performed, estimating crude and adjusted prevalence ratios (PR) with a 95% confidence level. The study was approved by the IMIP Research Ethics Committee in September 2013, protocol number 3766-13. **Results:** Among the parents' characteristics, the majority were female (87.29%), married (50%), between 31 and 40 years old (52.54%), from Recife (51.69%), with education ranging from none to incomplete elementary school (40.68%), and a per capita income lower than one minimum wage (82.20%). The frequency of violence in the parents' childhood was high (76.27% according to both the Form and the QUESI), mainly of the emotional type. Among the children of these parents, most were children (67.80%), female (71.19%), and in a situation of sexual violence (85.22%) by a family member (64.48%). Therefore, there is a highlight on the repetition of violence in childhood in both generations, perpetrated by a family member. A statistically significant association was found between marital status (widowed or separated) and employment status (unemployed, retired, and homemaker) for intergenerational violence. **Conclusions:** The results reaffirm the recurrence of family violence across more than one generation from the bioecological model of human development and the instruments used for this purpose, showing the need to strengthen the network of protection and prevention of violence.

Keywords: violence; children; teenager; adults.

QUALITY OF LIFE OF PATIENTS UNDERGOING BARIATRIC SURGERY AT A TEACHING HOSPITAL IN PERNAMBUCO – BRAZIL

RENATA LOPES DO NASCIMENTO

Advisor: Maria Carolina Martins de Lima
Defense date: 2015 May 15

Introduction: Obesity is defined by the World Health Organization (WHO) as an excess of body fat accumulated in adipose tissue, with implications for health, classified as a Chronic Non-Communicable Disease (CNCD). It represents a serious public health problem in different regions of the world. The treatment of obesity includes conventional approaches: nutritional, pharmacological, psychotherapy, and physical activity programs. However, these approaches show limited success in the long-term treatment of grade III obesity. Bariatric surgery (BS) is a radical method, considered one of the most effective treatments for grade III obesity, aimed at weight reduction and its maintenance. It represents a new perspective on the quality of life for obese individuals. **Objective:** To evaluate the quality of life of patients undergoing bariatric surgery. **Methods:** A descriptive, prospective, cross-sectional study was conducted from March 2008 to March 2013, including 66 patients who underwent Roux-en-Y gastric bypass for obesity and were in outpatient follow-up at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Pernambuco, with a minimum postoperative period of six months. The following variables were studied: body mass index (BMI) before and after surgery, comorbidities before and after surgery, and the BAROS, a quality-of-life scale post-surgery. For statistical analysis, McNemar's Test and Stauart-Maxwell Test were used, with a 5% significance level. The study was approved by the IMIP Research Ethics Committee, under protocol No. 3737-13, CAAE 20297513.8.0000.5201. **Results:** The sample consisted of 66 patients, 61 (92.2%) of whom were women, 28 (42.4%) were married or in a stable union, 24 (36.4%) had incomplete higher education or a completed degree, 65 (98.5%) resided in urban areas, and 39 (59.1%) had a monthly income of up to two minimum wages. The distribution of BMI in the preoperative period revealed that 58 (87.9%) patients had grade III obesity, and after surgery, only eight (12.1%) had grade III obesity, with statistical significance (p<0.001). The most prevalent comorbidities were self-reported anxiety (58; 87.9%), orthopedic disorders (57; 86.4%), and sleep disorders (46; 69.7%), all of which showed significant reduction in the postoperative period. Over 50% of patients reported improved or significantly improved evaluations in physical, social, work, and sexual aspects. Quality of life was reported by all patients (66; 100%) as improved or significantly improved. **Conclusions:** The evaluation of quality of life through the BAROS indicates an improvement in quality of life following bariatric surgery.

Keywords: obesity; bariatric surgery; gastric bypass; weight loss; quality of life.

VALIDATION OF THE FULLPIERS SCORE FOR PROGNOSTIC EVALUATION OF WOMEN WITH SEVERE PRE-ECLAMPSIA: AN ACCURACY STUDY

SILVANA TORRES DE ALMEIDA

Advisor: Isabela Cristina Coutinho de Albuquerque Neiva Coelho
Defense date: 2015aug. 31

Introduction: Hypertensive syndromes represent a common complication of pregnancy, constituting the second leading cause of maternal death worldwide (around 18%) and the first in Brazil (20%). Among the various types of hypertensive syndromes in pregnancy, pre-eclampsia stands out as one of the main diagnoses. The risk of death in these patients increases in the presence of complications, and the definitive treatment for pre-eclampsia is delivery. The application of scoring systems aims to identify women at potential risk for complications associated with pre-eclampsia, thus directing more appropriate care and resources to the patients. **Objective:** To evaluate the accuracy of the fullPIERS score in predicting morbidity/mortality in patients with severe pre-eclampsia in the Northeast of Brazil. **Methods:** A longitudinal, retrospective cohort and accuracy study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from January to December 2014. The study included patients with severe pre-eclampsia and excluded those with chronic hypertension and associated diseases (diabetes, sickle cell anemia, collagen diseases, hematological, pulmonary, and cardiac diseases). The variables analyzed included biological, sociodemographic, obstetric, and clinical characteristics, as well as laboratory exams. The predictor variables were the fullPIERS score, and the outcomes were maternal and perinatal complications. The fullPIERS score was applied upon admission, with the result provided as a percentage indicating the probability of adverse maternal outcomes. A Receiver Operating Characteristic (ROC) curve was constructed, calculating the Area Under the Curve (AUC) with a 95% confidence interval to evaluate the performance of the score, and the optimal cutoff point was selected for the best accuracy. The study was approved by the Research Ethics Committee of the institution under protocol No. 3883-13, CAAE: 20289613.4.0000.5201. **Results:** Of the 325 women included, 55 had one or more complications (16.9%), and no maternal deaths were reported. No significant differences were found between the groups regarding maternal age, race, origin, marital status, education, occupation, number of pregnancies, or parity. However, women with complications had significantly higher systolic and diastolic blood pressure upon admission (p=0.02 and p=0.04, respectively), significantly lower platelet count (149,000/mm3 vs. 221,000/mm3; p<0.001), as well as higher creatinine (0.75 mg% vs. 0.64 mg%; p<0.001) and aspartate aminotransferase (35.1 U/L vs. 23.8 U/L; p<0.001) levels compared to those without complications. Evaluating the ROC curve, the AUC was 0.72 (0.67–0.77; p<0.0001), with the optimal cutoff value being >1.7%. With this value, a sensitivity of 60%, specificity of 65.2%, positive predictive value (PPV) of 25.98%, negative

predictive value (NPV) of 88.9%, positive likelihood ratio (PLR) of 1.72%, and negative likelihood ratio (NLR) of 0.61% were obtained. After multivariable analysis using multiple logistic regression, the only variable that remained significantly associated with maternal complications was a fullPIERS score greater than 1.7% (OR=5.87; 95% CI=3.16–10.89). **Conclusions:** The fullPIERS model is an effective tool, with good accuracy, for predicting complications during the hospitalization of women diagnosed with severe pre-eclampsia.

Keywords: pre-eclampsia; morbidity; pregnancy complications; prognosis.

APPLICATION OF THE MODIFIED EARLY OBSTETRIC WARNING SYSTEM (MEOWS) IN PUERPERAE: A DESCRIPTIVE STUDY

LUCIANA SCHULER DIAS FERNANDES FERREIRA

Advisor: Maria Julia Goncalves de Mello
Defense date: 2016 dec. 22

Introduction: For every woman who dies due to pregnancy-related causes, another 20 to 30 falls into the categories of acute or chronic morbidity, many of whom are left with permanent sequelae. The Modified Early Obstetric Warning System (MEOWS) is a system developed for the general obstetric population with the aim of screening for maternal morbidity and can be used for any patient in the gravid-puerperal cycle. **Objectives:** To evaluate the Modified Early Obstetric Warning System (MEOWS) in puerperae. **Methods:** A descriptive study was conducted with 727 puerperae hospitalized between November 2014 and May 2015. Patients who met near-miss criteria at admission (World Health Organization criteria) and those for whom vital signs were not recorded in the medical records were excluded. Randomly selected patients from both habitual risk and high-risk categories were included, with the reasons for hospitalization documented in high-risk cases. The vital signs (systolic and diastolic blood pressure, heart rate, respiratory rate, temperature) and lochia noted by the nursing team in each puerpera's medical chart were recorded on the MEOWS physiological parameters chart. In this chart, moderate abnormalities in vital signs were flagged with yellow alerts, while severe abnormalities were flagged with red alerts. The presence of at least one red alert or two yellow alerts was defined as a trigger event, indicating the need for medical evaluation. Data analysis was performed using the public-domain program Epi Info 7.1. **Results:** High-risk patients were identified in 82.6% of cases, with 45% presenting hypertensive syndromes. Among the puerperae studied, 50% showed abnormalities in physiological parameters through the identification of trigger events in MEOWS, but medical evaluation was requested for only three patients, resulting in a percentage of 0.82%. **Conclusions:** The use of MEOWS, applied retrospectively, revealed a significant number of patients presenting trigger events, which were not recognized by the nursing team in 99.1% of the cases. This finding may be attributed to the fact that MEOWS has not yet been adopted as part of the hospital's routine nursing care.

Keywords: puerperal; MEOWS; maternal morbidity; trigger events.

EVALUATION OF THE FUNCTIONALITY OF THE PELVIC FLOOR MUSCLES ACCORDING TO THE PRESENCE OR ABSENCE OF DYSPAREUNIA

HELLEN BATISTA DE CARVALHO

Advisor: Leila Katz
Defense date: 2016aug. 30

Scenario: Dyspareunia is persistent or recurrent genital pain associated with sexual activity, which may occur before, during, or after intercourse. It is difficult to diagnose and treat, and it compromises the quality of life and sexual function of both the woman and her partner. Methods for assessing pelvic floor muscles (electromyography, dynamometry, and vaginal digital palpation) serve as a tool to evaluate, teach, and motivate the performance of specific exercises in the treatment of this sexual dysfunction. **Objective:** To evaluate the functionality of the pelvic floor muscles (PFM) according to the presence or absence of dyspareunia. **Methods:** A cross-sectional study was conducted, including 50 women aged 18 to 35 with an active sexual life, 25 with dyspareunia and 25 without dyspareunia. Women with genital prolapse, a history of pelvic or urogenital surgery, neuromuscular disorders, or severe vaginismus that prevented digital insertion into the vaginal canal were excluded. The study was approved by the Ethics Research Committee of the Universidade de Apoio ao Ensino, Pesquisa e Extensão – FURNE (CAAE 56191016.0.0000.5693). Eligible women answered questionnaires about biological, sociodemographic, and urogynaecological characteristics. The Female Sexual Function Index (FSFI) was used to assess sexual function. Clinical evaluation of the pelvic floor was performed to check for perineal contraction, followed by electromyographic and dynamometric evaluation. Participants were instructed on a training protocol, using electromyographic biofeedback to learn to contract the PFMs in isolation, minimizing interference from other muscles (thigh adductors and abdominals). Statistical analysis was performed using the median with variation and interquartile range, applying Shapiro-Wilk, Mann-Whitney tests, and the Spearman correlation coefficient, considering a significance level of 5%. **Results:** In the group with dyspareunia, the median age was 23 years, and in the group without dyspareunia, the median age was also 23 years (p=0.533). All women presented voluntary contraction of the PFM. The group without dyspareunia showed better results in most domains (desire, excitement, orgasm, satisfaction, and pain) compared to the group with dyspareunia. Women with dyspareunia had lower electromyographic activity (p=0.01) and lower dynamometric scores for superficial strength (p=0.01) and deep strength (p=0.04) compared to women without dyspareunia. A statistically significant positive and strong correlation was found (r = 0.689; p <0.001) between electromyographic findings and superficial PFM strength, as well as a moderate and positive correlation (r = 0.382; p = 0.03) between the pain during intercourse domain and the dynamometric scores for superficial strength. **Conclusions:** A reduction in electromyographic activity and dynamometric strength scores was found in the PFMs of women with dyspareunia compared to women without dyspareunia, indicating that women with dyspareunia had lower functionality with less effective contraction of the PFMs.

Keywords: pelvic floor; dyspareunia; electromyography.

EVALUATION OF PERFORMANCE OF THE GENERAL PEDIATRIC OUTPATIENT CLINIC OF A REFERENCE INSTITUTION IN PERNAMBUCO

CLARISSA ROBERTA AZEDO FALCÃO

Advisor: Suely Arruda Vidal
Defense date: 2016 dec. 22

This dissertation aims to conduct a performance evaluation study using the theoretical framework developed by the University of Montreal, Canada, called *Evaluation Globale et Intégrée de la Performance des Systèmes de Santé* (EGIPSS). This analytical and evaluative tool assesses the performance of policies, programs, and services. The EGIPSS systematizes functions into categories such as: adaptation, maintenance of values, goal achievement, and production. **Objective:** To evaluate the performance of the general pediatric outpatient clinic of a university hospital in Pernambuco. **Method:** Evaluative research with a quantitative and qualitative approach, evaluating the performance of a general pediatric outpatient clinic located in a tertiary-level hospital complex in Recife, conducted between 2014-2016. The study population included physicians, students, mid-level staff, and users, represented by mothers or guardians of the children who attended the clinic. Data collection was performed through various sources such as semi-structured interviews, questionnaires, focus groups, and medical records. A Logical Model and an Integrative Model of the clinic's performance were developed. Based on these models, an Analysis and Judgment Matrix was created, which included functions, indicators, parameters, and scoring. **Results:** The performance of the general pediatric outpatient clinic at IMIP, according to the global and integrative model, showed a regular performance (74.5%), with emphasis on the function "Maintenance of Values" (80%), followed by "Adaptation" (78%), both classified as satisfactory. However, the functions "Production" (72%) and "Goal Achievement" (68%) showed regular performance. **Conclusion:** This study provides the management team with an adapted model as a performance evaluation tool at the outpatient level, which can be adapted to other areas of the institution. It also offers a detailed and multidimensional picture of the pediatric outpatient clinic's performance, allowing for: understanding the dynamics of service operation; adjusting functions; visualizing problems; identifying solutions for better decision-making; and enhancing elements that support satisfactory performance while correcting weaknesses.

Keywords: healthy behaviors; cardiovascular diseases; lifestyle; intervention study; risk factors; health promotion.

EVALUATION OF THE PROFILE OF CIRCULATING NATURAL KILLER CELLS IN BREAST CANCER

CLAUDEIR DIAS DA SILVA JUNIOR

Advisor: Leuridan Cavalcante Torres
Defense date: 2016 jun. 28

Introduction: Breast cancer is the most common malignancy among women worldwide. Natural Killer (NK) cells are part of the innate immune system, capable of recognizing and destroying tumor cells. They are characterized by the expression of receptors such as NCAM1 (CD56), FcγRIII (CD16), and the absence of CD3. Based on the presence and intensity of these receptors, NK cells can be classified into four subpopulations: CD56+CD16- ("immature" NK), CD56brightCD16+ ("differentiating" NK), CD56dimCD16+ ("cytotoxic" NK), and CD56-CD16+ ("regulatory" NK). NK cells can also express co-receptors like CD8 and CD4, and their activation depends on the balance of activating receptors (NKG2A, NKG2D) and inhibitory receptors (KIR). This study aimed to evaluate the profile of circulating NK cell subpopulations and their functional activity in breast cancer. **Methods:** A cross-sectional study with a longitudinal, translational, and prospective component, including an internal comparison group, was conducted from March 2014 to February 2016. Inclusion criteria were women over 18 years old with breast cancer who were seen at IMIP and HCP before surgery or chemotherapy. Exclusion criteria included the use of immunosuppressive drugs, positive serological tests for HIV 1 and 2, viral hepatitis, HTLV 1 and 2, presence of autoimmune disease, pregnancy, and clinical symptoms of infection at the time of peripheral blood collection. A total of 91 women with breast cancer were evaluated, categorized as follows: 12 with luminal A subtype, 31 with luminal B, 22 with HER2+, 26 with triple-negative breast cancer (TNBC), and 22 healthy controls. NK cell percentages and subpopulations, as well as the receptors NKG2D, NKG2A, and KIR, were assessed by flow cytometry. Functional activity was analyzed by isolating NK cells from peripheral blood using Dynabeads® kit (Invitrogen, Life Technologies), followed by granzyme A quantification via flow cytometry and cytokines IFNγ, IL2, and IL15 using enzyme-linked immunosorbent assay (ELISA), utilizing BD OptEIA Set Human kit (BD Biosciences). The study was approved by the IMIP and HCP Ethics Committees under CAAE N° 18418713.4.0000.5201 and CAAE N° 18418713.4.3001.205, respectively. **Results:** Elevated relative values of total NK cells were observed in patients with HER2+ breast cancer (p=0.02) compared to controls. HER2+ breast cancer showed elevated NK CD8+ cell values compared to TNBC. No difference was observed in CD4+ NK cells. When evaluating NK subpopulations, a significant decrease in "immature" NK cells (p=0.0001) was found in patients with breast cancer and in luminal A (p=0.01), luminal B (p=0.0001), HER2+ (p=0.001), and TNBC (p=0.0001) subtypes compared to controls. There was a decrease in "differentiating" NK cells in breast cancer (p=0.001) and in luminal B (p=0.01) and HER2+ (p=0.004) subtypes compared to controls. Lower levels of granzyme A were found in patients

with luminal A subtypes. Detectable levels of IFN-γ were observed in NK cells from patients with luminal A and B subtypes, but not in TNBC and HER2+ subtypes. Elevated IL2 levels were detected in NK cells from all breast cancer subtypes. Patients with HER2+ and TNBC subtypes showed elevated levels of NKG2D (p=0.0005) and KIR (p=0.01) receptors in NK cells compared to controls. **Conclusion:** The study concluded that alterations in NK cell subpopulations and their functional activity are present in breast cancer.

Keywords: neoplasms; innate immunity; cytotoxicity; receptors; cytokines.

EVALUATION OF THE ATTRIBUTES OF PRIMARY HEALTH CARE FOR CHILDREN IN FAMILY HEALTH STRATEGY UNITS IN PERNAMBUCO

WESLLA KARLA ALBUQUERQUE SILVA DE PAULA

Advisor: Malaquias Batista Filho
Defense date: 2016 jan. 28

Introduction: As the organizer of health systems, Primary Health Care (PHC) must assume several attributes, such as first-contact access, longitudinality, comprehensiveness, coordination, community orientation, and family focus. **Objectives:** To analyze the evaluation of Primary Health Care attributes made by users of Brazilian basic health units, using adaptations of the Primary Care Assessment Tool (PCATool) for Brazil. To assess the presence and extent of Primary Health Care attributes for children in Family Health Strategy units in three municipalities in Pernambuco. **Methods:** To answer the first objective, a systematic review of the literature published from 2000 to 2013 was conducted, using the descriptors "Primary Health Care," "Health Service Evaluation," and "Evaluation of Health Programs and Projects" in databases such as PubMed, Lilacs, IBECS, Scielo, and BDTD. For the second objective, a cross-sectional study was carried out with 431 caregivers of children under one year old and 33 health professionals (doctors and nurses), using the PCATool – Brazil instrument. The attributes were analyzed by computing the scores for each one and the overall score for PHC. Scores ≥ 6.6 were classified as high. **Results:** The systematic review identified 4,405 documents, of which 23 were selected for full-text reading. After applying eligibility criteria, 14 articles were evaluated. The studies showed that Primary Health Care performed well in the attributes of longitudinality, comprehensiveness, and coordination, but had poor performance in the attributes of first-contact access, family orientation, and community orientation, even in Family Health Strategy units. In the cross-sectional study, the results showed that the majority of caregivers were young mothers with low education and family income, belonging to class C. Despite the overall score for PHC for children being satisfactory (≥ 6.6) in the municipalities studied, the data revealed divergent expectations between users and providers regarding the dimensions evaluated. From the users' perspective, the attributes of access – utilization, longitudinality, and coordination were rated positively in all three municipalities. However, the attributes of comprehensiveness – available services, family orientation, community orientation, and access – accessibility had low scores (< 6.6), except in municipality 3. From the professionals' perspective, all attributes, except for access – accessibility, were rated as satisfactory (≥ 6.6). When comparing users and health professionals, the latter were more optimistic regarding the presence and extent of most PHC attributes. Only the attribute access – accessibility, despite being rated poorly (< 6.6), was better evaluated from the users' perspective. **Conclusion:** The results of the cross-sectional study are similar to those of the systematic review, as users of Brazilian basic health units also rated the attributes of first-contact access, family focus, and community orientation poorly. Health professionals, on the other hand, gave better scores for the presence and extent of PHC attributes. These results aim to assist health managers and professionals in reflecting on their practices and making decisions.

Keywords: primary health care; family health strategy; health service evaluation; evaluation of health programs and projects.

SURGICAL COMPLICATIONS OF USING PROLENE MESH SLING IN THE TREATMENT OF WOMEN WITH STRESS URINARY INCONTINENCE: A CASE SERIES

FRANCUALDO RIBEIRO DE SÁ BARRETO

Advisor: Aurélio Antônio Ribeiro da Costa
Defense date: 2016feb. 29

Objective: To present the surgical outcomes of stress urinary incontinence treatment using a low-cost prolene mesh sling. **Material and Methods:** A retrospective study was conducted on patients with stress urinary incontinence who underwent surgical treatment with a low-cost prolene mesh sling, created by the surgeon, as a mid-urethral sling. The study took place between January 2013 and July 2014 in a single institution. All patients were evaluated with clinical history, gynecological examination, stress test, and urodynamic study before surgery. The clinical and surgical characteristics assessed included age, race, menopausal status, incontinence type, parity, urinary urgency, pelvic floor prolapse, surgical time, surgical success, and complications. **Results:** A total of 100 women were evaluated, with a mean follow-up of 8.8 months. The average age was 63 years (ranging from 32 to 77). Pure stress urinary incontinence was observed in 69% of the patients. The prolene mesh sling was placed using the transobturatory technique in 94% and the retropubic technique in 6% of cases. Intraoperative complications included two cases of bladder perforation and one case of pubic hematoma. Four patients developed urinary retention, and urethrolysis was required in three of these cases. Vaginal erosion and mesh extrusion occurred in 7.1% and 4% of cases, respectively. Dyspareunia was reported by 10% of the women, and acute vaginitis was observed in 20% of cases. New-onset urinary urgency occurred in 7% of the patients. Clinical outcomes showed that 81% of the patients were cured, 12% reported subjective improvement, and 7% had clinical failure. **Conclusion:** The prolene mesh sling prepared by the surgeon for use as a mid-urethral sling may be a viable and feasible alternative to commercially available kits in the treatment of female urinary incontinence, considering the clinical cure rate, complication frequency, and its availability in public health services.

Keywords: stress urinary incontinence; suburethral sling; prolene.

SICKLE CELL DISEASE AND COMPLICATIONS DURING PREGNANCY AND THE POSTPARTUM PERIOD IN PATIENTS FOLLOWED AT A HEMATOLOGY CENTER IN THE STATE OF PERNAMBUCO: A CROSS-SECTIONAL STUDY

FLAVIA ANCHIELLE CARVALHO DA SILVA

Advisor: Ariani Impieri Souza
Defense date: 2016dec. 20

Introduction: Sickle Cell Disease (SCD) is the most common genetic hematological disorder in the world, affecting approximately 30 million individuals and representing a significant public health issue. During pregnancy, complications related to SCD increase due to physiological changes that create an environment conducive to polymerization. As a result, pregnant women with SCD experience worsening clinical parameters and a higher risk of obstetric and perinatal complications. **Objective:** To describe the profile of clinical, obstetric, and perinatal complications among different genotypes of SCD. **Method:** A cross-sectional study was conducted with 89 women with SCD and a history of pregnancy, followed at the Hemoglobinopathies Outpatient Clinic of the Hematology and Hemotherapy Foundation of Pernambuco (HEMOPE) between September 2015 and April 2016. Data was obtained through interviews during consultations and supplemented by a review of medical records. Sociodemographic, clinical, reproductive variables, obstetric complications, and SCD genotypes were examined. An association test was performed between SCD genotypes and clinical and obstetric complications. For women with the HbSS genotype, an association test was conducted between clinical and obstetric complications and prenatal care. **Results:** The distribution of SCD genotypes was as follows: 74 (83%) with HbSS, 8 (9%) with HbSC, and 7 (8%) with S-β-thalassemia. The average age was 31 ± 7.4 years. The majority (59.6%) had been diagnosed by the age of 8. Regarding race/ethnicity, 89.9% identified as brown or black. Despite 63.3% having more than 9 years of education, only 18% having paid employment, and 61.8% had a monthly family income of up to one minimum wage. The average age of menarche was 14.5 ± 1.9 years, and the average age of first pregnancy was 22 ± 4.7 years. The women had an average of 1.7 pregnancies and 1.2 living children. Hemotransfusion was the most frequent clinical complication in women with the HbSS genotype and in those with S-β-thalassemia when compared to women with the HbSC genotype (p=0.013). Pain crises and infections occurred mostly in those with the HbSS genotype (58.1% and 52.7%, respectively), but there was no statistical difference between the groups. Among obstetric complications, low birth weight, prematurity, abortion, and hypertensive disorders in pregnancy were the most frequent among women with HbSS and HbSC, with no statistical difference between the groups (p=0.161; p=0.665; p=0.653; p=0.601, respectively). Fetal death occurred only in women with HbSS (14.9%). Postpartum complications were most frequent in the S-β-

thalassemia group (p=0.040). Among the 54 women in the HbSS group who received prenatal care, there was a lower frequency of abortion and a higher frequency of hemotransfusion during pregnancy (p=0.009) compared to those who did not receive prenatal care (p=0.001). **Conclusion:** Women with the HbSS genotype had a higher frequency of hemotransfusion compared to those with HbSC and S-β-thalassemia. Women with S-β-thalassemia had a higher frequency of postpartum complications. Adequate prenatal care was associated with fewer abortions and a higher need for hemotransfusion during pregnancy.

Keywords: sickle cell anemia; hemoglobin s disease; sickle cell disease/complications; hematological complications in pregnancy.

RISK FACTORS FOR PROLONGED HOSPITALIZATION DUE TO ACUTE BRONCHIOLITIS: A COHORT STUDY

TARCIANA MENDONÇA DE SOUZA ALMEIDA

Advisor: Patrícia Gomes de Matos Bezerra
Defense date: 2016 apr. 27

Introduction: Acute bronchiolitis is an infection of the lower respiratory tract that primarily affects infants and is the leading cause of hospitalization in children under two years old in the United States. Many infants will experience at least one episode of acute bronchiolitis, with 2-3% of all children requiring hospitalization during their first year of life. The clinical presentation of acute bronchiolitis is variable and dynamic. Among the potential etiological agents, viruses are most commonly implicated. Studies on hospitalized children with acute bronchiolitis have identified respiratory syncytial virus (RSV) as the most frequent pathogen, accounting for up to 75% of cases, while co-detection of two or more pathogens ranges from 10% to 30%. The duration of hospitalization for this condition typically ranges from one to three days. However, there is no consensus in the literature regarding the association between specific respiratory pathogens and prolonged hospitalization. RSV, in particular, appears to contribute to longer hospital stays in children with acute bronchiolitis. The relationship between co-detection of viruses and prolonged hospitalization is also not well established. **Objective:** To analyze risk factors for prolonged hospitalization (longer than three days) in children under two years old hospitalized with acute bronchiolitis at a tertiary hospital in northeastern Brazil. The study also aimed to determine whether the identification of RSV and co-detection of respiratory pathogens were associated with longer hospital stays. **Method:** This cohort study involved children under 24 months with acute bronchiolitis treated at the pediatric emergency department of the Prof. Fernando Figueira Institute of Integral Medicine (IMIP) between April 2008 and March 2009. Children with congenital heart disease, intra- or extrathoracic malformations associated with pulmonary abnormalities, or immunodeficiency were excluded. A multiplex reverse transcription polymerase chain reaction (RT-PCR) was used to detect 17 different respiratory pathogens in nasopharyngeal aspirates: RSV, metapneumovirus, parainfluenza viruses 1, 2, 3, and 4, influenza A and B viruses, bocavirus, adenovirus, coronavirus subtypes 229E, NL63, OC43, and KHU1, rhinovirus, Mycoplasma pneumoniae, and Chlamydia pneumoniae. The primary outcome variable was the duration of hospitalization (prolonged hospitalization, defined as longer than three days), and predictor variables included sociodemographic characteristics, personal history, and clinical signs of the disease at admission. **Results:** The median age of the 106 patients included in the study was 4 months. Respiratory pathogens were detected in 89.6% of the cases, with co-detection of multiple pathogens in 41.5% of patients. RSV was the most prevalent pathogen, present in 43.4% of cases. The median duration of hospitalization was 3 days (interquartile range 2–4.25). Prolonged hospitalization (more than three days) occurred

in 42.5% (45/106) of the patients. Bivariate analysis followed by multivariate analysis (for variables with p < 0.25) identified the following statistically significant risk factors for prolonged hospitalization: prematurity (Relative Risk [RR] 4.4, 95% Confidence Interval [CI] 1.6–12.4), age ≤ 3 months (RR 3.3, 95% CI 1.2–9.1), and peripheral transcutaneous oxygen saturation < 90% at admission (RR 15.6, 95% CI 3.6–68.4). **Conclusions:** The duration of hospitalization for acute bronchiolitis is independent of the presence of RSV and the co-detection of respiratory pathogens. The most significant predictive factor for prolonged hospitalization was peripheral transcutaneous oxygen saturation < 90% at admission.

Keywords: bronchiolitis; respiratory syncytial virus; co-detection; prolonged hospitalization.

NINE STEPS FOR PREVENTING RISK FACTORS FOR CARDIOVASCULAR DISEASES IN A URBAN SLUM AREA IN BRAZIL: A PILOT STUDY

LEILA PORTELA CAMARA DE SOUZA FLOR

Advisor: João Guilherme Bezerra Alves
Defense date: 2016 aug. 29

Introduction: Cardiovascular diseases are the leading cause of death worldwide. Preventive programs have been implemented in various countries since the 1970s with the aim of reducing morbidity and mortality from these diseases by addressing risk factors through health education and existing community structures. Brazil has implemented important preventive policies, but adverse trends in most risk factors present significant challenges and require additional and timely actions. **Objective:** To develop, implement, and evaluate an educational program in an urban slum area to increase knowledge about cardiovascular diseases and their risk factors, promoting lifestyle changes in the target population. **Methods:** This pilot study involved 54 adults aged 40 to 60 years, enrolled in the Caranguejo Family Health Unit in Recife, Pernambuco, Brazil. Data were collected through a survey designed for the study, before and after the intervention, to compare levels of knowledge about cardiovascular diseases, risk factors, and lifestyle. The educational program addressed the main risk factors for cardiovascular diseases, including recently recognized factors such as low birth weight and early weaning. The program followed nine steps: Step 1 - Adequate prenatal care; Step 2 - Breastfeeding in the first year; Step 3 - Early detection of overweight; Step 4 - Reducing the intake of salt and saturated fat; Step 5 - Diet rich in fruits and vegetables; Step 6 - Physical activity – 30 minutes a day; Step 7 - Avoiding smoking, alcohol, and other drugs; Step 8 - Early detection of hypertension, dyslipidemia, and diabetes; Step 9 - One hour a day for yourself. These nine steps were applied through nine biweekly meetings, lasting 60 minutes, involving interactive lectures, workshops, and distribution of informational materials (brochures, leaflets, and recipe books), along with healthy snacks. The study was approved by the Ethics Committee of the Prof. Fernando Figueira Institute of Medicine, under No. 4262-14. **Results:** Statistically significant improvements were observed in knowledge about cardiovascular diseases and their risk factors after the educational program, with improvements in questions such as: "Do you know the risk factors for cardiovascular diseases?" ($p < 0.001$), "Does a good diet prevent cardiovascular diseases?" ($p = 0.003$), "Does avoiding alcohol and other drugs prevent cardiovascular diseases?" ($p < 0.001$), and "Maintaining a healthy weight prevents cardiovascular diseases?" ($p = 0.012$). No significant lifestyle changes were observed, except for leisure activities and vegetable consumption. **Conclusion:** The educational program based on the nine steps to prevent cardiovascular risk factors can increase knowledge about these diseases and risk factors, although no major lifestyle changes were observed among participants.

Keywords: healthy behaviors; cardiovascular diseases; lifestyle; intervention study; risk factors; health promotion.

POISONINGS IN CHILDREN AND TEENAGER REPORTED TO A TOXICOLOGY CENTER

MARIA LUCINEIDE PORTO AMORIM

Advisor: Maria Julia Goncalves de Mello
Defense date: 2016 sep. 06

Introduction: Poisonings are common causes of visits to emergency rooms and are responsible for millions of calls to poison control centers worldwide. **Objective:** To analyze the clinical-epidemiological profile of children and teenagers up to 12 years old, victims of poisoning, reported to the Pernambuco Toxicology Assistance Center (CEATOX). **Methods:** This was an observational, cross-sectional study with an analytical component, involving reports from 2012 to 2014. Children up to 12 years old who suffered poisoning were included, excluding allergic reactions, adverse effects of medications, and food poisoning caused by infectious agents. Sociodemographic variables, toxic agents, circumstances, place of occurrence, time between exposure and medical care, and outcomes were analyzed. The data were presented in frequency distribution tables, prevalence ratios, and associations using Chi-square, adopting a significance level of ≤ 0.05. **Results:** Of the 2,843 reported poisonings, 1,601 (56.3%) were due to chemical substances and 1,242 (43.7%) were due to animal stings. Chemical poisoning was 2.34 times more frequent in children under five years old compared to those aged 5 to 12 years (95% CI: 2.14-2.56; p<0.001). No differences were found between the sexes. Medications (45.0%) predominated among chemical substances, and scorpion stings (77.0%) among venomous animals. Most cases occurred in the metropolitan area (78.9%), and 95.6% were accidental. Children were at home when exposed to chemical substances (99.6%) and when stung by venomous animals (44.4%). Medical attention was sought more than one hour after exposure in 47.6% of the cases. Scorpion stings and medication poisoning were the main reasons for the report, representing 33.6% and 25.3%, respectively. There were eight fatalities, six from ingesting chemical substances (four from the agricultural pesticide "chumbinho," two from industrial chemicals - kerosene and benzene), and two from scorpion stings. **Conclusion:** Poisonings are significant health problems due to their frequency and morbidity. The main causes of telemedicine-assisted cases were scorpion stings and medication poisonings. These occurred primarily in children under five years old, non-intentionally, and within the home. Based on epidemiological data, educational measures combined with legislation are necessary to prevent these issues.

Keywords: poisoning; stings and bites; accidents; children; teenager.

TRANSCULTURAL ADAPTATION OF THE CORNELL PEDIATRIC DELIRIUM ASSESSMENT SCALE TO PORTUGUESE

MARINA DOS SANTOS RAMOS BARBOSA

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2017 nov. 20

Background: In adults admitted to Intensive Care Units (ICUs), delirium is a well-known problem with high prevalence and is associated with higher morbidity and mortality. In children, the prevalence and diagnosis of delirium are still not well established due to limitations in existing screening instruments and a lack of studies on pediatric delirium. This has contributed to difficulties in diagnosis and understanding the impact of this condition, particularly in very young children and those with neurological dysfunction, where cognitive aspects cannot be assessed. **Objective:** To translate and culturally adapt the Cornell Assessment of Pediatric Delirium (CAPD) scale to Portuguese for use in Brazil. **Methods:** This methodological study involved the translation and cultural adaptation of the CAPD scale following internationally recommended steps after obtaining permission and usage rights from the principal author of the scale. The study followed the steps proposed by Reichenheim & Moraes, which included evaluating conceptual equivalence, item equivalence, semantic equivalence, and operational equivalence. The first two were performed by experts to check the relevance of the tool and its components. The semantic equivalence was carried out in six steps: direct translation, translation synthesis, back translation, back translation synthesis, judge committee, and pre-test. During the judge committee, semantic, content, and item analyses were conducted. Items were categorized as unchanged, slightly changed (synonym terms), or significantly changed (altering the meaning of the item). The pre-test was conducted by two independent evaluators with a convenience sample of children who met the study's eligibility criteria. Intraclass correlation coefficients (ICCs) were calculated to assess the reliability of the data between the two evaluators. An ICC >0.75 was considered indicative of good reliability. **Results:** Linguistic and semantic issues that arose during the process were discussed by the judge committee, showing good agreement with minor changes. In the pre-test phase, the CAPD was administered twice a day (morning/afternoon) by the primary researcher and a trained collaborator to a sample of 30 children, with no comprehension difficulties observed during the assessment. The ICC between evaluators was 0.95. **Conclusion:** The CAPD scale was successfully translated and culturally adapted to Portuguese in Brazil following the recommended procedures. It is expected to be a useful tool for clinicians and future researchers in diagnosing delirium in children admitted to pediatric ICUs. Further studies are needed to assess its reproducibility and validity to support its use in different regions of Brazil.

Keywords: delirium; diagnosis; pediatric ICU; translation.

BREASTFEEDING: MODALITIES, INDICATORS, AND ASSOCIATED FACTORS IN AN URBAN SLUM (FAVELA) ASSISTED BY THE FAMILY HEALTH STRATEGY

VERA AUDALVES LOPES SILVA

Advisor: Malaquias Batista Filho
Defense date: 2017mar. 31

Introduction: Despite scientific consensus and systematic recommendations regarding the benefits of breastfeeding for mothers, children, families, and the environment, the current practice of breastfeeding in the first months and years of life is far from being achieved. Moreover, in families living in urban slums (traditionally known as favelas), where significant socioeconomic and environmental inequalities are evident, and where breastfeeding can be considered fundamental for the future of these children, there are no specific studies on the topic. **Objective:** To describe and analyze indicators that assess breastfeeding practices in children aged 0 to 3 years from families living in an urban ecosystem characterized by peculiarly adverse socioeconomic and environmental conditions: an urban slum, traditionally referred to as a favela. **Methods:** A cross-sectional study based on data from the research "Child Development in an Urban Slum (Favela) in Recife, PE," a census-type survey conducted between July and October 2015. Variables on breastfeeding, sociodemographic and obstetric maternal variables, and children's biological data were selected, forming an ad hoc file. Descriptive analyses used concepts and classification criteria proposed by the World Health Organization (WHO), defining four types of breastfeeding practices: early initiation of breastfeeding (proportion of children born in the last 24 months who were breastfed within the first hour of life); exclusive breastfeeding (EBF) up to the first 180 days (proportion of children aged 0 to 5 months based on their diet in the 24 hours prior to the interview); continued breastfeeding up to one year (proportion of children aged 12–15 months); and continued breastfeeding up to two years (proportion of children aged 20–23 months). For analytical purposes, with the EBF at six months as the reference outcome, an inventory of socioeconomic and environmental factors of the families and mothers of the children, obstetric history, demographic variables, and access to basic health services offered and demanded locally or referred was conducted. A set of 22 explanatory variables were included, which were hypothesized to be associated with EBF as the reference outcome. The population evaluated comprised all children under 36 months registered in the medical records of the two primary health units in the favela, known as Coelhos I and Coelhos II, representing 310 children, providing a 100% coverage rate of the registered universe. Analyses were presented as correlation (Spearman), crude and adjusted prevalence ratios (Poisson), and a final statistical model representing the factors associated with the outcome after adjustment (multivariate analysis), with a significance level of < 0.05. **Results:** The main results show that early initiation of breastfeeding was 60.2% (127/211), the prevalence of EBF

up to 180 days was 32.9% (72/219), continued breastfeeding up to one year was 43.5% (10/23), and continued breastfeeding up to two years reached 33.3% (12/36). The correlation between the use of pacifiers and the duration of breastfeeding, whether exclusive or not, showed coefficients of rs = 0.3581 (p = 0.0001) and rs = 0.2478 (p = 0.0057), respectively. Among the 22 groups of variables studied, those that remained in the final model for EBF included maternal age > 36 years (p = 0.0005), home visits after maternity discharge (p = 0.003), male child sex (p = 0.029), and non-use of pacifiers (p < 0.0001).**Conclusion:** The descriptive results for different breastfeeding types are consistent with global statistics published by the United Nations Children's Fund (UNICEF) and are more favorable than values obtained in surveys in the Northeast. The use of pacifiers was associated with the interruption of EBF at six months and with the duration of breastfeeding, whether exclusive or not.

Keywords: breastfeeding; primary health care; pacifiers; cross-sectional studies; risk factors; early weaning.

INFLUENCE OF THE KANGAROO METHOD ON THE ACQUISITION OF FUNCTIONAL SKILLS IN PRETERM CHILDREN: AN OBSERVATIONAL STUDY

JÉSSICA CAROLINA GOMES DA SILVA

Advisor: José Eulálio Cabral Filho
Defense date: 2017aug. 21

Objective: To evaluate the influence of the Kangaroo Mother Method on the acquisition of functional self-care skills in children aged 18 to 29 months, born preterm. **Methods:** Two groups of preterm children were studied: one exposed to the Kangaroo Mother Method (n = 39) and another control group (n = 26). Data was collected using the Pediatric Evaluation of Disability Inventory, medical records, and interviews with the child's caregiver. Statistical analysis included the Student's T-test and multiple linear regression analysis. **Results:** The Kangaroo Method (β = 2.776; p = 0.008) and the variety of stimulation (β = 3.299; p < 0.001) showed the greatest positive correlation with functional self-care skills. Maternal complications showed a high negative correlation (β = -3.280; p = 0.002). A marginal statistical difference was observed in the PEDI scores (p = 0.070), with the Kangaroo group showing a higher average score. **Conclusion:** Assistance through the Kangaroo Mother Method can facilitate a positive postnatal response in the medium-term development of functional skills in preterm children.

Keywords: child behavior; child development; kangaroo mother method.

INFLUENCE OF THE KANGAROO MOTHER METHOD ON MOTOR PERFORMANCE IN PRETERM CHILDREN

RENATTA CAROLINE PONTES PASSAVANTE SPINELLI

Introduction: Motor development is a sequential, continuous process related to the chronological age, through which humans acquire, among other things, motor skills. These skills progress from simple and disorganized movements to the execution of highly organized and complex motor abilities. Preterm newborns typically present delays in motor development, and the Kangaroo Mother Method acts as an intervention therapy aimed at improving the quality of care for preterm newborns. **Objective:** To investigate the influence of the Kangaroo Mother Method on the motor performance of children born prematurely at 34-36 weeks postconceptional age and full term. **Method:** A cross-sectional, quantitative study with a control group and blind statistical analysis. Preterm children who participated in the Kangaroo Mother Method and preterm children who did not, along with healthy full-term children, were selected and evaluated using the Test of Infant Motor Performance (TIMP). Data collection took place from August 2016 to July 2017 at the Instituto de Medicina Integral Professor Fernando Figueira – IMIP. Statistical analysis was performed using the Westfall method to compare the raw TIMP scores between the groups and with variables such as birth weight, weight at evaluation, gestational age at birth and evaluation, maternal age, number of siblings, type of birth, and income. **Results:** Preterm children with corrected postconceptional age at term who participated in the Kangaroo Mother Method exhibited superior motor performance compared to preterm children with a corrected postconceptional age of 34-36 weeks who participated in the method (p=0.041). Additionally, preterm children with corrected postconceptional age at term who participated in the Kangaroo Mother Method showed motor performance comparable to that of full-term children (p=0.224). Furthermore, preterm children with corrected postconceptional age at term who participated in the Kangaroo Mother Method exhibited superior motor performance compared to children in the same age range who did not participate in the Kangaroo Mother Method (p=0.004). **Conclusion:** The results suggest that the Kangaroo Mother Method can improve the motor performance of preterm children, and when they reach term age, their motor performance is comparable to that of children born at 37 weeks of gestation or later.

Keywords: newborn; prematurity; Kangaroo Mother Method; Test of Infant Motor Performance.

INFLUENCE OF VITAMIN D LEVELS ON BODY IRON CONTENT IN ADULT WOMEN: A CROSS-SECTIONAL STUDY WITH AN ECONOMETRIC CAUSAL INFERENCE MODEL

DANIELY SOBREIRA CARIRY BARBOSA

Advisor: José Eulálio Cabral Filho
Defense date: 2017 sep. 21

Introduction: Vitamin D deficiency has been associated with anemia, both in individuals with chronic diseases and in healthy populations. One explanation for this association is the extra-skeletal anti-inflammatory action of vitamin D on the hepcidin-ferroportin axis, which regulates intestinal absorption and tissue mobilization of iron. However, it has not yet been investigated whether vitamin D can influence body iron content directly, independent of inflammatory status. **Objectives:** To verify the correlation between vitamin D levels and body iron content in a population of healthy adult women and to test causality through an econometric statistical model. **Method:** A cross-sectional study was conducted using data from a female adult population retrieved from the public databases of the National Health and Nutrition Examination Survey (NHANES) from 2003 to 2006. Linear regression models were estimated, with the predictor variable being 25-hydroxyvitamin D (25OHD) and the outcome variable being body iron content. The models were adjusted for potential confounding covariates such as age, race, income, body mass index, menstrual status, serum albumin levels, C-reactive protein, and parathyroid hormone. An econometric Lewbel model was then applied to test the nullity of causal links by identifying unobserved confounding variables (endogenous). **Results:** A total of 3,667 healthy women were assessed, and a positive correlation was found in the magnitude of 0.04 mg/kg of body iron content for each ng/mL of 25OHD ($p < 0.001$). In the Lewbel model, the correlation coefficient result and statistical significance remained, suggesting the absence of endogeneity, and therefore, a cause-and-effect relationship between vitamin D and body iron content. **Conclusions:** The findings indicate that higher levels of 25OHD result in better body iron content in healthy women, independent of unobserved variables such as dietary patterns and inflammatory status.

Keywords: anemia; iron deficiency; vitamin d; nutritional surveys.

ELECTROMYOGRAPHIC ACTIVITY OF PRETERM NEWBORNS SUBMITTED TO "HAMMOCK" POSITIONING: A RANDOMIZED CLINICAL TRIAL

ISABEL CRISTINA DE ALMEIDA EYRE

Advisor: José Eulálio Cabral Filho
Defense date: 2017 oct. 10

Introduction: Preterm newborns present impairments in muscle development and muscle tone. "Hammock" positioning has emerged as an alternative with potential benefits for these conditions. **Objective:** To investigate the effect of hammock positioning on the electromyographic activity of flexor muscles in preterm newborns. **Methods:** A randomized clinical trial with preterm newborns divided into a control group (n = 32), receiving routine care, and an intervention group (n = 30), placed in a baby hammock adapted to the incubator. Surface electromyography (EMG) was used to record the muscle activity of the biceps brachii and hamstrings. Heart rate (HR), respiratory rate (RR), and peripheral oxygen saturation (SpO2) were measured. EMG was recorded at three moments: immediately before (0h), 24 hours after the intervention, and 24 hours after the suspension of the intervention (48h). EMG recordings were transformed into Root Mean Square (RMS) values and normalized for analysis. **Results:** RMS increased after 24 hours of hammock positioning (p = 0.012 for biceps brachii; p < 0.001 for hamstrings) and remained constant in the following 24 hours. In the control group, no statistical difference was found. HR and RR showed no significant differences, but SpO2 was higher at 24h (p < 0.001) and 48h (p < 0.001). **Conclusion:** The use of hammocks for preterm newborns improves muscle function, indicating an increase in muscle tone of flexor muscles, which could facilitate the neonate's posture.

Keywords: electromyography; premature; patient positioning; tone.

CLINICAL AND EPIDEMIOLOGICAL PROFILE OF PATIENTS WITH MULTIFOCAL/MULTICENTRIC BREAST CANCER AND IMMUNOHISTOCHEMICAL PATTERNS AMONG TUMOR FOCI: A CROSS-SECTIONAL STUDY IN TWO TERTIARY HOSPITALS IN NORTHEASTERN BRAZIL

KAMILA BEZERRA FERNANDES DIOCESANO

Advisor: Aurélio Antonio Ribeiro da Costa
Defense date: 2017 dec. 21

Introduction: Multifocal/multicentric breast cancer (MF/MC) is an enigmatic disease that includes many important paradigms in the current practice of breast cancer treatment. The best option for combating the morbidity and mortality of this disease is to design a rational therapeutic strategy, which should begin with a clear understanding of the biological basis of multicentricity and multifocality. Once this information is known, the appropriate adjuvant therapy can be followed. **Objective:** Our objective was to define the profile of patients with multifocal and multicentric breast cancer and to evaluate whether there is discordance among tumor foci concerning hormone receptors and Her-2. **Method:** We retrospectively analyzed 89 patients with invasive multifocal and multicentric breast cancer at two tertiary institutions in northeastern Brazil, assessing hormone receptors, Her-2, and ki67 in each tumor focus of 25 of these patients, highlighting any discordance among them, as well as histological type and grade, lymph node metastasis, and age and distance of metastasis. **Results:** Of these patients, 9% showed heterogeneity between tumor foci. The proportion of axillary lymph node metastasis was 42%, and only 10% had distant metastasis. 45% of the women in the study had histological grade II or III. We found a prevalence of 40.5% of Her-2 negative and 45% of estrogen receptor positive. No statistically significant difference was found between multifocal and multicentric cancers. **Conclusion:** We concluded that MF/MC breast cancer shows heterogeneity between foci regarding biological parameters, and this plays a crucial role in decisions regarding adjuvant treatment and, consequently, prognosis, tumor recurrence, and distant metastasis.

Keywords: breast cancer; heterogeneity; multifocal; multicentric.

BREASTFEEDING ACCORDING TO BIRTH WEIGHT IN AN URBAN SLUM CLUSTER (FAVELA) IN NORTHEASTERN BRAZIL

ROSA SUENIA DA CÂMARA MELO

Advisor: Murilo Carlos Amorim de Britto
Defense date: 2018 May 03

Introduction: Birth weight serves as an important marker of the intrauterine conditions to which a child was exposed during pregnancy, as well as an individual factor that greatly influences short-term health and survival of newborns, medium-term physiological development, morbidity, and long-term health outcomes in adulthood. Therefore, health policies should intensify measures that promote adequate intrauterine weight gain and postnatal nutrition, primarily encouraging breastfeeding, which is essential for the health of the child and provides benefits for the mother, family, and community, especially in precarious settlements, also defined as "subnormal urban agglomerates" (slums). **Objective:** To evaluate breastfeeding practices according to birth weight in a subnormal urban agglomerate. **Methods:** A cross-sectional, census-based study was conducted using data from the "Child Development in a Subnormal Urban Agglomerate of Recife, PE" study, conducted in the "Favela dos Coelhos" from July to October 2015. The original study evaluated all 310 children aged 0-36 months registered in two Basic Health Units in the locality. Birth weight classification was based on WHO criteria, with low birth weight (LBW) defined as less than 2,500g, insufficient weight as 2,500g to 2,999g, and adequate weight as greater than or equal to 3,000g. For this research, LBW and insufficient weight were aggregated as a characteristic to differentiate children with birth weight <3,000g from those with birth weight >3,000g. Breastfeeding categories considered were breastfeeding (BF), exclusive breastfeeding (EBF), and never breastfed. **Results:** Among the weight strata, from a total sample of 294 children, 105 (35.7%) were in the insufficient birth weight group, and 189 (64.3%) were in the adequate weight group. Statistical analysis revealed significant factors influencing adequate birth weight, such as maternal age between 20-35 years (p=0.019), having any employment (p=0.011), prenatal consultations ≥6 (p=0.022), and skin-to-skin contact (p=0.012) as protective factors, while smoking (p=0.012) and prematurity (p=0.000) were risk factors. For breastfeeding prevalence, the percentages for EBF ≥6 months were 67.6% in the insufficient weight group and 67.1% in the adequate weight group. **Conclusion:** The study showed that breastfeeding practices (EBF and BF) were generally higher than the Brazilian average, with more children in the insufficient weight group never breastfeeding. The higher prevalence of breastfeeding can be attributed to prenatal care, while the higher percentage of children never breastfed in the insufficient weight group is likely due to early weaning among mothers of preterm and LBW infants.

Keywords: breastfeeding; birth weight; primary health care; slums.

ANALYSIS OF SFAS, SFASL, SPD1, AND SPDL1 IN WOMEN WITH HER2+ AND TRIPLE NEGATIVE LOCALLY ADVANCED BREAST CANCER UNDERGOING NEOADJUVANT CHEMOTHERAPYC

CAROLINA DE SOUZA VASCONCELOS

Advisor: Leuridan Cavalcante Torres
Defense date: 2018nov. 30

Introduction: Breast cancer (BC) is the most common malignant neoplasm among women worldwide. It constitutes a heterogeneous group of lesions that differ in their clinical presentation, radiographic, histopathological, molecular characteristics, and biological potential. There are mechanisms that inhibit the cellular immune response by expressing inhibitory receptors on the surface of T lymphocytes. Programmed death 1 (PD1) molecules and their ligands (PD-L1), as well as FAS and FASL, present themselves as receptors on the cell membrane surface and in a soluble form in plasma (sPD1, sPD-L1, sFAS, and sFASL), capable of attenuating immune responses by negatively regulating the proliferation and functional activity of T cells. **Objective**: To evaluate the plasma levels of sFAS, sFASL, sPD1, and sPD-L1 in women with HER2+ and triple-negative (TN) breast tumors undergoing neoadjuvant treatment. **Methods**: Between 2015 and 2018, a prospective cohort study was conducted at the mastology and oncology units of the Pernambuco Cancer Hospital (HCP) and the Translational Research Laboratory of the Prof. Fernando Figueira Integral Medicine Institute (IMIP). The study included women with TN (n=21; 48.4 ±9.64 years) and HER2+ (n=16; 43.4 ±10.68 years) breast cancer. Among the 37 patients, six (16.2%) died within 24 months of diagnosis due to disease progression. Peripheral blood samples were collected before and after neoadjuvant chemotherapy (QTNeo). The control group consisted of 30 women (aged 18-65) without a previous or current diagnosis or family history of breast cancer. Treatment was conducted with dense doses of Adriamycin and cyclophosphamide for four cycles, followed by paclitaxel for 12 weeks. For HER2+ breast cancer patients, trastuzumab was added to paclitaxel every 21 days a year. No clinical evidence of breast tumor and axillary lymph nodes was defined as a pathological complete response (PCR). Plasma levels of sFASL, sFAS, sPDL1, and sPD1 were analyzed using Enzyme Immunosorbent Assay (ELISA). Mann-Whitney and Kruskal-Wallis tests were used to analyze median values between groups. For paired analysis, the non-parametric Wilcoxon test was used. Values of p<0.05 were considered significant. Statistical analysis was performed using GraphPad Prism v6.0 software. **Results**: Elevated levels of sPD1 were observed in TN and HER2 patients when compared to the control group (p<0.0001 and p=0.0002, respectively). Elevated levels of sFAS were also found in TN and HER2 tumors when compared to controls (p=0.0008 and p=0.0007, respectively). Reduced levels of sFASL after QTNeo were observed in the TN group with PCR (p=0.02). Additionally, reduced plasma levels of sPDL1 before QTNeo were found in the HER2 and PCR tumor groups compared to those without PCR (p=0.01). In the death analysis,

patients who did not survive the first 24 months of follow-up had elevated serum levels of sFAS, sFASL, and sPD1 before chemotherapy when compared to those who survived (p=0.003, p=0.01, p=0.005, respectively). **Conclusion**: The molecules sPD-L1 and sFASL may be predictive biomarkers of complete pathological response in women with HER2+ and TN breast tumors, and neoadjuvant treatment can modulate the plasma levels of sFASL in triple-negative BC.

Keywords: breast cancer; FAS; PD1 and PDL1 receptors.

ELECTROMYOGRAPHIC ACTIVITY OF THE HEAD AND TRUNK MUSCLES IN FULL-TERM AND PRETERM NEWBORNS: PILOT STUDY

SAMILE DOS SANTOS BARROS

Advisor: Isabela Cristina Coutinho de Albuquerque Neiva Coelho
Defense date: 2018 nov. 27

Introduction: In the first few months of life, the motor patterns of a full-term infant change constantly as their reflex components become more developed and organized. Preterm infants, having been born before their central nervous system is fully developed, may exhibit some type of motor deficit. Muscle movement is produced through an electrical discharge that causes the fibers to shorten, resulting in muscle contraction. This signal can be captured through a test called electromyography. **Objective**: To determine the amplitude of electromyographic activity of the flexor and extensor muscles of the head and trunk in full-term and preterm newborns. **Methods**: This was a longitudinal pilot study approved by the Ethics Committee in Research with Human Beings (CEP) of IMIP (approval number 1,879,676), which evaluated 20 preterm and 20 full-term newborns admitted to the Kangaroo Care Intermediate Care Unit and joint accommodation rooms 1 and 2 at the Prof. Fernando Figueira Integral Medicine Institute. All newborns were evaluated between 24 and 72 hours after birth, and the pre-term newborns were evaluated a second time when they reached the equivalent age of full-term (40 weeks). The sternocleidomastoid, trapezius, abdominal rectus, and erector spinae muscles were evaluated (unilaterally), with electrodes placed on the central portion of the muscle belly and the reference electrode on the right lateral malleolus. The recording was done with an electromyograph. Statistical analysis was performed using Sigma-Stat software version 3.5 (Systat Software Inc. - USA). Normality of data was first assessed using the Kolmogorov-Smirnov test. Student's t-test was applied to compare the means between the two groups (full-term and preterm). **Results**: The amplitude of electromyographic activity in the muscles of preterm newborns was smaller than that of full-term newborns. However, when they reached full-term age, the preterm newborns showed electromyographic activity statistically equal to that of full-term newborns. **Conclusion**: The amplitude of electromyographic activity of the flexor and extensor muscles of the head and trunk in preterm newborns increased with age, becoming similar to that found in full-term newborns. It is important to emphasize the knowledge of the behavior of these muscles in newborns for healthcare professionals to identify early motor development delays.

Keywords: muscles; newborns; electromyography.

EVALUATION OF QUALITY OF LIFE, ANXIETY, AND DEPRESSION IN PATIENTS WITH ADVANCED CERVICAL CANCER TREATED WITH NEOADJUVANT CHEMOTHERAPY FOLLOWED BY CHEMORADIOTHERAPY

LUANA MARIA DA SILVA OLIVEIRA

Advisor: Maria Julia Goncalves de Mello
Defense date:2018aug. 10

Introduction: Cervical cancer represents a serious public health problem worldwide. In Brazil, it is the third most common type of cancer among women, ranking second in the northeastern region. Quality of life (QoL) measurement has been used in oncology clinical trials to assess the side effects of chemotherapy, evaluating the positive and negative impacts on the patient's life. Anxiety and depression directly interfere with quality of life. **Objective**: To evaluate the QoL, anxiety, and depression scores in patients with advanced cervical cancer treated with neoadjuvant chemotherapy followed by chemoradiotherapy. **Methods**: A prospective cohort study involving 40 patients with locally advanced cervical cancer who participated in a phase II study protocol evaluating the safety and efficacy of neoadjuvant chemotherapy, conducted at a teaching hospital in northeastern Brazil between November 2013 and January 2017. QoL assessments were performed before treatment, after neoadjuvant chemotherapy, after radiotherapy, and three months after the end of treatment using the Functional Assessment of Cancer Therapy-Cervix (FACT-Cx). Anxiety and depression levels were assessed using the Hospital Anxiety and Depression Scale (HADS) at all four time points. **Results**: The mean age of the women was 48 (±11.4) years, with an age range of 24 to 67 years. The number of children ranged from 0 to 9, with an average of 3 children, and the majority (52.5%) were single. About 60% had completed up to 4 years of schooling, and 25% were illiterate. In the 1st and 4th evaluations, the mean anxiety scores were 7±3.5 and 5.5±3.6, and the mean depression scores were 4.4±3.2 and 3.7±2.6, with a significant variation in depression scores. The average FACT-Cx score before treatment was 112.3±17.4. In the last evaluation, the average was 116.3±27.6, ranging from 52 to 155, with no statistically significant difference. **Conclusion**: QoL scores remained stable throughout the treatment, suggesting no negative impact. However, the levels of anxiety and depression decreased. These findings contribute to understanding the emotional well-being of patients undergoing treatment for locally advanced cervical cancer and can help optimize care strategies.

Keywords: cervical cancer; anxiety; depression; neoadjuvant chemotherapy.

ELECTROMYOGRAPHIC BEHAVIOR OF THE UPPER AND LOWER LIMB MUSCLES IN TERM AND PRETERM NEWBORNS

RENATA SANTIAGO REGES

Advisor: Isabela Cristina Coutinho de Albuquerque Neiva Coelho
Defense date: 2018 sep. 17

Introduction: Prematurity is one of the major perinatal problems, potentially leading to alterations in muscle tone, which can impact the motor development of these children. Electromyography allows for accurate recording of electrical activity from muscle fibers, making it very appropriate for tone analysis. **Objective**: To evaluate the amplitude of the electromyographic activity of the upper and lower limb muscles in term and preterm newborns. **Methods**: This longitudinal study was conducted from March 2016 to August 2018, with 40 newborns (20 term and 20 preterm) of both sexes, all clinically and hemodynamically stable. Exclusion criteria included an Apgar score lower than 7 at 5 minutes, a history of grade III or IV intracranial hemorrhage, history of seizures, congenital infection, malformations of the central nervous system or limbs, central nervous system infections (meningitis or encephalitis), complex congenital heart disease, and birth trauma. Surface electromyography was used to evaluate the biceps brachii, triceps brachii, and quadriceps femoris muscles. Term and preterm newborns were evaluated up to 72 hours after birth, and preterm newborns were reassessed at the gestational age equivalent to term (40 weeks). For comparisons of electromyographic activity within groups (preterm newborns), the paired t-test was used, and for intergroup comparisons (preterm and term newborns), the independent t-test was applied. **Results**: There was an increase in the Root Mean Square (RMS) in the biceps (p<0.002), triceps (p<0.006), and quadriceps (p<0.006) muscles of preterm newborns from the first to the second evaluation. However, the RMS value of these preterm newborns at the gestational age equivalent to term did not differ statistically from term newborns. **Conclusion**: The increase in electromyographic activity in preterm newborns, even without specific external stimulation, demonstrates natural physiological performance. According to these results, preterm newborns exhibit neuromuscular development corresponding to the period from birth to the gestational age equivalent to term.

Keywords: electromyography; premature; newborn; muscle tone.

SICKLE CELL DISEASE IN CHILDREN AND TEENAGER IN A UNIVERSITY HOSPITAL IN NORTHEASTERN BRAZIL, 2014 – 2017

TACIANA RAULINO DE OLIVEIRA CASTRO MARQUES

Advisor: Suely Arruda Vidal
Defense date: 2018jun.05

Introduction: Sickle cell disease (SCD) is a major public health problem in Brazil, where approximately 3,000 children are born with the condition each year (1:1,000), predominantly in lower socio-economic classes. Hematological alterations result in acute and chronic complications that increase the need for medical care, contribute to high school absenteeism, decrease work capacity, and compromise both quality and life expectancy. **Objectives**: To describe the clinical and epidemiological profile of pediatric patients with SCD enrolled in a university hospital in Campina Grande, PB, from 2014 to 2017. **Methods**: A case series study with 48 children and teenagers with SCD, attended at a reference public hospital. The research began after approval by the Ethics and Research Committee of the Alcides Carneiro University Hospital and the Federal University of Campina Grande (UFCG), CAAE: 69332717.1.0000.5182. Information sources included medical records and, when necessary, data completion from the guardians. A form containing variables of interest was developed, and after data collection, the information was entered into an Excel spreadsheet and analyzed using the Epi-Info version 7.2 program. Descriptive epidemiology was used to present the data through frequency tables for categorical variables and measures of central tendency and dispersion. **Results**: Of the patients studied, 50% were female; age ranged from 15 months to 19 years, with a mean of 10 years and a median of 8.6 years; the majority were brown or black (91.7%); 81.3% belonged to classes D-E. Among the guardians, 48% reported less than nine years of schooling; 25% of the patients were behind in school; 70.9% lived outside the city of follow-up, and 45.9% did not have access to basic sanitation at home. Late diagnosis occurred in 93.8%; 87.5% had irregular outpatient follow-up. More than 77% of patients did not undergo regular complementary exams; 20.8% underwent transcranial Doppler. The vaccination schedule was incomplete/outdated in 62.5%. There were 574 hospitalizations; painful crises were the most common cause (44.3%), affecting 93.7% of the patients. Patients had an average of eight hospitalizations, with a median hospitalization time of 50.5 days at the reference hospital. Among chronic complications, cardiac and hepatobiliary issues were the most common (56.2% and 54.3% of investigated patients, respectively). Therapy used included red blood cell concentrates (85.4%), antibiotic prophylaxis (68.7%), hydroxyurea (37.5%), and iron chelator (2.1%). **Conclusions**: SCD primarily affects the disadvantaged social classes; it remains a clinically neglected condition in the region, characterized by late diagnosis, complications, frequent hospitalizations, questionable therapy, and inadequate clinical follow-up, which can compromise the patients' quality of life. The study identified organizational issues within the healthcare network that hinder the continuity and comprehensiveness of care.

Keywords: sickle cell disease, complications, epidemiology.

FREQUENCY AND ASSOCIATED FACTORS OF URINARY INCONTINENCE IN TEENAGER PREGNANT WOMEN ATTENDED IN A HIGH-RISK PRENATAL CLINIC: A CROSS-SECTIONAL STUDY

VANESSA SAMPAIO DE VASCONCELOS

Advisor: Aurélio Antônio Ribeiro da Costa
Defense date: 2018sep. 11

Introduction: Urinary incontinence (UI) is a significant public health issue, and when it occurs during sexual intercourse, it is called coital incontinence (CI). Among the types of UI, stress urinary incontinence (SUI) is the most common, even during pregnancy. The prevalence of teenage pregnancies in Brazil is quite high, and young age may not be a protective factor against pelvic floor dysfunctions. **Objective**: To determine the frequency of UI, SUI, and CI in teenager pregnant women and describe the factors associated with this condition. **Methods**: This was a cross-sectional study with 103 pregnant teenagers aged 10 to 19 years who participated in the research during their prenatal visits. The eligible pregnant women answered a questionnaire about their biological, sociodemographic, clinical, reproductive, micturition, sexual, and lifestyle characteristics, as well as the Incontinence Severity Index (ISI) to assess the frequency and amount of urinary leakage. The Chi-square test was used to check for associations, and Fisher's Exact Test was applied for categorical variables. A significant level of 5% was adopted. The project was approved by the Research Ethics Committee of IMIP, under CAAE: 65065416.7.0000.5201. **Results**: A statistically significant association was found between pregnant women with UI and those with SUI in the current pregnancy (100%; RR 2.78; 95% CI RR 2.01-3.86; p-value < 0.001). A statistically significant relevance was observed between teenagers with UI and the presence of SUI before pregnancy (100%; RR 1.77; 95% CI RR 1.48-2.13; p-value 0.011). **Conclusion**: Pregnancy itself appears to be a factor that favors the development of UI, even in teenager and nulliparous women, and symptoms may occur as early as the first trimester of pregnancy.

Keywords: urinary incontinence; teenager; pregnant; pelvic floor.

FUNCTIONALITY OF THE PELVIC FLOOR MUSCLES IN SEX WORKERS

RAIANA FERNANDES MARIZ SIMÕES

Advisor: Melania Maria Ramos de Amorim
Defense date: 2018 nov. 18

Introduction: Prostitution is a commercial activity defined as the practice of paid sexual services. It does not have rules for location, work time, or number of clients. Sex workers live in vulnerable situations and frequently and intensely use their pelvic floor muscles, which may interfere with the functionality of these muscles that are involved in urinary and defecatory functions, pelvic organ support, and sexual activity. **Objective**: To evaluate the functionality of the pelvic floor muscles in sex workers in a city in Northeast Brazil. **Methods**: This was a cross-sectional observational study including 30 female sex workers aged between 18 and 56 years. Eligible women answered a questionnaire regarding biological, anthropometric, sociodemographic, gynecological, obstetric, work-related characteristics, lifestyle habits, and history of violence, and were subjected to a clinical evaluation of the pelvic floor muscles, followed by an electromyographic evaluation. The data were analyzed and presented using median values with range and interquartile intervals. Spearman's correlation coefficient was used to check for correlations between the variables. To compare the median electromyographic activity between groups, the Mann-Whitney test was used. A significant level of 5% was adopted. The study was approved by the Research Ethics Committee of UEPB under CAAE 65943617.0.0000.5187, and all women agreed to participate and signed an informed consent form. **Results**: A regular inverse correlation was found between electromyographic activity of the pelvic floor muscles and age ($r = -0.369$; $p = 0.045$), weight ($r = -0.40$; $p = 0.028$), BMI ($r = -0.412$; $p = 0.024$), and number of pregnancies ($r = -0.399$; $p = 0.029$). No statistically significant correlation was found with race, work hours, or number of sexual partners per day. Women who worked more hours per day had greater electromyographic activity of the external pelvic floor muscles compared to those who worked fewer hours per day ($p < 0.001$). **Conclusion**: There was no correlation between the frequency and intensity of sexual activity and the electromyographic activity of the pelvic floor muscles in the sample studied. However, women who worked more hours per day exhibited higher electromyographic activity of the external pelvic floor muscles compared to those who worked fewer hours per day.

Keywords: sex workers; sexual behavior; pelvic floor; electromyography.

IMPACT OF DEEP BURNS ON QUALITY OF LIFE IN WOMEN TREATED AT THE OUTPATIENT CLINIC OF A REFERENCE HOSPITAL IN RECIFE, PE

SHIRLEY MARIA SANTOS MERGULHAO FREITAS

Advisor: Alex Sandro Rolland de Souza
Defense date: 2018nov. 30

Introduction: In many countries, burn accidents are a significant concern. In Brazil, they are the fourth most common type of trauma. Research on this topic has been increasing, as these accidents are considered a public health problem due to the rising number of cases, which often lead to limitations and affect quality of life (QoL). They impact interpersonal relationships in the family, at work, and in social settings. **Objective**: To assess the impact of deep burns on the quality of life in women after hospital discharge, while receiving treatment at an outpatient rehabilitation clinic in a public hospital in Recife. **Methods**: A cross-sectional, descriptive, and analytical study conducted at the Burn Treatment Center of the Hospital da Restauração (HR), a public reference hospital for burn victims in Recife, PE, northeastern Brazil. Data collection occurred from August 2017 to May 2018. Adult women over 20 years of age, undergoing outpatient burn treatment at HR, with deep burns on any part of their bodies, were included. Exclusion criteria were women with pre-existing locomotor, tegumentary, neuromotor, psychiatric, cognitive, visual, or auditory impairments. The study used questionnaires for sociodemographic, biological, and clinical variables, as well as the Burn Specific Health Scale-Revised (BSHS-R) to assess QoL. Additionally, goniometry and dynamometry tests were performed to evaluate joint range of motion (ROM) and grip strength, respectively. Data analysis included univariate analysis using Student's t-test to compare mean QoL scores across two categories of explanatory variables, which were dichotomized. Multiple linear regression models were adjusted to identify factors associated with six domains of QoL. Only statistically significant variables (p ≤ 0.20 in univariate analysis) were considered in the regression models. **Results**: The study included 50 women, with an average age of 42.8 ± 15 years. The results showed a negative impact of burns on the QoL of women, particularly when associated with variables such as being black/brown, low education, low income, and recent facial, head, neck, or right upper limb injuries (less than six months). The overall QoL score showed a median of 92.0, indicating a high level of impairment. **Conclusion**: Deep burn victims showed significant physical, emotional, and psychological impacts, negatively affecting their self-image and daily life activities. These effects were intensified by factors such as social position, injury severity, duration, and education level, resulting in low QoL.

Keywords: burns; rehabilitation; quality of life; women.

INCIDENCE OF PHYSICAL VIOLENCE AGAINST WOMEN IN RECORDS OF IPC-CAMPINA GRANDE/PARAÍBA - 2015/2016: AN EPIDEMIOLOGICAL STUDY

LUCIANO EDGLEY DOS SANTOS

Advisor: Maria Arleide da SilvaDefense
Defense date: 2018jul. 27

Scenario: Violence against women, declared a public health issue over two decades ago, continues to present high global prevalence and remains underreported. Studies identifying new cases of physical violence against women (VCM) are scarce. **Objective**: To determine the incidence of physical violence against women examined in the area covered by IPC-Campina Grande/Paraíba, in 2015-2016. **Methods**: A descriptive, longitudinal, and cross-sectional epidemiological study was conducted, analyzing 2056 forensic reports of women aged 15 and over examined by the Forensic Medicine and Dentistry Center of Campina Grande/Paraíba (IPC-CG/Paraíba) from January 2015 to December 2016. A custom form was used, based on the official form for issuing Traumatological Reports by IPC, containing variables of interest. Data was digitized and analyzed using Epi-Info and Graphpad Prism software. Frequency analysis, central tendency measures, and Pearson's Chi-square tests were performed to assess associations between dependent and exposure variables. **Results**: The incidence of physical violence was 17.9:10,000 in 2015 and 18.4:10,000 in 2016. Among women aged 20-49, the incidence was 14.4/10,000. November had the highest number of occurrences (212 records), while February had the lowest (149 records). In terms of marital status, 47.8% were married or in a stable union, 42.7% were single, 5.7% were divorced, and 1.9% were widowed. Regarding education, 23.4% had no schooling, 6.7% completed elementary school, 22.7% had high school education, and 9.1% had higher education. As for the instruments used in physical violence, 83.1% were inflicted with blunt objects, 1.4% with sharp objects, 4.6% with blunt and sharp objects, and 6% with mixed blunt and sharp objects. **Conclusion**: A high incidence of physical violence against women was observed, confirming the growing violence among women in Paraíba.

Keywords: violence; violence against women; physical violence; incidence.

CLINICAL-EPIDEMIOLOGICAL PROFILE OF PATIENTS ADMITTED TO AN OBSTETRIC INTENSIVE CARE UNIT IN NORTHEASTERNBRAZIL

MARCOS ANDRE DA SILVEIRA DINIZ

Advisor: Melania Maria Ramos de Amorim
Defense date: 2018 nov. 27

Introduction: The admission rate of patients during the gravid-puerperal period to ICUs is a key indicator of maternal morbidity. It is estimated that 0.1 to 0.9% of pregnant women develop complications requiring ICU admission. Approximately 70% of obstetric ICU admissions are related to pregnancy-related issues, with the most common causes being hypertensive syndromes, obstetric hemorrhages, infections, respiratory failure, and sepsis. However, the prognosis for these patients is usually good, often requiring minimal intervention with low mortality rates.**Objective**: To determine the clinical-epidemiological profile of patients admitted to the Obstetric Intensive Care Unit of the Elpídio de Almeida Health Institute (ISEA) in Campina Grande, Paraíba.**Methods**: A retrospective and prospective descriptive observational cross-sectional study was conducted at ISEA, including patients admitted to the Obstetric ICU with complications arising from pregnancy and puerperium. Medical records from 2017 and patients admitted between April and September 2018 were reviewed. Sociodemographic, biological, obstetric variables, diagnoses, comorbidities, clinical characteristics, near miss criteria, and outcomes (discharge, death, or transfer) were analyzed. Data were processed using Epi Info 7 and analyzed with measures of central tendency, dispersion, and frequency distribution for categorical variables. **Results**: A total of 107 women were included, with a median age of 27.3 years. Most women were from other cities (97.2%), had prenatal care (97.2%), with a median of six consultations beginning at 22 weeks of gestation. The main diagnoses were preeclampsia (39.3%), HELLP syndrome (14%), eclampsia (9.3%), infections (7.5%), post-partum hemorrhages (6.5%), and epilepsy (5.6%). The near miss frequency was 14%, with clinical criteria in 10.3%, laboratory in 1.9%, and management in 2.8%. The majority were discharged (92.5%), with 4.7% transferred and 2.8% died. **Conclusion**: Most patients were admitted to the ICU due to hypertensive syndromes, with the majority presenting near miss criteria during pregnancy. The outcome for most patients was favorable, with mortality rates consistent with those reported in the literature for obstetric ICU patients.

Keywords: pre-eclampsia; intensive care; maternal health services; maternal mortality; health profile.

EPIDEMIOLOGICAL, CLINICAL, AND LABORATORY PROFILE OF WOMEN WITH ANAL NEOPLASIA ASSOCIATED WITH CERVICAL NEOPLASIA IN A TERTIARY CARE SERVICE IN NORTHEAST BRAZIL – A DESCRIPTIVE STUDYGIAN FRANCISCO DE MACEDO ALMEIDA

Advisor: Melania Maria Ramos de Amorim
Defense date: 2018aug. 10

Background: There is a global increase in the incidence rates of HPV-induced anal neoplasias, particularly among women. An increased prevalence of anal lesions is observed, especially in women with cervical neoplasias. In Brazil, few studies examine the epidemiological, clinical, and analytical findings, such as anal cytology, high-resolution anoscopy, and histopathology of these women. **Objectives**: To describe the epidemiological, clinical, and laboratory profile of women with anal neoplasia associated with cervical neoplasia. The study aimed to describe the biological, sociodemographic, sexual, reproductive, and lifestyle characteristics, as well as the clinical and laboratory findings, and determine the frequency of anal cytological, colposcopic, and histopathological findings in the sample studied. **Method**: A descriptive analysis of a cross-sectional database study was conducted from December 2008 to January 2016. Women diagnosed with intraepithelial lesion or cervical cancer were included. Women undergoing radiotherapy (RAD) or chemotherapy (QT) for invasive cervical neoplasia, those with mental illness, and incarcerated women were excluded. The patients completed a specific questionnaire and, after consent, underwent anal cytology, high-resolution anoscopy, and biopsy for histopathological analysis. Statistical analysis was performed using the public domain software Epi Info 7 (CDC, Atlanta, USA), with measures of central tendency and dispersion, and frequency distribution tables. **Results**: Women diagnosed with anal and cervical intraepithelial neoplasia were young (median age of 33 years), non-White in 68% of cases, low income (monthly income below the minimum wage in 69.6%), and low education level (median of 6 years). Most were in stable unions and lived in urban centers (55.2% and 71.8%, respectively). Regarding sexual and reproductive characteristics, these women had early sexual debut (half before 16 years), practiced anal-receptive intercourse, and engaged in unprotected sex 73% and 84% of the time, respectively. Bleeding occurred in 7% and pruritus in 11%, with few symptomatic lesions. HIV testing was positive in 10%. There were reports of anal condylomas, but at a low frequency. Most reported up to two births. High rates of smoking and alcohol consumption were observed. Anal cytology was abnormal in 92% of the study sample. High-resolution anoscopy was abnormal in all cases, and histopathology showed 32% high-grade lesions and three cases of invasive carcinoma. The most common finding in high-resolution anoscopy was acetowhite epithelium (89.5%). Histopathology revealed AIN 1 in 41.4%, AIN 2 in 18.8%, AIN 3 in 12.7%, and three cases of invasive anal carcinoma. **Conclusion**: Women with diagnoses of anal and cervical neoplasia are often young, non-White, have early sexual initiation, engage in unprotected anal-receptive intercourse, live in urban areas, and have low income and education levels.

Keywords: Papillomaviridae; cervical neoplasms; diagnosis; anal cancer; Master's in Integral Health.

REASONS PROVIDED BY PREGNANT WOMEN FOR PARTICIPATING IN A CLINICAL TRIAL FOR PREMATURITY PREVENTION: A QUALITATIVE ANALYSIS

THAIS VALERIA E SILVA MACIEL MONTEIRO

Advisor: Leila Katz
Defense date: 2018 aug. 31

Introduction: Clinical trials in medicine enable new knowledge and information that contribute to the development of more effective and often innovative treatments. However, patient recruitment is necessary for clinical trial development. Pregnant women are among the groups where recruitment poses greater challenges, with limited understanding of their motivations to participate in research. Various factors may affect a pregnant woman's decision to participate in a clinical trial, making it essential to understand these to provide better patient follow-up and improve recruitment techniques for future trials. **Objectives**: To understand the reasons that led high-risk pregnant women for preterm birth to participate in the randomized clinical trial P5 STUDY. **Method**: A cross-sectional, quantitative study and qualitative analysis of two open-ended questions were conducted. Participants in the anchor project were contacted by telephone post-birth and invited to answer a questionnaire. A total of 208 women from different geographic regions agreed to participate in the study. Data collection was performed by phone, and data was analyzed through thematic analysis categories. After defining the analysis categories, all responses were reviewed, categorized, and grouped. A descriptive summary of the content corresponding to each category was then made. **Results**: Four categories were identified: (1) the risk of losing the baby, (2) prior experience of preterm birth, (3) the role of the doctor and other health professionals, and (4) quality medical care and free medication. The primary reason for accepting participation in the clinical trial was to reduce the risk of prematurity for the baby, especially emphasized when the patient had personal or social network experience with prematurity. Clear guidance and explanations from the doctor on prematurity and the P5 Study also influenced women to participate, as well as the opportunity to receive free treatment with greater accessibility to the public health system. **Conclusion**: Participating in a clinical trial is not an easy decision, especially when the patient is vulnerable and facing a critical situation, such as high-risk pregnancy for preterm birth. Fears and insecurities about the pregnancy's future impact the decision to participate, as well as previous experiences and knowledge about the actual risks involved. Recruitment challenges can be overcome with clear explanations and support from the research team, creating a bond that can provide security and trust in the study's purpose.

Keywords: pregnant women, preterm birth, clinical trial, participation; Master's in Integral Health.

NON-INVASIVE VENTILATION AS THE FIRST CHOICE OF VENTILATORY SUPPORT IN CHILDREN IN AN INTENSIVE CARE UNIT

ALINE RAFAELE BARROS DA SILVA LINS

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2018 sep. 19

Background: Respiratory diseases are the leading causes of admissions in the pediatric intensive care unit (PICU) in Brazil. It is estimated that 30 to 50% of pediatric patients in the ICU require some form of mechanical ventilatory support, invasive or non-invasive. Due to the detrimental effects of invasive ventilation, non-invasive ventilation (NIV) can be chosen as the first option for selected cases of acute respiratory failure. Although NIV use is increasing, certain conditions may prevent the expected outcome, leading to NIV failure. Management data and success rates for this therapy in Brazilian children are limited, as is understanding of factors associated with NIV failure. **Objective**: To describe the use of non-invasive ventilation in preventing tracheal intubation in children in a private PICU in Recife/PE and analyze the factors associated with failure. **Methods**: An observational, cross-sectional study with retrospective data from January 2016 to May 2018 was conducted. All children over one month old and up to 14 years and 11 months, using NIV (nasal or facial interface) as the first-line therapeutic option for treating acute respiratory failure, admitted to the PICU of a hospital with Canadian international accreditation (Qmentum Diamond) in Recife/PE, were evaluated. Biological and clinical data collected included age, sex, weight, nutritional status and risk, total PICU admissions, clinical diagnosis, severity score, length of PICU stay, total NIV time in days, NIV success or failure, average duration, and NIV usage rate. Statistical analysis compared biological and clinical variables between two groups (NIV success and failure) using Student's t-test (Normal Distribution) and Mann-Whitney (Non-Normal Distribution). A model was analyzed with variables that achieved significance ≤ 0.20 in the bivariate analysis, followed by Logistic Regression using the ENTER method. SPSS 13.0 (Statistical Package for the Social Sciences) for Windows was used, with a significant level of 5%. **Results**: Of 209 eligible patients, NIV was performed as the first ventilatory support option within the first 24 hours of PICU admission in 86.6% of patients, and FiO2 use upon admission was greater than or equal to 0.40 in 47% of cases. The success rate was 95.3% [84.32:106], and mortality was 1.4%. In comparing clinical variables among children with NIV success or failure, lower PRISM scores and shorter PICU stays were associated with NIV success. Logistic regression analysis showed that oxygen use above 40%, comorbidities, and clinical outcome (discharge or death) significantly influenced NIV failure. **Conclusion**: A high success rate in NIV use was observed, indicating effectiveness in treating acute respiratory failure episodes in children. Independent factors associated with NIV failure suggest that children with higher PRISM scores upon admission, respiratory comorbidities, and requiring ≥40% oxygen at PICU admission have a higher likelihood of NIV failure.

Keywords: non-invasive ventilation, children, pediatric intensive care unit, respiratory failure, comorbidity.

THE ACCURACY OF ULTRASOUND-GUIDED FINE-NEEDLE ASPIRATION (FNA) IN DETECTING AXILLARY INVOLVEMENT IN BREAST CANCER

MARIA CAROLINA GOUVEIA GONCALVES DE OLIVEIRA

Advisor: Ariani Impieri Souza
Defense date: 2019jun. 20

Introduction: Ultrasound-guided fine-needle aspiration (FNA) in axillary involvement due to breast cancer has been suggested as a low-cost and fast procedure. However, its actual importance has not yet been defined. **Objective**: To evaluate the accuracy of ultrasound-guided FNA in detecting axillary involvement in breast cancer and compare it with other axillary evaluation methods: axillary palpation (AP) and isolated axillary ultrasound (US). Methods: This accuracy study used data from breast cancer patients seen between 2013 and 2017 at a mastology service in Recife, Brazil. Calculated parameters included sensitivity, specificity, accuracy, positive predictive value (PPV), and negative predictive value (NPV) for AP, axillary US, and FNA. Histopathological examination (of the sentinel lymph node and/or axillary dissection) was adopted as the gold standard. The study was approved by the institution's Research Ethics Committee. **Results**: A total of 206 tumors were analyzed. AP was truly positive in 34% of cases, similar to results obtained for axillary US (36.4%). A lower incidence of false negatives was found for ultrasound-guided FNA (16.5%). Axillary involvement was identified in 82 cases (39.8%). Ultrasound-guided FNA was performed in 79 cases, of which 51 (64.5%) were true positives and 13 (16.5%) were false negatives. Comparative analysis of the AP, axillary US, and ultrasound-guided FNA results with the gold standard (histopathological examination) showed that: AP had an accuracy of 69.9% (95% CI 61.1-76.1), better than that of axillary US, which had an accuracy of 68% (95% CI 61.1-74.3). Ultrasound-guided FNA demonstrated high specificity (100%, 95% CI 81.9-100%) with a PPV of 100% (95% CI 94.3-100%), but with a low NPV (53.6%, 95% CI 33.9-72.5). The best NPV was found with AP (59.7%, 95% CI 50.5-68.4), followed by axillary US (59.1%, 95% CI 49.3-6,4). The accuracy of ultrasound-guided FNA was 83.5% (95% CI 73.5-91.0). **Conclusion**: The good accuracy found for ultrasound-guided axillary FNA suggests it is a promising exam in investigating axillary involvement in breast cancer and a possible aid in defining pre-surgical conduct.

Keywords: breast neoplasms; needle biopsy; neoadjuvant therapy; sentinel lymph node; breast ultrasonography.

ULTRASONOGRAPHIC FINDINGS AND GROWTH OF FETUSES OF ZIKA VIRUS-INFECTED PREGNANT WOMEN WITH AND WITHOUT FETAL MICROCEPHALY

EMANUELLEMENEZESHONORATO

Advisor: Alex Sandro Rolland de Souza
Defense date: 2019 oct. 17

Introduction: Congenital microcephaly is characterized when a newborn or fetus has a head size below normal. Since 2015, during the Zika virus outbreak, several studies have been conducted to confirm the association between microcephaly and maternal infection with the Zika virus. **Objective**: To compare the ultrasonographic findings and growth of fetuses of pregnant women with and without fetal microcephaly with clinical suspicion of Zika virus infection in a reference maternity hospital in Pernambuco. **Methods**: A retrospective longitudinal observational study was conducted in a cohort of pregnant women with clinical suspicion of Zika virus infection with and without fetal microcephaly, from October 2015 to August 2016. Those with fetal microcephaly of non-Zika virus infection origin was excluded. The studied variables were morphological characteristics and fetal biometrics obtained through ultrasound. The relationship between each fetal biometric measurement and gestational age was analyzed using mixed-effects regression models, via fractional polynomials. Curves of mean ultrasound biometric values by gestational age were constructed to assess fetal growth. **Results**: Forty-seven fetuses with microcephaly and 63 without microcephaly were evaluated, with the biparietal diameter (BPD) and head circumference (HC) increasing in both groups with advancing gestational age. For fetal microcephaly groups, BPD and HC means were statistically higher in the 13th and 14th gestational weeks ($p<0.05$) and lower from the 20th gestational week onwards ($p<0.05$), with an increase in the difference as gestational age advanced compared to the non-microcephaly group. The growth rate of the occipitofrontal diameter was higher in the microcephaly group up to the 27th gestational week ($p<0.001$), where a change occurred, and the non-microcephaly group then showed a statistically significantly higher growth rate until the 34th gestational week ($p<0.05$). Regarding the posterior horn of the lateral ventricle, a significant increase in its mean measurement was observed from the 21st gestational week in fetuses with microcephaly ($p<0.001$). The cisterna magna (CM) presented a significant difference in its mean measurement from the 23rd to the 38th week of pregnancy ($p<0.05$), being larger in fetuses with microcephaly. No statistical difference was observed for the mean femur length (FL) from the 13th to 20th gestational week ($p>0.05$). However, the mean transverse cerebellar diameter was smaller in the microcephaly group from the 26th to the 37th week of gestation ($p<0.05$). Regarding the mean abdominal circumference (AC), a statistically significant variation was observed from the 25th gestational week ($p<0.05$), which became lower in fetuses with microcephaly. No statistically significant difference was found in the FL/AC ratio between groups until the 31st gestational week, with a higher mean FL/AC ratio in the microcephaly group from the 32nd week of gestation ($p<0.05$). There was no significant difference in the amniotic fluid index (AFI) between the groups. Neurological alterations in affected fetuses, such as enlargement of the cisterna magna, increased posterior horn of the lateral ventricle, and reduced cerebellar size, were observed. Fetuses with microcephaly also showed a higher chance of intrauterine growth restriction and increased amniotic fluid volume. **Conclusions**: The growth rate of head circumference continues to

increase until birth in fetuses with microcephaly, even after diagnosis, presenting only a deceleration in growth rate as gestation approaches term.

Keywords: microcephaly; zika virus; pregnancy; arboviruses.

ANALYSIS OF SOLUBLE LEVELS OF TNFRI/II RECEPTORS IN WOMEN WITH LOCALLY ADVANCED HER2+ OR TRIPLE-NEGATIVE BREAST CANCER BEFORE AND AFTER NEOADJUVANT CHEMOTHERAPY

KLEBER DAS NEVES JATAHY

Advisor: Leuridan Cavalcante Torres
Defense date: 2019 mar. 15

Introduction: Among women, breast cancer (BC) is the most diagnosed neoplasm, with 2.1 million cases in 2018, representing nearly one in every four cancer cases among women. It is also the leading cause of cancer-related deaths in females in more than 100 countries. Several receptors from the TNF family can stimulate and/or inhibit T lymphocytes under various experimental conditions. TNF-α can bind to two structurally distinct membrane receptors: Tumor Necrosis Factor Receptor Type I (TNFRI) and type II (TNFRII), which can activate distinct transcription factors through intracellular signaling. **Objective:** To evaluate the soluble levels of sTNFRI and sTNFRII receptors in women with locally advanced HER2+ and triple-negative breast tumors before and after neoadjuvant chemotherapy. **Method:** From 2015 to 2018, an exploratory translational study was conducted in the mastology and oncology units of the Pernambuco Cancer Hospital (HCP) and in the Translational Research Laboratory of the Prof. Fernando Figueira Institute of Integral Medicine (IMIP). Women (aged 18 to 65) with TN (n=27) and HER2+ (n=22) breast tumor subtypes were included. Peripheral blood samples were collected before and after neoadjuvant chemotherapy. The control group included 30 women (aged 18 to 65) with no prior or current diagnosis or family history of breast cancer. Peripheral blood was collected before and after neoadjuvant chemotherapy. Treatment consisted of adriamycin and cyclophosphamide for 4 cycles, followed by paclitaxel for 12 weeks. In women with HER2+ BC, trastuzumab was added to paclitaxel every 21 days for up to one year. No clinical evidence of tumor in the breast and axillary lymph nodes was defined as a complete pathological response (pCR). The concentration of soluble molecules TNFRI, TNFRII, and TNF were determined in plasma samples by flow cytometry, using the BDTM Cytometric Bead Array (CBA) - Human Soluble TNFRI Flex Set and BDTM CBA - Human Soluble TNFRII Flex Set according to the manufacturer's instructions. The Mann-Whitney and Kruskal-Wallis tests were used to analyze median values between groups. The nonparametric Wilcoxon test was performed for paired analysis. Values of $p<0.05$ were considered significant. Statistical analysis was performed using GraphPad Prism v6.0. **Results:** In the paired analysis of BC patients before and after neoadjuvant chemotherapy, high serum levels of sTNFRI were observed in the HER2+ and TN subtypes (p=0.0006; p=0.0002, respectively) and a moderate increase in sTNFRII serum levels in the HER2+ and TN subtypes (p=0.0352; p=0.0015, respectively) after neoadjuvant treatment. A high correlation was observed between sTNFRI and sTNFRII levels in the HER2+ and TN subtypes before chemotherapy (r=0.83 and r=0.85; p<0.0001, respectively) and a moderate correlation in the HER2+ and TN subtypes after chemotherapy (r=0.50, p=0.0174; r=0.61, p=0.0021, respectively). **Conclusion:** sTNFRI and sTNFRII cannot be considered potential predictive biomarkers of pathological response in women with BC of the HER2+ or TN subtypes. However, neoadjuvant treatment may modulate sTNFRI and sTNFRII levels in BC for both subtypes studied.

Keywords: breast cancer; sTNFRI receptors; sTNFRII; TNF.

EVALUATION OF THE HOSPITAL INFECTION CONTROL PROGRAM (PCIH) IN THE PEDIATRIC CONTEXT

RUBIANE GOUVEIA DE SOUZA E SILVA

Advisor: Maria Julia Goncalves de Mello
Defense date: 2019 mar. 03

Introduction: The Hospital Infection Prevention and Control Program (PCIH) was developed to minimize the incidence and severity of Healthcare-Associated Infections (HAIs). To be effective, it requires monitoring and assessment of its indicators based on the characteristics of the populations served. **Objectives:** To develop the Logical Model and Indicator Matrix, validate, and assess the implementation of the PCIH in pediatric hospitals. **Methods:** This implementation analysis study, conducted from March 2017 to February 2019, assessed the degree of PCIH implementation and its effects. Based on World Health Organization and ANVISA program guidelines, a preliminary version of the Logical Model and Indicator Matrix was created and validated by experts through a consensus technique. Data were collected through an interview form for nurses and a direct observation checklist. The final model included the dimensions of Structure, Process, and Results, and the components of Health Surveillance (Epidemiological and Sanitary), Monitoring and Feedback, Protocols and Guidance Manuals, and Continuing Education. This single-case study was conducted in the pediatric department of the Prof. Fernando Figueira Institute of Integral Medicine (IMIP), with pediatric wards and the Pediatric Intensive Care Unit as analysis units. The structural and process dimensions were assessed normatively, with data recorded in Excel® for analysis and classification of the Degree of Implementation, which was then related to effect indicators. The project was approved by the IMIP Research Ethics Committee under No. 79709517.0.0000.5201. **Results:** The Hospital Infection Control Program was considered implemented in the pediatric context (87.8%). Among its components, Epidemiological Surveillance (89.9%), Sanitary Surveillance (99%), Monitoring and Feedback (91.7%), and Protocols and Guidance Manuals (82.5%) were classified as implemented; however, Continuing Education (44%) was not implemented. A coherence was observed between the Degree of Implementation (DI) and outcome indicators, which improved with a higher DI. **Conclusion:** The model aligned with the program's logic and met the evaluation objectives, confirming its implementation. However, there is a need for greater investment in Continuing Education for professionals to reduce HAI incidence, reinforcing the importance of ongoing evaluation by Hospital Infection Control Committees. The PCIH, as per the Ministry of Health and WHO, should be applied across all hospital sectors, with added attention to pediatric-specific items such as bottles, pacifiers, toys, incubators/cribs, which impact indicator surveillance.

Keywords: hospital infection; health evaluation; hospital infection control program; program and project evaluation in health.

CHARACTERISTICS OF NEWBORNS WITH HYPOXIC-ISCHEMIC ENCEPHALOPATHY UNDERGOING THERAPEUTIC HYPOTHERMIA IN A REFERENCE CENTER IN NORTHEASTERN BRAZIL: A COHORT STUDY

TERESINHA PEREIRA DE SANTANA LEMOS

Advisor: Alex Sandro Rolland de Souza
Defense date: 2019jul. 31

Background: Hypoxic-ischemic encephalopathy (HIE) occurs when asphyxia impairs tissue perfusion, reducing oxygen supply and affecting cellular metabolism, leading to multiple organ dysfunction and severe brain injury, manifested by seizures and other neurological signs. Therapeutic hypothermia, regarded as an important neuroprotective treatment, improves the prognosis of newborns; however, it is still underused in developing countries due to its high cost. **Objective:** To describe the characteristics of newborns with hypoxic-ischemic encephalopathy undergoing therapeutic hypothermia in a reference center in northeastern Brazil. **Methods:** This cross-sectional study included newborns with HIE who underwent whole-body therapeutic hypothermia from March 2012 to June 2018. Data were collected at the neonatal intensive care unit (NICU) of Clipsi General Hospital, a private hospital affiliated with the Unified Health System (SUS) in Campina Grande, Paraíba, Brazil, which has adult, pediatric, neonatal ICUs, maternity, and surgical and obstetric centers. Data collection included epidemiological, clinical, and laboratory information. The results were described using frequency distribution tables for categorical variables and measures of central tendency and dispersion for numerical variables, analyzed using Epi-info software, version 7.2. **Results:** Out of 1,791 newborns, 6.4% were admitted to the NICU, and 115 had HIE, of which 80 were classified as moderate to severe HIE and underwent therapeutic hypothermia. The mortality rate for newborns who received therapeutic hypothermia was 5%. Most mothers were aged between 18 and 35 years (n=58; 73%), attended six prenatal consultations (n=64; 80%), delivered vaginally (n=55; 69%), reported urinary infections (n=80; 100%), and lived in urban areas (n=56; 70%). Most newborns were male (n=45; 56%), weighed between 2,500 and 4,000 g at birth (n=67; 83%), had Apgar scores ≤5 in the first 10 minutes of life (n=68; 85%), and were born in a maternity ward (n=73; 91%). Respiratory dysfunction and infection were present in 100% of newborns, cardiac dysfunction in 73%, neurological dysfunction in 64%, and mortality in 5%. Antibiotics and anesthetics were administered to all cases, and anticonvulsants were needed in 66% of cases. **Conclusion:** Therapeutic hypothermia used to treat HIE showed a low mortality rate but frequent respiratory, infectious, cardiac, and neurological disorders.

Keywords: hypoxic-ischemic encephalopathy; therapeutic hypothermia; epidemiology; newborn.

GESTATIONAL AND PERINATAL OUTCOMES OF CASES OF CONGENITAL ZIKA SYNDROME MONITORED IN A REFERENCE SERVICE IN NORTHEAST BRAZIL

MARIANNY ASSIS COSTA

Advisor: Melania Maria Ramos de Amorim
Defense date: 2019 apr. 30

Introduction: In Brazil, there was a rapid process of dispersal of two new arboviruses in the Americas: the Chikungunya virus, introduced in July/August 2014, and the Zika virus (ZIKV), possibly introduced during the 2014 FIFA World Cup. In Paraíba, the increase in cases of microcephaly reported at the end of October 2015 sparked interest in research on the virus, its clinical manifestations, its relation to similar diseases, and the maternal-fetal outcomes resulting from ZIKV infection. **Objective:** To describe the gestational and perinatal outcomes in cases of Congenital Zika Syndrome (CZS). **Methods:** A prospective and retrospective cohort study involving 102 pairs of mothers and fetuses/children with CZS. Zika was investigated in amniotic fluid, maternal urine and/or blood, umbilical cord blood, and placenta fragments of the newborn, along with neuroimaging examinations. Descriptive analysis of variables was performed, with the chi-square test used to compare symptom presence between the prospective and retrospective arms, and the Mann-Whitney test was used to compare the number of prenatal ultrasounds when intrauterine diagnosis was made or not. **Results:** The majority of the pregnant women had a low socioeconomic status, with about 82% receiving care in the public health service. Almost all were aware of Zika before pregnancy, had mosquito breeding sites around their homes, were in contact with mosquitoes, and most had a rash in the first trimester (68.5%). Intrauterine diagnosis was made in 52.9%, and amniocentesis was performed in 19 mothers. RT-PCR was positive in 57.9% of cases where amniocentesis was conducted. The maternal diagnosis of Zika was presumed in 59.8% of cases. Intrauterine diagnosis by obstetric ultrasound was performed in 57.2% of women. The main ultrasound finding during pregnancy was ventriculomegaly, followed by microcephaly, subcortical and/or basal ganglia calcifications, posterior fossa changes, arthrogryposis, and corpus callosum dysgenesis. Urinary infection was the most observed morbidity during pregnancy, followed by anemia and hypertension. Vaginal delivery was the most frequent mode of birth, occurring in 53.9% of women. All babies were born alive, with a median gestational age at birth of 39 weeks, although 15.7% were preterm. The average head circumference was 30.0 ± 2.3 cm, with 66% of cases classified as microcephalic, and arthrogryposis was observed in 10 cases (9.8%). Neonatal complications were found in 28.4% of cases, with respiratory distress observed in 23.3%, 3.9% requiring resuscitation maneuvers, and 15.7% requiring admission to an intensive care unit (ICU). There were nine neonatal deaths (8.8%). **Conclusion:** This cohort represents pregnant women with low income served by the public health system, where CZS diagnosis was, in most cases, presumed based on ultrasound findings. Prematurity and neonatal complications were frequent. Although microcephaly had a high incidence, it was not present in all cases of CZS, so the diagnosis of the syndrome should consider intracranial findings. Neonatal mortality was high, nearly 10%.

Keywords: Zika virus; Zika virus infection; congenital abnormalities; pregnancy; brain damage; microcephaly.

EPIDEMIOLOGY OF PATIENTS WITH ACUTE AORTIC DISSECTION TYPE A, TREATED AT A REFERENCE CARDIOLOGY CENTER IN PERNAMBUCO IN 2016 AND 2017

PABLO CESAR LUSTOSA BARROS BEZERRA

Advisor: Luiz Claudio Arraes de Alencar
Defense date: 2019apr. 26

Aortic diseases are among the most significant cardiovascular diseases. The global mortality rate for diseases, including aortic aneurysms and dissections, was estimated at 2.78/100,000 people in 2010, with higher mortality observed among men compared to women. Acute aortic dissection type A has a mortality rate of 50% within the first 48 hours if not surgically treated. **Objectives:** To evaluate the epidemiological profile of patients with acute type A aortic dissection in a reference cardiology hospital. **Methods:** A retrospective cross-sectional study was conducted at PROCAPE, involving 24 patients who were hospitalized between January 1, 2016, and December 31, 2017, with a confirmed diagnosis of acute type A aortic dissection. **Results:** A total of 24 patients were evaluated. Of these, 20 (83.3%) underwent surgery and 4 (16.7%) were not operated on. Among those who underwent surgery, 10 (50%) died, and 10 (50%) were discharged. Among those who were not operated on, all died, with a p-value of 0.114 according to Fisher's Exact Test. The male gender predominated in 79.2% (n=19) of cases, 86.7% (n=13) had a BMI > 25 kg/m^2, chest pain was found in 91.7% (n=22), and renal insufficiency was present in 45.8% (n=11) of cases. Hypertension predominated in 91.7% (n=22), and the primary diagnostic test performed was aortic angiotomography in 79.2% (n=19) of cases. **Conclusion:** The study presented a small sample size, which made it impossible to associate factors, despite the service being considered a reference with a high surgical volume. It is possible that delays in reaching the service and the performance of additional invasive imaging tests with contrast may have worsened the condition of patients with a high rate of renal insufficiency, which could have contributed to the increased mortality rate in this study. However, further studies are necessary.

Keywords: aortic dissection; aneurysm; dissection.

PROGNOSTIC FACTORS AND PERINATAL OUTCOMES IN EARLY ONSET FETAL GROWTH RESTRICTION DUE TO PLACENTAL INSUFFICIENCY AT A REFERENCE HOSPITAL

SILVIA DE LOURDES DUTRA LORETO FAQUINI

Advisor: Alex Sandro Rolland de Souza
Defense date: 2019 dec. 26

Introduction: The purpose of fetal evaluation is to identify high-risk pregnancies for adverse events, thereby contributing to clinical management to avoid unfavorable outcomes. In pregnancies complicated by early onset intrauterine growth restriction (IUGR) due to placental dysfunction, the fetus may experience irreversible vital function compromise, with a risk of perinatal death. Placental dysfunction can be detected early through abnormalities in maternal, placental, and fetal Doppler velocimetry indices. The timing of pregnancy termination is a major dilemma, as active management results in extremely premature neonates with high morbidity and neonatal death risk, while expectant management may lead to deterioration in fetal condition and intrauterine death. **Objective:** To determine the main prognostic factors and perinatal outcomes associated with death in cases of early onset IUGR due to placental insufficiency. **Methods:** A retrospective cohort study was conducted in the Fetal Medicine Department of the Women's Health Center at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). The study included pregnant women diagnosed with early onset IUGR (< 32 weeks) from 2012 to 2017. Cases with multiple pregnancies, fetal malformations, chromosomal disorders, congenital syndromes or infections, and premature rupture of membranes were excluded. To associate the dependent variable (perinatal death) with independent variables (biological, sociodemographic, clinical, ultrasonographic, and Doppler velocimetry characteristics, history, delivery indicators, delivery, and neonatal outcomes), bivariate and multivariate analyses were performed, calculating odds ratios (OR) and their 95% confidence intervals (CI), with a significance level of 5%. A ROC curve was constructed for variables: amniotic fluid index at IUGR diagnosis, time between diagnosis of resistant, zero or reversed umbilical artery (UA) and delivery, time between diagnosis of resistant or zero/reversed ductus venosus (DV) and delivery, gestational age (GA) at delivery, newborn weight, and pulsatility index of UA and DV in the last exam before delivery. Sensitivity, specificity, and positive and negative predictive values were also calculated for the adjusted model determined by logistic regression analysis for predicting death risk. **Results:** A total of 198 pregnancies were included in the study, of which 89 (44.9%) resulted in perinatal death. The IUGR and birth weight were associated with perinatal death, with the risk of death decreasing after 29.5 weeks and 805 grams. Doppler velocimetry of the UA with zero or reversed diastole (RR 1.48, 95% CI 1.09-2.03, p=0.01 and RR 1.87, 95% CI 1.40-2.48, p<0.001, respectively) and the DV with zero/reversed (RR 1.69, 95% CI 1.26-2.26, p=0.004) showed an increased risk for perinatal death. A lower risk of death was observed when delivery was indicated by Doppler velocimetry changes and/or fetal biophysical profile (RR 0.66, 95% CI 0.48-0.90, p=0.009 and RR 0.50, 95% CI 0.28-0.91, p=0.007, respectively).

Among postnatal variables, an Apgar score lower than seven at the first and fifth minutes, need for neonatal intensive care unit (NICU) admission, hypoglycemia, hypothermia, respiratory distress, need for assisted mechanical ventilation (AMV), and pulmonary hemorrhage increased the risk of neonatal death. After multivariate analysis, birth weight below 800g (OR 14.73, 95% CI 4.13-52.54, p<0.001) and need for AMV (OR 24.56, 95% CI 5.58-108.08, p<0.001) remained associated with neonatal death. In contrast, the use of the Halo postnatally was identified as a protective factor (OR 0.09, 95% CI 0.02-0.39, p=0.001). The sensitivity and specificity of this adjusted model were 93% and 85%, respectively (ROC area 0.94; 95% CI 0.89-0.98). **Conclusion:** The prognostic factors for perinatal death in fetuses with early onset IUGR were birth weight below 800g, gestational age at delivery below 30 weeks, and need for AMV as risk factors, while the use of the Halo device was a protective factor. This study aims to assist healthcare professionals in the challenging decision of determining the optimal timing for delivery, thereby improving perinatal care.

Keywords: fetal growth restriction; placental insufficiency; doppler ultrasound; umbilical arteries; pregnancy outcomes.

ATYPICAL CUTANEOUS-MUCOSAL MANIFESTATIONS OF ACUTE CHIKUNGUNYA INFECTION IN CHILDREN: A CASE SERIES

RONALDO CAVALCANTE DE SANTANA

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2019may 28

Introduction: Arboviral diseases are considered a significant public health problem, particularly in recent years, with an increase in the number of cases of Chikungunya and Zika virus diseases worldwide. In Brazil, the Chikungunya virus (CHIKV) epidemic in 2015 affected several regions of the country. In Campina Grande, Paraíba, newborns, children, and teenagers with atypical forms of the disease were observed. **Objective:** To describe atypical cutaneous and mucosal manifestations of Chikungunya virus (CHIKV) infection in newborns, children, and teenagers. **Methods:** This is a descriptive case series study involving children hospitalized in a region of interior Paraíba, northeastern Brazil, during the disease epidemic, from January to September 2016. Pediatric patients under 19 years of age with atypical cutaneous and mucosal manifestations of acute CHIKV infection, confirmed by the Reverse Transcription Polymerase Chain Reaction (RT-PCR) technique or IgM for CHIKV, or patients with vesicular-bullous lesions with a history of intradomestic contact with CHIKV infection, were included. Patients with previously diagnosed autoimmune, allergy, or infectious bullous lesions from other origins were excluded. Clinical, laboratory, and therapeutic characteristics were assessed. Results were presented in the form of a distribution table, where categorical variables were expressed as absolute numbers and percentages, and numerical variables by measures of central tendency (median) and dispersion (minimum and maximum). **Results:** Among the 18 cases evaluated with atypical forms of acute CHIKV infection, 66.6% were six months old or younger. The median age was five months, with extremes ranging from one day to 180 months. 83.3% of the cases did not have comorbidities, and the median hospitalization time was four days, with extremes ranging from one to seven days. The most frequent clinical manifestations were vesicular-bullous lesions (94.4%), which progressed to central areas of the body, and fever (77.8%). In the convalescent phase, hypochromic (72.2%) and hyperchromic (66.7%) scarring lesions were observed. All patients received systemic antibiotic therapy and dermatological treatment: medium-chain triglycerides (77.8%) and potassium permanganate (38.9%); analgesics were prescribed in 88.8% of cases, and intravenous hydration in 61.1% of cases. No patient died. **Conclusions:** The study highlighted that CHIKV infection should be considered in the differential diagnosis of febrile newborns, children, and teenager with cutaneous and mucosal manifestations, especially vesicular-bullous lesions, in regions where the virus is circulating. Treatment remains supportive, with attention to hydration, analgesia, care for skin lesions, and rational use of antibiotic therapy.

Keywords: chikungunya fever; cutaneous manifestations; newborn; child; teenager; atypical manifestations.

CLINICAL, ANTHROPOMETRIC, AND METABOLIC PROFILE OF PREGNANT WOMEN WITH PREECLAMPSIA ADMITTED TO A HIGH-RISK MATERNITY WARD IN NORTHEAST BRAZIL

MOEMA AMARO BORBOREMA DINIZ

Advisor: Leila Katz
Defense date: 2019jun. 05

Introduction: Hypertensive syndromes during pregnancy are a significant public health problem worldwide and are among the leading causes of maternal morbidity and mortality. It is estimated that 6 to 8% of pregnant women experience blood pressure levels above normal during pregnancy. Among the factors that increase the risk of pre-eclampsia, obesity during pregnancy stands out. In current clinical practice, BMI is the most used method to assess the presence of obesity; however, BMI does not account for the individual components of body composition. Therefore, skinfold measurements have been used to estimate the percentage of total body fat, as they indirectly measure the thickness of subcutaneous adipose tissue, which is directly related to total body fat. **Objective:** To describe the clinical, anthropometric, and metabolic profile of pregnant women with preeclampsia (PE) admitted to the high-risk maternity ward of a hospital in the northeastern region of Brazil. **Methods:** This was an observational, cross-sectional, and descriptive study conducted in the high-risk maternity ward of the Instituto de Saúde Elpídio de Almeida – ISEA, Campina Grande, Paraíba. Patients diagnosed with pre-eclampsia with severity criteria admitted from June to December 2018 were evaluated. Patients with a diagnosis of eclampsia at admission, premature placental abruption (PPA) at admission, or ultrasound diagnosis of fetal death at admission were excluded, as well as those with inconsistent or incomplete medical records. Sociodemographic, obstetric, clinical, anthropometric, and metabolic variables were analyzed, as well as near miss occurrences and hospitalization time. Statistical analysis was performed using the public domain statistical program Epi-Info version 7.2 (Atlanta, GA). Categorical data were presented as absolute and relative frequencies, and numerical data were presented using measures of central tendency (mean or median) and dispersion (standard deviation or interquartile range). **Results:** Seventy women were included in the study, with 72.9% having preeclampsia and 27.1% having superimposed preeclampsia. The main alterations related to an increased risk of maternal complications were overweight/obesity (78.5%), hyperglycemia (75.7%), and hypertriglyceridemia (52.7%). The frequency of metabolic syndrome was 22.9%, and the average weight gain during pregnancy was 9.8 kg. Among the pregnant women, 68.3% had a risk of obesity-related diseases, according to body fat percentage. **Conclusion:** Most patients admitted to the high-risk ward with a diagnosis of PE had alterations related to metabolic syndrome, particularly overweight, hyperglycemia, and dyslipidemia.

Keywords: pregnancy; gestational hypertension; preeclampsia; anthropometry; metabolic syndrome.

SOCIAL AND EPIDEMIOLOGICAL PROFILE, QUALITY OF LIFE LEVEL, ANXIETY, AND DEPRESSION IN PATIENTS WITH FRONTAL FIBROSING ALOPECIA

MARCELLA MARIA DE SOUZA ARAUJO FIGUEIRA

Advisor: Maria de Fátima Costa Caminha
Defense date: 2019 jul. 02

Introduction: Initially described by Kossard in 1994, frontal fibrosing alopecia (FFA) is a type of lymphocytic scarring alopecia characterized by progressive recession of the frontotemporal hairline, often associated with eyebrow loss. Recent publications on the subject indicate a probable increase in the incidence of this condition. However, its pathogenesis remains uncertain. By causing hair loss, FFA can alter an individual's self-image and, consequently, have a negative impact on their quality of life, potentially serving as a precipitating factor for anxiety and/or depression.**Objectives:**To evaluate the socio-epidemiological profile, quality of life level, anxiety, and depression in patients with FFA treated at a referral outpatient clinic in Recife-PE, Brazil.**Methods:**A cross-sectional study was conducted with a convenience sample. Patients underwent a clinical evaluation followed by the application of the following questionnaires: the Dermatology Life Quality Index (DLQI) to assess quality of life and the Hospital Anxiety and Depression Scale (HADS) to screen for symptoms of anxiety and depression. The DLQI is a tool designed to assess the impact of dermatological diseases on an individual's quality of life, consisting of 10 questions that evaluate physical, psychological, and personal relationship domains, generating a score from 0 to 30. The scores were categorized into two groups: 0-5 (no impact on quality of life) and ≥6 (impact on quality of life). The HADS consists of 14 questions, seven for anxiety and seven for depression, with a score ranging from 0-21 for each condition; scores of eight or higher indicate the presence of anxiety and/or depression symptoms. Data analysis was performed using Stata 12.0 software. The Chi-square and Fisher's exact tests were used to verify the association between the negative impact on quality of life, depression, and anxiety with clinical variables. A p-value < 0.05 was considered statistically significant. This study was approved by the Research Ethics Committee of IMIP (CAAE 85659517.9.0000.5201). **Results:** A sample of 32 patients was obtained, with a mean age of 57.5 years, consisting of 29 women and 3 men. According to the FFA classification, most were type II and had hair loss in other body areas besides the scalp and eyebrows. Facial papules were the most common clinical findings. A negative impact on quality of life was observed in 40.6% of the patients, anxiety symptoms in 53%, and depression symptoms in 28%. Anxiety symptoms were associated with a negative impact on quality of life (p = 0.026), and the type of FFA was associated with depression symptoms (p = 0.005). **Conclusions:** FFA appears to have a negative impact on patients' mental health, potentially affecting their quality of life and contributing to increased cases of anxiety and depression. Therefore, an evaluation that is not only clinical but also psychological, involving a multidisciplinary team, is recommended.

Keywords: alopecia; fibrosis; anxiety; depression; quality of life.

CONTINUOUS POSITIVE AIRWAY PRESSURE DURING ANESTHESIA INDUCTION FOR PEDIATRIC SURGERY: A RANDOMIZED CLINICAL TRIAL

JAYME MARQUES DOS SANTOS NETO

Advisor: Flavia Augusta de Orange Lins da Fonseca e Silva
Defense date: 2019 sep. 04

Introduction: Pediatric patients frequently experience desaturation episodes during the induction of general anesthesia (4–10%). Continuous Positive Airway Pressure (CPAP) is a ventilatory mode that can improve alveolar gas exchange during this period, minimizing atelectasis formation and increasing functional residual capacity. **Objectives:** To determine the effectiveness of CPAP during anesthesia induction in prolonging the safe apnea time (time in apnea until hemoglobin saturation drops to 95%). **Methods:** A Phase III, parallel, randomized clinical trial was conducted at the Hospital das Clínicas, Federal University of Pernambuco. Children were divided into CPAP and Control groups (34 in each group). The study included preschool-age children with an American Society of Anesthesiologists physical status I or II, undergoing elective surgery under general anesthesia. The variables studied included: Time from the onset of apnea to the drop in peripheral oxyhemoglobin saturation (SpO_2) to 95% (T1), Time to recovery of SpO_2 to pre-apnea levels (T2), Time from the onset of apnea to SpO_2 drop to 95% in patients experiencing such a drop (T3),Frequency of SpO_2 drop to 95%, Survival analysis considering the time to SpO_2 drop to 95%. For statistical analysis, categorical variables were evaluated using the chi-square test with Yates correction and Fisher's exact test when applicable. The relative risk (RR) and its 95% confidence interval (CI) were also calculated. For numerical variables, the mean, standard deviation, and Student's t-test were used. Normality was tested using the Shapiro-Wilk test. Survival probability was calculated using the Kaplan-Meier method, assessing the likelihood of reaching an SpO_2 of 95% within a maximum of five minutes from the start of the study. Survival curves were compared using the long-rank (Mantel-Cox) test. Curves for each group were constructed based on mean SpO_2 values at regular intervals, adjusted using a regression model for correlated data, which also assessed the significance of time, group, and their interaction. Comparisons between group means at specific times were performed with the Wald test. A p-value < 0.05 was considered statistically significant. **Results:** T1 was longer in the CPAP group compared to the Control group [227.65 ± 84.74 seconds vs. 133.68 ± 70.39 seconds, p < 0.0001]. No difference was observed between groups for T2 [38.65 ± 49.07 seconds vs. 43.12 ± 60.64 seconds, p = 0.79], while T3 was statistically significant (161.17 ± 61.91 seconds vs. 123.28 ± 58.12 seconds, p = 0.038). Survival analysis showed superior survival in the CPAP group compared to the Control group (Log-rank test, p = 0.0001). A greater number of patients in the CPAP group-maintained saturation above 95% [17/34 (50%) vs. 2/34 (5.9%), RR = 0.5313, 95% CI 0.37–0.75, p < 0.0001]. Repeated saturation measurements were consistently higher in the CPAP group. **Conclusions:** CPAP during anesthesia induction was effective in prolonging safe apnea time in children undergoing general anesthesia for elective surgery.

Keywords: continuous positive airway pressure; hypoxia; general anesthesia; pediatrics.

QUALITY OF LIFE OF WOMEN WITH SICKLE CELL DISEASE ATTENDED AT A TERTIARY HOSPITAL IN RECIFE, BRAZIL

MORANNA RIBEIRO AGRA ALEXANDRE

Advisor: Ariani Impieri de Souza
Defense date: 2019may 31

Introduction: Sickle Cell Disease (SCD) is a genetic and hematological condition characterized by a chronic hemolytic course, leading to acute clinical manifestations, such as vaso-occlusive pain crises, which can impact the quality of life (QoL) of affected individuals. **Objective:** To evaluate the QoL of women with SCD treated at a tertiary hospital in Recife, Brazil. **Methods:** A cross-sectional study was conducted with 60 women aged 18 to 44 years, followed at the gynecology outpatient clinic of the Women's Care Center at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). The sample included 30 women with SCD and 30 without SCD, matched by age. The sample was consecutive and convenience based. Data were collected using sociodemographic questionnaires and the WHOQOL-BREF instrument to assess QoL. The sociodemographic characteristics of the participants were described, and QoL scores between the groups with and without SCD were compared. Statistical analysis was performed using Student's t-test, with a significance level of 5%. The study was approved by the IMIP Research Ethics Committee (CAAE: 80226017.0.0000.5201). **Results:** The median age was 28.5 years (IQR = 25–35) for the SCD group and 29 years (IQR = 24–36) for the non-SCD group. No significant differences in sociodemographic characteristics were found between groups, except for income: 66.7% of women with SCD reported earning up to one minimum wage compared to 26.7% in the non-SCD group (P = 0.002). There was a predominance of Black women in the SCD group (33.3%) compared to the non-SCD group (13.3%), though this difference was not statistically significant (P = 0.198). The average age of menarche was higher in the SCD group (15.2 ± 1.76 years) compared to the non-SCD group (12 ± 1.93 years) (P < 0.001). Among the 30 women with SCD, most had the HbSS genotype (sickle cell anemia) (86.7%), and the average age at diagnosis was 7.6 ± 8.8 years. Clinical events related to SCD were reported by 90% of women, with vaso-occlusive pain crises (56.6%) and blood transfusions (30%) being the most frequent. In QoL evaluation, the "physical," "psychological," and "environment" domains had higher scores in the non-SCD group compared to the SCD group, though only the physical domain showed a statistically significant difference (P = 0.023). Conversely, the QoL self-assessment (Q1) and satisfaction with health (Q2) showed higher scores in the SCD group, but these differences were not statistically significant (P = 0.859 and P = 0.901, respectively). **Conclusion:** SCD appears to impact the QoL of affected women, particularly in the physical domain.

Keywords: sickle cell disease; hemoglobin s disease; quality of life; health-related quality of life; disease impact on quality of life.

THE EXPERIENCE OF SEXUALITY IN ELDERLY PEOPLE WITH MENTAL DISORDERS: A QUALITATIVE STUDY

CATIA PRISCILA OLIVEIRA DANTAS ASSIS

Advisor: Leopoldo Nelson Fernandes Barbosa
Defense date: 2020aug. 31

Introduction: Studies on sexuality in the elderly and individuals with mental disorders have prioritized biological aspects over subjective ones. Understanding how these individuals perceive their sexuality and how this perception influences their sexual satisfaction can contribute to improving their quality of life. **Objective:** To understand the experience of sexuality in elderly people with mental disorders. **Methods:** This study involved elderly individuals over 60 years old, receiving care at the psychiatry outpatient clinic of a quaternary hospital exclusively serving Brazil's Unified Health System (SUS) in Pernambuco, Brazil, from July 2019 to June 2020. A qualitative approach was employed, using convenience sampling closed by saturation. Semi-structured interviews collected sociodemographic data and began with the prompt, "How do you experience your sexuality?" Additional guiding questions addressed the understanding of sexuality, the role of sex in their lives, sexual satisfaction, factors influencing it, and the discussion of sexuality in medical consultations. Content analysis was performed in three stages: pre-analysis, material exploration, and result interpretation. The study was approved by the IMIP Research Ethics Committee (CAAE 07936018.4.0000.5201). **Results:** Eleven elderly individuals aged 63 to 81 were interviewed, most of whom were women. The most commonly reported psychiatric disorders were depression and anxiety, followed by substance dependence, bipolar disorder, and binge eating disorder. Thematic content analysis revealed four main categoriesThe study highlighted difficulties in understanding the concept of sexuality, as many participants struggled to articulate or define it. Experiences of sexuality in elderly individuals with mental disorders revealed that most participants reported a decreasing importance of sexuality over time, with some linking deteriorated sexual experiences to mental illness. Additionally, the influence of moral, emotional, and relational factors on sexual satisfaction was evident, as satisfaction was associated with broader aspects of sexuality rather than just sexual activity. Finally, the study found limited discussion of sexuality in medical consultations, with participants reporting infrequent or inadequate attention to sexual health by healthcare providers. **Conclusions:** The experience of sexuality in elderly individuals is deeply shaped by cultural and social factors. Mental disorders appear to negatively impact the expression of sexuality in this population. Understanding these experiences is essential for promoting well-being and aiding in the psychosocial reintegration of affected individuals. Active inquiry by healthcare professionals about sexual health and functioning is recommended, along with care strategies to reduce the silence surrounding sexuality in mental health contexts. These efforts are crucial for delivering comprehensive care and improving the quality of life for elderly individuals with mental disorders.

Keywords: sexuality; mental disorders; elderly; qualitative research.

VOCALIZATION DURING THE EXPULSIVE PHASE OF LABOR FOR THE PREVENTION OF PERINEAL TRAUMA: A RANDOMIZED CLINICAL TRIAL

JOANA NUNES DE MELO NETA

Advisor: Leila Katz
Defense date: 2019aug. 26

Introduction: During vaginal delivery, most women experience some degree of perineal trauma. Strategies for managing the expulsive phase to protect the perineum, including vocalization, have been the subject of research. **Objective:** To compare the frequency and degree of perineal trauma in vaginal deliveries with and without the use of vocalization techniques during the expulsive phase. **Method:** This open randomized clinical trial was conducted at the IMIP Normal Birth Center (Recife, Brazil). The study population consisted of low risk parturients without a prior indication for cesarean delivery. Eligible women who signed the informed consent form were allocated into two groups: Group A (experimental) and Group B (control). Group A was encouraged to keep their glottis open during spontaneous pushing and to emit sounds during exhalation (vocalization), a technique taught by a physiotherapist. Group B followed the standard routine. The study outcomes—perineal integrity or trauma and the degree of perineal laceration—were assessed by the team immediately after fetal expulsion and placental delivery. Statistical analysis was performed using Epi-Info 3.5.4 by the researcher and her advisors. Analyses followed the intention-to-treat principle. Frequency distribution tables were generated for categorical variables, and measures of central tendency and dispersion were calculated for numerical variables. The Mann-Whitney test was used for discrete, ordinal, and non-normally distributed variables. Associations between the independent variable (vocalization) and dependent variables (outcomes) were evaluated using Pearson's chi-square test or Fisher's exact test, as appropriate. Risk ratios (RR) were calculated to measure relative risk, along with 95% confidence intervals, and the Number Needed to Treat (NNT) was determined. The study was approved by the institution's Ethics Committee (approval number 86696818.2.0000.5201) and registered in Clinical Trials (NCT03605615). **Results:** Women in Group A experienced less extensive perineal trauma (p = 0.01). The vocalization technique reduced the risk of lacerations greater than 2 cm by 68% (NNT = 2.2). No differences were observed for other outcomes. **Conclusion:** Encouraging the use of vocalization techniques during the expulsive phase of labor may be a promising adjunct to perinatal care, as it was associated with less extensive perineal lacerations in this study.

Keywords: vaginal delivery; perineum; wounds and injuries.

EPIDEMIOLOGICAL, CLINICAL CHARACTERISTICS, AND MORTALITY FREQUENCY IN CHILDREN WITH CANCER AND COVID-19: COHORT STUDY

ANA LUIZA MAGALHÃES DE ANDRADE LIMA

Advisor: Maria Júlia Gonçalves de Mello
Defense date: 2020 dec. 21

Introduction: Neoplasms are the second leading cause of death in Brazil and worldwide. The management of oncological patients, including pediatric ones, has been a major concern and topic of debate in 2020 due to the pandemic of the new coronavirus, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), with its infection causing the 2019 coronavirus disease (COVID-19). Brazil is the third most affected country in the world, and as of December 2020, there is no proven effective therapy for the disease. The detection of SARS-CoV-2 by real-time reverse transcription polymerase chain reaction (RT-PCR) is considered the gold standard for diagnosing infection. In the pediatric age group, mild or asymptomatic cases predominate, and there is low lethality; however, children under six years old or those with comorbidities, such as cancer, are more prone to severe forms of the disease. Most cancers in children exhibit aggressive behavior, a short latency period, requiring immediate treatment, and may involve long periods of intensive chemotherapy. In contrast, compared to adults, pediatric cancer patients respond better to treatment and have a better prognosis. More severe clinical outcomes have been observed in adults with cancer and COVID-19, especially those with hematological cancers, lung cancers, and metastatic stages, but in the pediatric age group, data is still scarce. **Objectives:** To describe epidemiological and clinical characteristics, complementary tests, delays in oncological treatment, and mortality frequency in children with cancer and COVID-19, at a reference hospital in northeastern Brazil, during the SARS-CoV-2 infection pandemic. **Methods:** A cohort study involving children under 19 years old receiving cancer treatment from April to July 2020. Participants included those with a confirmed diagnosis through RT-PCR for SARS-CoV-2, using naso/oropharyngeal swabs in symptomatic patients or before invasive procedures and hospitalization. The outcomes were delays in oncological treatment and death. A descriptive analysis was conducted, and preliminary results were presented. This study is part of an anchor project approved by the IMIP ethics committee (CEP). The authors declare no conflicts of interest. **Results:** A total of 48 children were followed, the majority with hematological neoplasms (66.6%), male sex (69%), and a median age of 5.5 years. Of the total, 16.6% were asymptomatic; the most observed symptoms, when present, were fever (58.3%) and cough (27.7%). 72.9% required hospitalization, 20% needed intensive care unit support, and 10.5% required invasive ventilatory assistance and vasoactive drugs. Oncological treatment was delayed in 66.6% of patients (mean delay of 15 days for leukemias and 22 days for solid tumors), and 16.6% died within 60 days after confirming the SARS-CoV-2 infection. **Conclusions:** COVID-19 caused delays in oncological treatment for children with cancer and increased the frequency of deaths compared to the historical data of the service. It will be important to analyze risk factors to determine the impact on survival.

Keywords: COVID-19; children; mortality; neoplasms; coronavirus infection/epidemiology.

EARLY SURGICAL COMPLICATIONS IN GASTRIC AND COLORECTAL ONCOLOGICAL SURGERY AND THEIR ASSOCIATION WITH NUTRITIONAL STATUS AND COMORBIDITIES

ARTHUR FOINQUINOS KRAUSE GONÇALVES

Advisor: Maria Julia Gonçalves de Mello
Defense date: 2020 nov. 20

Introduction: Colorectal and gastric neoplasms are the third and fourth leading causes of cancer-related deaths in Brazil. Despite advances in multimodal cancer treatment, the surgical morbidity of gastric and colorectal resections remains high, impacting both the quality of life and oncological survival. A multidisciplinary clinical evaluation using objective tools provides a more precise understanding of the health-disease process, guiding individualized treatment and leading to better outcomes. **Objectives:** To describe the association between comorbidities and preoperative nutritional status with surgical morbidity in patients undergoing gastric and colorectal oncological resections, as well as the predictive accuracy for complications. **Methods:** A cohort study was conducted involving patients who underwent surgery between March 2019 and June 2020 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). Nutritional status was assessed using the NRS 2002 score and serum albumin (cutoff = 3.5 mg/dL); comorbidities were evaluated using the Charlson Comorbidity Index (CCI) with a cutoff >4 after correction for the oncological population and creatinine clearance (cutoff 90 mL/min/1.73m^2). The studied outcome was surgical complications described according to the Clavien-Dindo classification, considered significant when ≥ III. Patients were followed from the day of surgery until the most severe complication, death, or discharge. Frequency distributions, measures of central tendency, and dispersion were established. Associations were verified using Pearson's chi-square, Fisher's exact test, Mann-Whitney, and logistic regression when appropriate. The diagnostic accuracy of the different scores (CCI, NRS 2002) and albumin in relation to the gold standard (complications ≥ Grade III of the Clavien-Dindo classification) were analyzed. The research project was approved by the IMIP Research Ethics Committee, under CAAE 31470619.8.0000.5201. **Results:** Among the 100 patients operated on (31 gastrectomies and 69 colectomies), 38% experienced major complications. The prevalence of nutritional risk was 40%, with a median albumin level of 3.8 g/dL, CCI of 5 points, and creatinine clearance of 83 mL/min/1.73m^2. Patients at nutritional risk, with lower albumin, and higher CCI were more likely to experience major complications (OR 3.06; p=0.017, OR=6.77; p=0.012, and OR=3.80; p=0.013). Patients with worse creatinine clearance also showed a higher tendency for major complications, but without statistical significance (OR=2.13; p=0.101). Among the confounding variables evaluated, there was a significant association between the T4 stage, as defined surgically, and significant complications (OR=3.06, p=0.023). In multivariate analysis, the association between nutritional risk and major complications remained significant

(OR=2.80; p=0.026). The median hospital stay was longer according to the CCI score (4 vs 7 days, p=0.003) and Clavien-Dindo classification (4 vs 13 days, p<0.001). Nutritional risk patients also had a longer stay (4 vs 6 days), though this difference was not statistically significant (p=0.146). The diagnostic accuracy for complications in CCI, NRS 2002, albumin, and creatinine were 67.0%, 58.3%, 64.7%, and 54.1%, respectively. **Conclusions:** Objective evaluation of clinical-nutritional status should be encouraged in a multidisciplinary and individualized manner, guiding the surgical decision-making and tailoring the magnitude of the surgical procedure to the oncological needs and clinical tolerance of each patient. Optimal preoperative selection tends to lead to better surgical and oncological outcomes, as well as optimal resource allocation.

Keywords: nutritional status; comorbidity; oncological surgery; gastric cancer; colorectal cancer; postoperative complications; charlson comorbidity index; NRS 2002.

SYMPTOMS OF ANXIETY AND DEPRESSION AMONG FOOTBALL PLAYERS IN SUB-20 YOUTH CATEGORIES OF PERNAMBUCO FOOTBALL CLUBS: A CROSS-SECTIONAL STUDY

ANDRE FURTADO DE AYALLA RODRIGUES

Advisor: Leopoldo Nelson Fernandes Barbosa,
Defense date: 2020 jun. 29

Introduction: Being a football player is one of the most common dreams in the Brazilian children's imagination. However, the path to professionalization is challenging, and several reasons can be pointed out for this difficulty: a highly competitive environment, few opportunities, poor career advice, among others. In competitive football, the athlete must be prepared for all the pressures that come their way and accept the demand for the best possible performance. In addition to this, athletes in youth categories are still teenagers and young people in development, often up to the age of 21, who are frequently forced to choose football and its demands over education and family life in order to become a professional player. In this context, a less discussed issue is the mental health of football players. Despite the recognition of depression and anxiety as mental disorders that interfere with professional performance and can lead to time away from activities, the stigma against those who suffer from any psychiatric condition is still very strong. Given so many stressors, understanding the mental health status of these athletes becomes an important strategy for prevention and health promotion. **Objective**: To assess the frequency of symptoms of anxiety and depression among football players in the sub-20 youth categories of Pernambuco football clubs using the Hospital Anxiety and Depression Scale, associate it with sociodemographic, athletic, and health data. **Methods**: A descriptive cross-sectional study was conducted with a convenience sample. Data were collected at the teams' training locations between July and December 2019, after approval by the ethics committee, under opinion number 3.316.234 and CAAE: 12320119.1.0000.5569. All male athletes over 18 years old were included, and those with less than 3 months of football training or who had never participated in a competition were excluded. Data analysis was performed using SPSS 13.0 software, with 95% confidence applied, and for testing associations of categorical variables, Fisher's Exact Test was used. Data collection began after approval from the Ethics and Research Committee of IMIP, under opinion number 3.316.234. **Results**: A total of 63 athletes were interviewed. Among them, 14.3% had high levels of anxiety and 14.3% had high scores for depression. Additionally, a possible influence of the athlete's monthly income on the development of anxious symptoms was observed ($p = 0.04$). Playing position, team status, and previous psychiatric disorders, although with $p > 0.05$, showed possible relationships with anxious and depressive symptoms. **Conclusion**: A higher frequency of symptoms of anxiety and depression was found when compared to the general population, along with anxious symptoms related to the athlete's income. Further research is needed to deepen the understanding of the possible associations demonstrated in this study.

Keywords: mental health; psychiatry; sports; football; depression; anxiety; athletes.

PSYCHOTIC DISORDERS IN DRUG-USING CHILDREN AND TEENAGER ATTENDED AT A PSYCHOSOCIAL CARE CENTER IN THE CITY OF RECIFE

EMANUELLE XIMENES RIOS

Advisor: Leopoldo Nelson Fernandes Barbosa
Defense date: 2020 dec. 16

Introduction: The consumption of psychoactive substances has been the subject of various studies due to their social, economic, and, most importantly, its health implications for the population worldwide. The use of these substances is closely related to psychotic disorders, either as a drug-induced episode or as a risk factor for the onset of a primary psychotic disorder in vulnerable patients. The early onset of symptoms is associated with greater severity of the disorder, and studying the use of psychoactive substances in childhood and adolescence can contribute to early intervention and better prognosis for those who develop psychotic symptoms. **Objectives**: To determine the prevalence and classify the severity of psychotic disorders in drug-using children and teenagers attended at a Psychosocial Care Center (CAPS). **Method**: A descriptive, cross-sectional study with children and teenagers attended at CAPS. Questionnaires were used to collect biosociodemographic information and details on substance use patterns, as well as the Positive and Negative Syndrome Scale (PANSS). All patients under 18 years of age admitted to CAPS and attending their first psychiatric evaluation were included, and those not accompanied by a legal guardian were excluded. The study was approved by the Ethics and Research Committee on Human Beings of the Educational Association of Health Sciences, under opinion number 3.316.234 and CAAE: 12320119.1.0000.5569. **Results**: Among the 62 drug-using patients interviewed, 7 (11.3%) showed psychotic symptoms, 5 of whom were male. All patients with psychotic symptoms had a family history of mental disorders (p=0.003) and were current users of cannabinoids, with 71.4% of them showing a pattern of dependence. Few patients were using other substances in combination (14.3% alcohol use, 42.9% tobacco use, 28.6% inhalants, and volatile solvents). **Conclusion**: A relationship was found between a family history of mental disorder and the development of psychotic symptoms in drug-using children and teenagers. Further studies are needed to deepen the understanding of this population and the possible associations demonstrated in the study.

Keywords: children; teenagers; drug users; substance abuse treatment centers; drug-induced psychoses.

EFFECTS OF THE MECHANICAL TENSION OF ELASTIC COMPRESSION BANDAGING ON VASCULARIZATION, FLEXIBILITY, AND HEIGHT OF HYPERTROPHIC SCARS IN PATIENTS WITH DEEP BURNS – A RANDOMIZED PILOT TRIAL

ANA KARLLA BANDEIRA DE ALBUQUERQUE

Advisor: Alex Sandro Rolland de Souza
Defense date: 2021jul. 29

Introduction: Deep partial-thickness burns extend into the reticular layer of the dermis, which can lead to hypertrophic tissue healing with subsequent functional and aesthetic limitations, causing the patient to experience low self-esteem and social isolation. Compression garments, silicone sheets, silicone gel, and elastic bandages are therapeutic resources used for conservative treatment of these scars. The effect of compressive treatment on hypertrophic scar tissue promotes a reduction in local vascularity and realignment of collagen fibers, resulting in the restoration of multidirectional tissue mobility. **Objective**: To determine the effect of the mechanical tension of elastic bandaging (Kinesio tape) on vascularization, flexibility, and height of hypertrophic scars in patients with deep partial-thickness burns. **Methods**: This was a double-blind randomized pilot trial conducted at the Rehabilitation Center of the Hospital da Restauração Governador Paulo Guerra, from June 2019 to March 2020. Patients aged between 20 and 70 years with hypertrophic scars were included. Exclusion criteria included patients with peeling or open wounds in the scar tissue, pregnant women, those who had previously undergone any therapeutic treatment that could have altered the remodeling process of hypertrophic tissue, and patients with psychiatric disorders. A total of 22 patients were randomized into two groups: the intervention group (GI), which received bandaging with maximum tension (n=11), and the control group (GC), which received no additional tension (n=11). Elastic bandaging was used for a period of 90 days, with six continuous days of use and one rest day. Initial assessments were performed before the first bandaging, with subsequent evaluations at 45 and 90 days. The primary outcomes were vascularization, flexibility, and height of the scars, evaluated using the Vancouver Scar Scale at the specified times. For statistical analysis, the relationship between each response variable of interest and the intervention type and evaluation time were analyzed using mixed linear regression models. Comparisons of means (estimated by adjusted models) between interventions and evaluation times were conducted using the Wald test. A significant level of 5% was adopted. **Results**: Twenty-two volunteers with hypertrophic scars participated in the study, with a higher prevalence of females. Most injuries were caused by thermal agents (n=20; 98.9%), predominantly second-degree deep burns (n=19; 97.9%). In the GI, there was a higher frequency of burns on the trunk (n=7; 63.6%), while in the GC, burns on the lower limbs were more common (n=8; 72.7%). No statistically significant difference was observed between the two groups when comparing the

mean scores of the Vancouver Scar Scale for vascularization, flexibility, and height of hypertrophic scars. However, there was a significant improvement when comparing before and after treatment in both groups. **Conclusion**: The maximum mechanical tension of the elastic bandage was not effective in improving vascularization, restoring flexibility, or reducing the height of hypertrophic scars resulting from deep burns during the studied period.

Keywords: burns; elastic bandaging; kinesio-taping; hypertrophic scars.

TEMPORAL EVOLUTION (1997-2016) OF ANEMIA IN CHILDREN AGED 6 TO 59 MONTHS IN THE STATE OF PERNAMBUCO (BRAZIL) BASED ON THREE POPULATION-BASED SURVEYS

MARILLIA RAQUEL DE LIMA

Advisor: Maria de Fatima Costa Caminha
Defense date: 2021 jan. 10

Context: Anemia is characterized by a reduction in circulating hemoglobin and a consequent decrease in oxygen supply to tissues. It can result from nutritional deficiencies, such as iron, folic acid, and zinc, or from genetic alterations and various other conditions. The most affected groups are women of reproductive age, pregnant and lactating women, and children. **Objective**: To analyze the temporal evolution of anemia in children aged 6 to 59 months in Pernambuco, based on population surveys from 1997, 2006, and 2016, and the associated factors in 2016.**Methods**: This is a population-based, observational, cross-sectional study using secondary data from the II, III, and IV State Health and Nutrition Surveys (PESN). The study population includes children aged 6 to 59 months from families living in Pernambuco who participated in the three PESNs. The sample sizes for the II, III, and IV PESNs were 777, 1403, and 880 children, respectively, with children who did not have hemoglobin values excluded. An ad hoc database was created with variables relevant to the study objectives. Statistical analysis was performed using Stata 12.1 software, including proportion trend tests and Poisson regression to identify associated factors, with a significance level of p<0.05. **Results**: The prevalence of anemia in 2016 was 24.2%, compared to 40.9% in 1997 (II PESN) and 32.8% in 2006 (III PESN). In children aged 6-23 months, the prevalence of anemia decreased from 63% and 55.6% in the II and III PESNs to 37.7% in the IV PESN (p<0.001). In the final model, maternal hemoglobin levels, child's age, diarrhea presence, and the weight-for-age index (P/I) were statistically significant variables. **Conclusion**: Between 1997 and 2016, there was a reduction in the prevalence of anemia, showing a downward trend in anemia rates among children in the state of Pernambuco.

Keywords: anemia; child; associated factors; temporal trends; population-based surveys.

HEPATIC FIBROSIS ASSESSED BY ACOUSTIC RADIATION FORCE IMPULSE (ARFI) ELASTOGRAPHY IN LIVER TRANSPLANT RECIPIENTS: A CROSS-SECTIONAL STUDY

ANDRINE VASCONCELOS ALVES

Advisor: João Guilherme Bezerra Alves,
Defense date: 2021 apr. 14

Introduction: The number of liver transplants (TxH) and the survival rates of transplant recipients have increased in recent years. A growing concern is the monitoring of these patients, particularly regarding the presence and progression of hepatic fibrosis. Non-alcoholic fatty liver disease, recurrence of the initial disease, and the use of immunosuppressants are some known factors that contribute to the development of post-transplant hepatic fibrosis. Non-invasive methods have been replacing the gold standard, liver biopsy, for fibrosis assessment. Among these, acoustic radiation force impulse (ARFI) elastography and serological scores such as AST-to-platelet ratio index (APRI) and Fibrosis-4 (FIB-4) are prominent. **Objectives**: To evaluate the frequency of hepatic fibrosis through ARFI elastography in patients with late-stage liver transplantation and to analyze potential related factors. **Methods**: A descriptive and analytical cross-sectional study was conducted. It included patients aged 18 and older who underwent TxH between January 2008 and December 2018 and were followed up at an outpatient clinic in a University Hospital in Pernambuco, Brazil. Exclusion criteria included those with vascular or biliary complications, autoimmune disease-related transplants, and hepatitis C transplant recipients who were not treated within the first 5 years after TxH. Patients underwent elastography, and clinical-laboratory and anthropometric data were collected during medical consultations. The association with hepatic fibrosis was assessed using the Chi-square test and Fisher's Exact Test for categorical variables, with a significance level of p<0.05. **Results**: The sample consisted of 52 patients. The transplant indications were alcoholic cirrhosis in 14 (26.9%), non-alcoholic fatty liver disease in 10 (19.3%), cirrhosis due to hepatitis C in 8 (15.4%), hepatitis B in 6 (11.5%), and other causes in 14 (26.9%). The average time since TxH was 6.6 years (±2.8). There was no correlation between APRI and FIB-4 scores with elastography findings. Most patients (51.9%) presented significant fibrosis (≥F2) according to elastography, with 32.7% showing advanced fibrosis (≥F3). Dyslipidemia, overweight or obesity, and time since TxH over 5 years were associated with the presence of significant fibrosis (p=0.016; p=0.017; p=0.011, respectively). **Conclusion**: There is a high frequency of hepatic fibrosis post-transplant, and its diagnosis is often challenging. Patients with dyslipidemia, overweight or obese, and a TxH duration of more than 5 years may be more prone to significant fibrosis. These patients require a change in management to prevent the progression of fibrosis and its complications.

Keywords: liver transplant; hepatic fibrosis; imaging techniques.

PREVALENCE OF ANEMIA IN PREGNANT WOMEN, ASSOCIATED FACTORS, AND PERINATAL OUTCOMES ACCORDING TO TWO EVALUATION CRITERIA (WHO VS. CDC)

CAMILA CARVALHO DOS SANTOS

Advisor: Malaquias Batista Filho
Defense date: 2021 mar. 13.

Introduction: Anemia is the most significant nutritional deficiency worldwide. Due to the physiological and metabolic changes that occur during pregnancy, pregnant women are particularly vulnerable to hematological alterations, making them one of the most at-risk populations. Despite common laboratory diagnosis of anemia, the hemoglobin thresholds established for defining anemia in pregnant women remain debated. **Objective**: To determine the prevalence of anemia in pregnant women, associated factors, and perinatal outcomes according to two evaluation criteria (World Health Organization - WHO and Centers for Disease Control and Prevention - CDC).**Methods**: A cross-sectional, analytical, and comparative study was conducted using data from the survey "Nutrition and Infection: the Problem Revisited in the Context of the Microcephaly Outbreak." This cohort study involved pregnant women attended at a reference hospital of the Brazilian Ministry of Health in the Northeast, with data collection from April 2017 to May 2019. The current study population consisted of pregnant women from the original study who had hemoglobin tests during the second trimester of pregnancy. Anemia was defined by the WHO as hemoglobin concentration <11g/dL and by the CDC as <10.5g/dL. Statistical analysis was performed using Stata 12.1. Potential factors associated with anemia (biological, sociodemographic, obstetric, nutritional, and clinical) were analyzed using univariate and multivariate Poisson regression models. The association between perinatal outcomes (perinatal death, prematurity, small for gestational age, low birth weight, very low birth weight, and insufficient weight at birth) and anemia, according to WHO and CDC criteria, was assessed using the Pearson chi-square test or Fisher's exact test, as appropriate. Statistical significance was set at $p < 0.05$. The study was approved by the Ethics Committee in Research, CAAE n° 26666019.3.0000.5201. **Results**: Of the 781 pregnant women studied, the prevalence of anemia in the second trimester of pregnancy was 22.9% according to the WHO and 10.9% according to the CDC ($p < 0.001$). Anemia diagnosed by the WHO criteria was statistically associated with ages between 12 and 19 years, women with at most eight years of schooling, fewer than six prenatal visits, multiple pregnancies, and HIV infection. According to the CDC criteria, anemia was associated with being underweight. A significant increase in the risk of low birth weight was observed in infants of anemic mothers, regardless of the diagnostic criterion used. However, a higher risk of being small for gestational age was only seen when anemia was diagnosed using the CDC criteria. **Conclusions**: Anemia in pregnancy remains a significant public health issue, but its prevalence may be overestimated due to the different evaluation criteria. Using the CDC criterion for diagnosing anemia in pregnancy may alter the distribution of maternal and fetal risks compared to the WHO threshold.

Keywords: anemia; pregnancy; hemoglobin; prevalence; risk factors.

QUALITY OF LIFE IN PATIENTS WITH ADVANCED OVARIAN CANCER DURING A PHASE 2 PILOT CLINICAL TRIAL INVOLVING SHORT-DURATION HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC)

ROBERTO JOSE COSTA LUSTOSA

Advisor: Maria Júlia Gonçalves de Mello
Defense Date: 2021 may 07

Introduction: The treatment of advanced ovarian cancer with a high tumor burden has seen the introduction of new surgical techniques and chemotherapeutic procedures aimed at improving local disease control and extending survival, while minimizing the impact on patients' quality of life.**Objective**: To evaluate the impact of short-duration hyperthermic intraperitoneal chemotherapy (HIPEC) (i.e., 30 minutes) on health-related quality of life (HRQoL) in the context of a phase 2 pilot therapeutic clinical trial involving patients with advanced ovarian cancer.**Methods**: The secondary outcome of HRQoL was assessed in an open-label, multicenter, single-arm phase 2 safety and efficacy clinical trial (NCT02249013), using the European Organization for Research and Treatment of Cancer Quality of Life (EORTC QLQ-C30, version 3.0) questionnaire. Patients with ovarian cancer were recruited from the public healthcare system (SUS) between February 2015 and July 2019. The patients completed the HRQoL questionnaire before treatment, after HIPEC, and at the end of the multidisciplinary treatment. Changes in HRQoL during the study were evaluated by the median scores of each domain and analyzed using the Friedman test, considering a two-tailed significance level of 5%. **Results**: Fifteen patients with large tumor volume ovarian cancer participated in the study. No significant differences were observed in HRQoL across the domains or symptoms studied ($p > 0.05$) during the evaluated period. The transient impairment of HRQoL immediately after short-duration HIPEC tended to return to baseline levels by the end of the multimodal treatment. **Conclusions**: No significant impact of short-duration HIPEC on HRQoL was observed in the context of this multimodal treatment protocol.

Keywords: intraperitoneal injections; induced hyperthermia; pharmacological treatment; peritoneal neoplasms; surgical procedures.

INTERMITTENT POSITIVE PRESSURE NASAL VENTILATION AS A RESCUE THERAPY IN PREMATURE INFANTS WITH VERY LOW BIRTH WEIGHT

ANA CATARINA MATOS ISHIGAMI ALVINO

Advisor: João Guilherme Bezerra Alves
Defense Date: 2022 jun. 14

Introduction: Respiratory diseases represent significant neonatal morbidity and contribute to neonatal mortality. Mechanical ventilation (MV) has well-established indications; however, its use may be associated with an increased risk of bronchopulmonary dysplasia. In an attempt to minimize the harmful effects of MV, less invasive ventilatory support methods have been developed, such as continuous positive airway pressure (NCPAP) and intermittent positive pressure nasal ventilation (NIPPV). Several studies demonstrate the advantages of NIPPV over NCPAP in situations such as post-extubation and initial ventilatory support in premature infants with respiratory distress syndrome. However, research assessing NIPPV as a rescue therapy in cases of NCPAP failure is lacking. The effectiveness of NIPPV as a rescue therapy could represent a paradigm shift in the indication for tracheal intubation, offering a less invasive yet safe alternative.**Objective**: To evaluate whether the use of NIPPV as a rescue therapy in NCPAP failure reduces the need for mechanical ventilation in premature infants with very low birth weight.**Methods**: This was a historical cohort study using a database of premature infants weighing ≤1500g, with respiratory distress syndrome, born between January 2016 and December 2019. The initial ventilatory support was NCPAP, and in cases of failure, they were given NIPPV as rescue therapy. Patients were followed for 72 hours after starting NIPPV and were classified as success (no need for MV) or failure (requirement for intubation and MV). **Results**: Of the 156 premature infants, 85 (54.5%) succeeded with NIPPV, and 71 (45.5%) failed. The NIPPV failure group had significantly lower gestational age, birth weight, higher SNAPPE II score, and greater need for exogenous surfactants. The success group had lower incidences of bronchopulmonary dysplasia (11.4% vs. 34%), periventricular-intraventricular hemorrhage (18.8% vs. 39%), patent ductus arteriosus (37.6% vs. 63.4%), and fewer days of oxygen therapy (13.4 vs. 23.2). Both survival and survival without morbidity were significantly higher in the success group. Premature infants who failed NIPPV rescue did so earlier during the initial NCPAP compared to those in the success group (p=0.09). In the final logistic regression model, significant variables for NIPPV failure included birth weight ≤1000g and the need for surfactant. **Conclusion**: NIPPV rescue avoided the need for MV in 54.5% of premature infants who failed initial NCPAP, suggesting that it is an effective ventilatory strategy. The reduced use of mechanical ventilation in this group may be related to better neonatal outcomes. Identifying the group of infants most likely to benefit from NIPPV rescue therapy is essential.

Keywords: non-invasive ventilation; intermittent positive pressure ventilation; continuous positive airway pressure; mechanical ventilation; bronchopulmonary dysplasia; neonatal respiratory distress syndrome.

EVALUATION OF OVARIAN RESERVE IN REPRODUCTIVE-AGE WOMEN WITH THYROID AUTOANTIBODIES ATTENDING A REFERENCE ASSISTED REPRODUCTION SERVICE IN NORTHEASTERN BRAZIL

ADRIANA LEAL GRIZ NOTARO

Advisor: Alex Sandro Rolland de Souza
Defense Date: 2022 aug. 30

Introduction: Thyroid autoimmune disease is frequently associated with other autoimmune conditions, including premature ovarian failure (POF). Given this, it is important to understand the ovarian reserve of women with positive thyroid antibodies, as an accelerated decline in their reserve may warrant reproductive counseling and the possibility of egg cryopreservation before progression to potential POF. **Objective**: To compare the ovarian reserve of reproductive-age women with and without thyroid antibodies by measuring anti-Müllerian hormone (AMH) and antral follicle count (AFC). **Methods**: A retrospective cross-sectional study was conducted by analyzing medical records of women attending an assisted reproduction clinic, Amare – Ginecology and Human Reproduction, in Recife, Pernambuco, Brazil, between February 2017 and December 2021. Women aged 18–49 years, with records of thyroid peroxidase (anti-TPO) and thyroglobulin (anti-Tg) antibody testing, and ovarian reserve evaluation (AMH and AFC) were included. Exclusion criteria were smoking history, previous ovarian surgery, prior pelvic chemotherapy or radiotherapy, chromosomal alterations, previous uterine artery embolization, non-autoimmune hypothyroidism, and known Graves' disease. Participants were divided into two groups: one with thyroid autoimmunity (positive anti-TPO and/or anti-Tg) and a control group with negative antibodies. AMH levels and AFC were compared between the groups. Subgroup analyses were performed based on age, types of antibodies, and thyroid function markers. Bivariate analysis and multivariate regression models were used to estimate the association between antibody presence and ovarian reserve, accounting for potential confounding variables. **Results**: A total of 188 participants were included, with 63 women in the thyroid autoimmunity group and 125 in the control group. No significant differences were found in AMH levels or AFC between the groups. However, in subgroup analysis by age, women above 39 years with thyroid autoimmunity showed a trend toward lower median AMH (0.9 ng/mL vs. 1.5 ng/mL, p = 0.08). In a subgroup analysis by antibodies, the median AFC was significantly lower in women with anti-thyroglobulin antibodies (anti-Tg) compared to those without (8.0 vs. 11.5 follicles, p = 0.036). Additionally, a significantly higher prevalence of anti-Tg was found in women with low ovarian reserve compared to those with normal reserve (60.7% vs. 39.3%, p = 0.038). **Conclusions**: Although no significant differences were found in AMH levels or AFC between women with thyroid autoimmunity and the control group, subgroup analyses suggest that the ovarian reserve of women with thyroid autoimmunity seems to decline gradually over the years, with lower AFC in women with positive anti-thyroglobulin antibodies.

Keywords: autoimmunity; anti-müllerian hormone; ovarian reserve; premature ovarian failure; fertility preservation.

CLINICAL CHARACTERISTICS AND SURGICAL OUTCOMES OF WOMEN UNDERGOING SACROSPINOUS COLPOPEXY WITH POLYPROPYLENE MESH FOR THE CORRECTION OF APICAL PROLAPSE: A CROSS-SECTIONAL STUDY

FRANCILBERTO DYEGO DE SOUZA

Advisor: Aurélio Antonio Ribeiro da Costa
Defense Date: 2022 jun. 17

Introduction: Pelvic Organ Prolapse (POP) is defined as the descent of one or more vaginal walls, either anterior, posterior, or the vaginal apex (uterus or vaginal cuff after hysterectomy). It is a prevalent disorder with high healthcare costs, impacting emotional health and well-being. The use of transvaginal mesh has been shown to reduce prolapse recurrence, reoperation rates, and increase objective cure rates, but its use remains controversial due to concerns raised by international regulatory authorities about potential complications, such as erosion, pain, and infection, and long-term efficacy. To minimize these effects, sacrospinal colpopexy (SSCP) using the transgluteal approach with synthetic mesh has been modified at a reference institution in northeastern Brazil. **Objectives**: To determine the clinical characteristics and surgical outcomes of women with POP who underwent sacrospinal colpopexy via the transgluteal approach (SSCP) using manufactured polypropylene mesh. **Methods**: A retrospective cross-sectional study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from 2015 to 2019. Patient records of women with apical prolapse who underwent colpopexy were analyzed, excluding those with unavailable records and those who had surgery for prolapse recurrence. Participants were located from lists of women who underwent surgery, and data were collected through a specific form. The SSCP technique involved two polypropylene mesh strips, 1.5 cm wide and approximately 30 cm long, fixed to the vaginal apex. The sacrospinous ligaments were bilaterally transfixated using a curved needle with a fenestration at the tip, via the transgluteal approach, with mesh strips exiting through gluteal incisions. Mesh tension was applied to suspend the vaginal apex to a more proximal position. Data was presented in frequency tables for nominal variables, and central tendency measures and dispersions for continuous variables. The chi-square test was used to check significant differences in pre- and postoperative staging, with a significant level of 5%. Multivariate analysis was not conducted as no variables reached significance of 0.20 or lower in bivariate analysis. The study was approved by the Research Ethics Committee (CEP) under the CAAE number 39891720.8.0000.5201. **Results**: Of the 509 eligible participants, 311 were excluded due to unavailable records, leaving 198 participants. The mean age was 65.1 (±8.2) years, with 37.9% married, 61.8% mixed race, 73.2% with less than eight years of schooling, 90.1% postmenopausal, 79.8% having three or more pregnancies, 66.1% having three or more prior deliveries, and 19.7% with a history of macrosomic fetus. The Cesarean section was reported by 26.3%, and previous hysterectomy by 27.5%. The anterior (95.4%) and apical (86.0%) vaginal compartments were most affected, with urinary incontinence reported by 77.7% of women. The average surgical duration was 143 (±55)

minutes, with simultaneous anterior compartment correction in 75.2%, posterior in 52.0%, hysterectomy in 19.2%, and sling placement in 44.4%. There was a significant difference in postoperative staging, with fewer patients in stage ≥ 2 in all compartments (p<0.001). Five complications related to synthetic mesh occurred, with four requiring surgical removal of the exposed fragment. The most frequent complication was new-onset urinary incontinence (12 patients, 6%). The median follow-up was nine months, with a recurrence and reoperation rate of 8.4%. No statistically significant associations were found between POP recurrence or complications related to SSCP mesh and sociodemographic and clinical variables. **Conclusion**: SSCP with polypropylene mesh demonstrated low complication and recurrence rates, with no determining factors and good postoperative outcomes. However, further large, prospective studies with sufficient power for efficacy evaluation and long-term follow-up are needed.

Keywords: pelvic organ prolapse; uterine prolapse; surgical mesh; surgical procedures.

COINFECTION BY HIV AND SYPHILIS IN NORTHEASTERN BRAZIL: AN ASSESSMENT BETWEEN GENDERS

JÉSSICA MENEZES GOMES

Advisor: Luiz Claudio Arraes de Alencar
Defense Date: 2022 sep. 13

Introduction: Chronic infection with the Human Immunodeficiency Virus (HIV) increases susceptibility to exogenous pathogens, with syphilis being one of the most prevalent infections among those living with HIV. In Pernambuco, like the national trend, there has been a significant increase in cases of acquired syphilis in recent years, particularly in Recife, which has seen syphilis detection rates higher than the national average. Despite acquired syphilis being a mandatory reporting disease since 2010, data on its coinfection with HIV are not systematically collected by the National Disease Notification Information System (SINAN). Additionally, there is no specific data on this coinfection in the HIV/AIDS notification and investigation forms, making it difficult to accurately assess trends or prevalence of this co-occurrence. **Objective**: To determine the frequency and the clinical-epidemiological profile of HIV and syphilis coinfection in both genders at a specialized care service in Northeastern Brazil from 2015 to 2020.**Methods**: A cross-sectional, retrospective, analytical study was conducted using the medical records of HIV-positive patients, aged 18 and older, registered at the Hospital-Dia of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from 2015 to 2020. Out of the 1,111 HIV-positive individuals registered during this period, 171 patients who met the diagnostic criteria for acquired syphilis were identified to determine the frequency of HIV and syphilis coinfection. Descriptive data analysis was performed, with frequency distribution tables for nominal variables, as well as measures of central tendency and dispersion for numerical variables. Welch's test was used for comparisons between sample means, and Chi-square and Fisher's exact tests were used to check for associations in categorical variables. All tests were applied with 95% confidence. The study was approved by the IMIP Human Research Ethics Committee under CAAE No. 39890720.4.0000.5201. **Results**: The frequency of coinfection was 15.4%. The mean age of patients was 34.2 (±11.0) years, with 57.9% men, 47.8% married or in a stable union, 82.2% mixed-race, 88% from the Recife Metropolitan Area, and 73.3% in poverty or extreme poverty. The majority (52.1%) were heterosexual, reported engaging in anal sex (73.3%), and were smokers (52.4%). Additionally, 48.8% drank alcohol, and 29.5% used non-injectable illicit drugs. Regarding syphilis, most cases were diagnosed in the latent phase (64.5%), and 39.1% of individuals had a previous history of the disease. The average time of HIV diagnosis was 4 (±3) years, with 66.1% of patients being asymptomatic, 64.1% having an undetectable viral load, and 74.2% having a CD4 count higher than 350 cells/mm^3. When comparing genders, statistically significant differences were found in the average age (36.9 vs. 31.3, p = 0.001), age at first sexual intercourse (16.6 vs. 14.7, p = 0.007), as well as marital status (p < 0.001), education (p < 0.001), occupation (p < 0.001), monthly income (p = 0.032), sexual orientation (p < 0.001), practice of anal sex (p = 0.001), and illicit drug use (p = 0.026%). Compared to men, women were younger, initiated sexual activity earlier, had lower education and income, used illicit drugs more often, and were more likely to be heterosexual, married/in a stable union, and unemployed. On the other hand, men engaged more frequently in anal sex. **Conclusion**: The study found a high prevalence of HIV and syphilis coinfection, particularly among men who have sex with men (MSM), highlighting the need to improve screening for these diseases and counseling of patients to reduce risky behaviors.

Keywords: HIV; AIDS; syphilis; coinfection; sexually transmitted infections.

COMPARISON OF SURGICAL AND HISTOPATHOLOGICAL OUTCOMES BETWEEN DIFFERENT CONIZATION TECHNIQUES (COLD KNIFE VS. ELECTROCAUTERY) AT A TEACHING HOSPITAL IN RECIFE

WANDERSON MACÁRIO RANGEL

Advisor: Aurélio Antonio Ribeiro da Costa
Defense Date: 2022 oct. 13

Introduction: Despite being a disease that is easy to screen and prevent, cervical cancer (CCU) is responsible for high mortality rates worldwide (approximately 266,000 deaths annually), especially in less developed countries. One of the methods to investigate and treat cervical lesions is through conization surgery. **Objective**: To compare surgical and histopathological outcomes between patients who underwent conization using two different surgical techniques (cold knife vs. electrocoagulation). **Methods**: This was a cross-sectional, retrospective, and analytical study involving patients diagnosed with cervical intraepithelial lesions and undergoing conization. Biological (age) and demographic (regional distribution) characteristics were studied, and outcomes were compared, including surgical duration, hospital discharge time, surgical complications (bleeding, need for blood transfusion, need for reoperation, infections), and histopathological results. The statistical analysis was performed using STATA/SE 12.0 software (with tests considering a 95% confidence level), and results were calculated considering only valid responses, after frequency list submission and consistency checks for the variables. **Results**: Of the 74 patients evaluated, 47% underwent cold knife conization and 52.7% underwent electrocoagulation. The mean age was 38.6 years. Intraoperative bleeding occurred in 5.7% of cold knife cases and 15.4% of electrocoagulation cases (p=0.267), with reoperation required in 8.6% of cold knife cases and 7.7% of electrocoagulation cases (p=1.00). No infections or blood transfusions were recorded. The mean duration of surgery was 48 minutes for cold knife and 45 minutes for electrocoagulation (p=0.434), and the mean hospital discharge time was 24 hours for both techniques (p=0.930). Histopathological results confirmed cervical intraepithelial neoplasia (CIN) in 77.2% of cold knife cases and 87.1% of electrocoagulation cases (p=0.034), margin involvement in 11.1% of cold knife cases and 25.7% of electrocoagulation cases (p=0.149), and glandular involvement in 15.4% of cold knife cases and 14.3% of electrocoagulation cases (p=0.894). **Conclusion**: There was statistically significant agreement between abnormal cytopathological findings and histopathological results. No significant differences were observed between the surgical techniques in terms of surgery duration, hospital discharge time, or complication rates.

Keywords: cervical intraepithelial neoplasia; conization; surgical procedures in gynecology; cervical diseases.

MATERNAL AND PERINATAL OUTCOMES AFTER MYELOMENINGOCELE CORRECTION BY OPEN FETAL SURGERY OR POSTNATAL SURGERY: A RETROSPECTIVE COHORT STUDY

REBECA TORQUATO CALLOU

Advisor: Alex Sandro Rolland de Souza
Defense date: 2022 oct. 20

Introduction: Myelomeningocele (MMC) is a defect in neural tube closure (NTD) characterized by the herniation of a sac containing cerebrospinal fluid, spinal cord, and nerves, and is the most common congenital abnormality compatible with life in the central nervous system (CNS). Since 2011, studies have shown that fetuses with MMC undergoing in utero correction have better neurological outcomes than those treated after birth, likely due to shorter exposure of neural tissues to amniotic fluid. Despite the benefits of antenatal correction, complications from these surgeries have proven non-negligible, motivating the development of alternative surgical techniques to the classic open in-utero correction initially described.**Objective**: To determine maternal and perinatal outcomes after open fetal surgery using a modified surgical technique for myelomeningocele (MMC) correction, compared to postnatal surgery, at a reference center in northeastern Brazil, which is a pioneer in antenatal surgery.**Methods**: This was an observational, analytical, retrospective cohort study conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) from December 2014 to May 2020. The study included pregnant women with fetuses affected by MMC, as well as their respective fetuses and newborns up to the seventh day of life. Cases where the gestational records were unavailable or did not meet criteria for antenatal correction were excluded. The main modification in the surgical technique used, compared to previously described open surgeries, was the size of the hysterotomy (3.5 to 6.0 cm). Statistical analysis was performed using Student's t-test, Welch's t-test, chi-square, and Fisher's exact test when applicable, with a significance level of 5%. Risk ratio (RR) and its 95% confidence interval (CI95%) were also calculated. The study was approved by the ethics committee at IMIP, under CAAE No. 12669019.6.3001.5201, and Opinion No. 3,834,634 (February 12, 2020). **Results**: Of the 134 available pregnant women, 45 were included, divided into two groups: fetal surgery (n=26) and postnatal surgery (n=19). The mean hysterotomy size was 4.3 ± 5.5 cm. Gestational complications were more frequent in the fetal surgery group, including premature rupture of membranes (PROM) (RR 14.0; 95% CI 0.8 to 263.5; p=0.027) and general gestational complications (RR 5.3; 95% CI 1.2 to 22.8; p=0.025). The mean time for fetal surgery was longer than for postnatal surgery (226 minutes vs. 71 minutes; p<0.001). Prematurity rates were higher in the fetal surgery group (79.2%) compared to the postnatal surgery group (13.3%) (RR 5.9; 95% CI 1.4 to 25.5; p=0.017). Although there was a higher rate of ventriculoperitoneal shunt (VPS) in the postnatal surgery group (18.2%), compared to the intrauterine group, no significant difference was observed between the groups (p=0.50). **Conclusion**: The results highlight that antenatal correction is associated with a higher frequency of adverse gestational outcomes and prematurity compared to postnatal surgery. It is important to note that the greatest benefits of fetal surgery for the child may manifest at later stages than those studied in this research, and possible benefits for the newborn may not have been demonstrated due to the small sample size.

Keywords: myelomeningocele; myelomeningocele surgery; in-utero surgery; antenatal surgery; fetal surgery.

FACTORS ASSOCIATED WITH ADVERSE MATERNAL OUTCOME IN PREGNANT WOMEN ADMITTED TO A HIGH-RISK PREGNANCY UNIT AT A MATERNITY-SCHOOL IN NORTHEASTERN BRAZIL: A COHORT STUDY

THAISE VILLARIM OLIVEIRA

Advisor: Melania Maria Ramos de Amorim
Defense Date: 2022 aug. 02

Context: Maternal mortality is a serious public health issue in Brazil and worldwide. Pregnant women with pregnancy complications are more likely to experience unfavorable outcomes. These women are classified as high-risk from the beginning of their pregnancy, progressing through near-miss cases, and ultimately, in the most severe scenario, maternal death. **Objectives**: To assess maternal outcomes in pregnant women admitted to the High-Risk Pregnancy Unit at a Maternity-School in Northeastern Brazil and determine factors associated with adverse maternal outcome (AMO). **Methods**: This was a prospective observational cohort study conducted between December 2019 and December 2020. A non-probabilistic, consecutive sample of all obstetric patients admitted to the High-Risk Pregnancy Unit at the Instituto de Saúde Elpídio de Almeida (ISEA) in Campina Grande, Paraíba (PB), was included. Patients who died at the time of admission or those unable to provide consent were excluded. A standardized questionnaire was created for the study to assess biological, socio-demographic, obstetric, prenatal care variables, and maternal outcomes. Statistical analysis was performed using Epi Info 7.2.5 and MedCalc version 20.109. **Ethical Aspects**: The study was approved by the local Research Ethics Committee (CAAE 28605319.5.0000.5182). Data was obtained from medical records, with patient confidentiality maintained. Data collection began only after participants signed an informed consent form (ICF), or assent in the case of minors, along with consent from their guardian. **Results**: The frequency of adverse maternal outcomes was 6.1% (30 patients: 23 near-miss and 7 maternal deaths). Statistically significant associations were found between adverse maternal outcomes and hemorrhages in the second half of pregnancy (RR = 3.85; 95% CI = 1.49 – 9.92; p = 0.02), maternal clinical diseases (RR = 2.79; 95% CI = 1.36 – 5.73; p = 0.01), and other maternal diagnoses. **Conclusion**: The frequency of adverse maternal outcomes was 6.1%, with significant associations found for hemorrhages in the second half of pregnancy, maternal clinical diseases, and other maternal diagnoses. Special attention should be given to the 12 patients with clinical and obstetric conditions associated with an increased risk of near miss and maternal death, aiming to minimize harm and prevent maternal death. Further studies should explore factors associated with AMO and preventive measures.

Keywords: near miss; maternal death; high-risk pregnancy.

FREQUENCY OF DEPRESSIVE AND ANXIETY SYMPTOMS IN PATIENTS WITH GESTATIONAL TROPHOBLASTIC DISEASE VERSUS SPONTANEOUS ABORTION: A CROSS-SECTIONAL STUDY

PAULA JAEGER TENORIO

Advisor: Melania Maria Ramos de Amorim
Defense Date: 2022 jul. 15

Introduction: One of the most common forms of pregnancy loss (PL) is spontaneous abortion (SA), defined as the natural termination of pregnancy up to the 22nd week of gestation with a fetal weight ≤ 500g. On the other hand, gestational trophoblastic disease (GTD) is a less frequent and well-known obstetric complication that develops in the uterus following abnormal gametogenesis/fertilization, with a potential for malignancy. Regardless of the etiological factors, pregnancy loss has been described as a devastating experience, often traumatic, with profound psychological impacts on these women.**Objective**: To determine the frequency of depressive and anxiety symptoms in patients with GTD in outpatient follow-up, compared to patients who had SA at an equivalent gestational age.**Methods**: A cross-sectional, quantitative study was conducted with 99 patients' post-abortion and 64 patients with GTD in outpatient treatment, who agreed to participate by signing the informed consent form. Data collection occurred via phone interviews three months after the pregnancy loss, from August 2020 to February 2021. To assess symptoms of depression and anxiety, the Hospital Anxiety and Depression Scale (HADS) was applied, a validated tool commonly used in non-hospitalized populations in the context of pregnancy loss, along with a form collecting sociodemographic and obstetric information. Multivariate analysis using a hierarchical logistic regression model was conducted to evaluate the association between dependent and independent variables, excluding non-significant confounding variables.**Results**: Probable cases of anxiety (HADS-A ≥ 8) and depression (HADS-D ≥ 8) were observed in 53.1% (n=34) and 43.8% (n=28) of patients with GTD, and 49.5% (n=49) and 39.4% (n=39) of patients with SA, respectively, with no statistically significant difference between the groups. The frequency of severe anxiety (HADS-A 15-21) and depression (HADS-D 15-21) symptoms in patients with GTD was 12.5% (n=8) and 4.7% (n=3), and in patients with SA, 9.1% (n=9) and 4.0% (n=4), with no statistically significant difference between the groups. Lack of partner support was identified as a risk factor for the development of anxiety (ORa 4.0; 95% CI 1.61-9.96; p=0.0029) and depression (ORa 4.4; 95% CI 1.83-10.66; p=0.0010) in both groups. Low education level was also associated with a higher risk of depressive symptoms after pregnancy loss (ORa 3.4; 95% CI 1.51-7.77; p=0.0032). **Conclusion**: The current study found a high frequency of symptoms suggestive of anxiety and depression three months after pregnancy loss in patients with GTD and SA. Although these are distinct clinical situations, both groups shared common risk factors, such as lack of partner support during and after the diagnosis of SA and GTD, and low education level. Both variables were significantly associated with the risk of developing depression and anxiety after pregnancy loss.

Keywords: gestational trophoblastic disease; spontaneous abortion; depression; anxiety.

CLINICAL AND EPIDEMIOLOGICAL PROFILE OF WOMEN ATTENDED IN A WOMEN'S PHYSICAL THERAPY OUTPATIENT CLINIC AT A TEACHING HOSPITAL IN THE CITY OF RECIFE

BRUNA FONSECA DE ANDRADE

Advisor: Leila Katz
Defense date: 2022 dec. 22

Introduction: Pelvic floor dysfunctions (PFD) primarily affect women and include urinary incontinence (UI), pelvic organ prolapses (POP), and anal incontinence. Another common dysfunction in physical therapy clinics is sexual dysfunction, classified as sexual interest and excitation disorder, orgasmic disorder, and genital pelvic pain. These disorders negatively impact women's quality of life. To initiate treatment, a thorough physiotherapeutic evaluation is necessary to formulate a specific treatment plan. However, few studies describe the clinical and epidemiological profile of these women in our population. **Objective**: To evaluate the clinical and epidemiological profile of women with pelvic floor dysfunctions who were treated at a women's physical therapy outpatient clinic in a teaching hospital in Northeastern Brazil. **Methods**: This was a cross-sectional, retrospective study conducted at the Women's Physical Therapy Outpatient Clinic of the Institute of Integrated Medicine Prof. Fernando Figueira (IMIP). Data was obtained from an existing database of the clinic. Women over the age of 18 who received treatment at the outpatient clinic were included, excluding those with incomplete data. The RStudio statistical software was used for analysis, and Pearson's correlation coefficient was used to assess associations between variables. The study was approved by the Ethics in Research Committee (CAAE No. 0401822.3.0000.5201), and the informed consent was waived. **Results**: A total of 179 women were included, with an average age of 53.3 years (SD 16.9). Most participants were in a relationship and had incomplete elementary education. Regarding personal medical history, 19.5% (n=35) were diabetic, 45.8% (n=82) hypertensive, 5% (n=9) had heart disease, 7.3% (n=13) had asthma, 16.8% (n=30) reported recurrent urinary tract infections, 37.4% (n=67) complained of musculoskeletal pain, 7.3% (n=13) had a history of cancer, 73.2% (n=131) were on medication, 3.9% (n=7) had a sexually transmitted disease, 27.9% (n=50) had fibroids, and 14.5% (n=26) had ovarian cysts.Regarding the physical evaluation, 35.2% had abdominal or perineal scars, 77.1% had voluntary pelvic floor contraction, 50.3% had normal tone in the tendinous center, 50.3% had preserved sensitivity, and 45% had absent cough reflex. Pain during vaginal introduction was reported by 22.9% of participants. Pain during vaginal canal palpation was more frequent on the left side (17.5%) and right side (14.6%). Normal tone was observed in 43.6%, and 17.3% had trigger points. Pelvic floor contraction was present in 83.2% of participants, with most exhibiting weak contraction intensity (38%). Symmetric contraction was seen in 75.5%, and 79.3% showed no elevation. The most common contraction mechanism was suction (68.7%), with the longest contraction lasting 4 to 6 seconds (39.7%), and 57% had full relaxation. The majority demonstrated good coordination of contraction (69.3%). Accessory musculature was used by 29.8%, with abdominal muscles

being the most common, followed by glutes (21.3%) and adductors (19.4%). Regarding pelvic floor dysfunctions, the most prevalent were mixed urinary incontinence (20.3%), prolapse (16.2%), sexual dysfunction (15.2%), and stress urinary incontinence (15.7%). A strong correlation was observed between pain during palpation and tone (p=0.79), and between pain during palpation and trigger points (p=0.67). **Conclusion**: The results showed that most women were over 53 years old with incomplete elementary education. Mixed urinary incontinence was the most prevalent pelvic floor dysfunction, followed by prolapse. Despite most women having pelvic floor contraction, the intensity of the contraction force was graded as weak. A moderate correlation was found between pain during palpation and the presence of trigger points, as well as incontinence and sexual dysfunction.

Keywords: pelvic floor disorders; psychogenic sexual dysfunction; dyspareunia; epidemiology; physical therapy.

EPIDEMIOLOGICAL PROFILE AND MATERNAL AND PERINATAL OUTCOMES OF PREGNANT WOMEN WITH ACUTE TOXOPLASMOSIS IN A REFERENCE MATERNITY HOSPITAL IN NORTHEAST BRAZIL: A COHORT STUDY

FERNANDA TORRES FIGUEIROA DE ALBUQUERQUE MARANHÃO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2022 jul. 28

Scenario: Maternal primary toxoplasmosis infection can lead to fetal changes with the potential for complications that can persist in childhood and adulthood. Considering the possibility of establishing a specific medication regimen to reduce vertical transmission and prevent severe sequelae, it becomes relevant to assess the cost-benefit of implementing universal measures for detection, chemoprophylaxis, and antibiotic treatment in a given population. This issue becomes even more complex due to treatment barriers, such as the complexity of the dosage regimen, cost, frequent unavailability of medications, and the lack of robust evidence regarding their effectiveness. In Brazil, little is known about the impact of diagnosing and treating toxoplasmosis during pregnancy, which makes it difficult to draw conclusions about the relevance of implementing a mandatory protocol. **Objective**: To describe the epidemiological profile and maternal and perinatal outcomes of toxoplasmosis in pregnancy within the context of healthcare practices at a reference maternity hospital in Northeast Brazil. **Methods**: This retrospective cohort study of a quantitative nature was conducted at a university hospital in Recife between March 2019 and July 2022, with data collection between October 2020 and February 2021. The convenience sample included all pregnant women diagnosed with probable toxoplasmosis during pregnancy attending prenatal care at IMIP and their fetuses. Statistical analysis was conducted using the Epi Info program. The study was approved by the Research Ethics Committee of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), under CAAE 29468719.5.0000.5201, and began only after approval. **Results**: The epidemiological profile of the 92 pregnant women with acute toxoplasmosis showed that the majority were brown, in their 2nd decade of life, from Recife, had completed elementary school, were homemakers, married, had adequate weight, and no comorbidities. Most of them were primigravidas, began prenatal care only in the second trimester, attended about five consultations, and, among those who gave birth at IMIP, most had term vaginal deliveries. Prenatal treatment for toxoplasmosis occurred in 88.3% of the cases, starting at an average of 17 weeks; however, only 67.7% reported using the medications correctly according to the recommendations at the time. Ninety-seven percent used spiramycin alone, with pathological findings in about 7.6% of the fetuses. When assessing the association between fetal involvement and the type of maternal treatment, it was found that treatment was done with spiramycin alone, mostly started after the 20th week, and the prescribed dosage was either not respected or not extended until birth, suggesting that congenital toxoplasmosis had little impact despite screening and treatment of the primary infection during pregnancy. **Conclusions**: Inadequate treatment or its absence may

not have contributed to a higher frequency of fetal involvement, and the lack of prophylactic and medicinal actions for congenital toxoplasmosis did not demonstrate an increase in severe fetal complications in a group of pregnant women with congenital toxoplasmosis in a reference maternity hospital. These findings may suggest that mandatory screening for toxoplasmosis during prenatal care and medicated treatment for positive cases, given their cost-effectiveness, do not significantly improve the disease situation or cure the studied population. The involvement may be related to incorrect management, and it cannot be ruled out that it may occur even when treatment is correctly instituted, a conclusion that requires further investigation into the cycle of congenital toxoplasmosis in Brazil.

Keywords: toxoplasmosis; congenital toxoplasmosis; toxoplasma gondii congenital infection; prenatal toxoplasmosis.

TRANSLATION AND TRANSCULTURAL ADAPTATION OF THE INSTRUMENT NURSES' KNOWLEDGE OF PORT-ACATH MAINTENANCE TO THEPORTUGUESE LANGUAGE

PRISCILA SABINO DOS SANTOS

Advisor: Maria de Fátima Costa Caminha
Defense date: 2022 sep. 29

Introduction: The port-a-cath is a venous access device widely used by cancer patients. Its management requires the use of aseptic techniques to avoid complications like infection and catheter damage. In Brazil, the lack of oncology courses in most medical curricula has exacerbated the weakness of nurses' knowledge in this area, while it is the nurse's responsibility to manage port-a-cath access. Handling this device requires specific competencies and skills to ensure safe and quality care. The instrument "Nurses' Knowledge of Port-a-Cath Maintenance" aims to assess nurses' knowledge about port-a-cath maintenance. **Objective**: To translate and culturally adapt the instrument "Nurses' Knowledge of Port-a-Cath Maintenance" to Brazilian Portuguese. **Methods**: This methodological qualitative study for translation and transcultural adaptation took place from June 2021 to February 2022 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). It was based on international guidelines for the process. Initially, conceptual and item equivalence was analyzed through literature review and input from the target population, revealing the relevance of the instrument. Research started after receiving permission from the principal author for use of the instrument and approval from the IMIP Research Ethics Committee under CAAE 44435921.3.0000.5201. **Results**: Discrepancies in the direct and reverse translation phases were focused on the semantic area and were addressed and resolved by experts, as the instrument covers a specific health topic that is difficult to understand for non-experts. The judges evaluated the clarity, relevance, and necessity of changes to the items. The changes suggested by the expert panel were reviewed and approved by the original author, then incorporated into the pre-final version. In the pre-test, the need to group questions and responses structurally was noted. The final version was approved after these adjustments. **Conclusions**: The translation and transcultural adaptation process was successfully completed, resulting in the instrument "Necessary Knowledge for Nurses in Port-a-Cath Care" in Brazilian Portuguese. The pre-test showed the instrument's applicability and comprehensibility, confirming its readiness for validation and its potential to assess nurses and contribute to improving nursing capabilities. Given the increase in cancer cases and the corresponding rise in port-a-cath use, along with the observed weaknesses in nurses' training for port-a-cath care, these instructions are crucial to address the deficiencies summarized by participants, improve decision-making, minimize adverse events, and enhance the safety and quality of nursing care.

Keywords: nursing; vascular access devices; translation; cross-cultural comparison; knowledge; attitudes and practices in health.

LOW CALF CIRCUMFERENCE BASED ON THE MINI NUTRITIONAL ASSESSMENT IS NOT A PREDICTOR OF DEATH IN ELDERLY PATIENTS WITH CANCER

PALOMA ARQUIMEDES ALVES DOS SANTOS

Advisor: Maria Júlia Gonçalves de Mello
Defense date: 2023 mar. 29

Introduction: Globally, there has been a sharp increase in the number of elderly people, and in 2022, Brazil had the sixth-largest population of people in this age group. As people age, physiological changes occur, with muscle mass reduction (MM) being one of the most significant. Calf Circumference (CC) is a simple, non-invasive method to estimate MM and seems to be associated with unfavorable clinical outcomes in elderly patients with chronic diseases, such as cancer. The literature shows varying cutoff points depending on the study, comparison method, and outcome assessed. **Objective**: To evaluate whether low calf circumference (<31 cm) is an independent risk factor for death in elderly cancer patients. **Methods**: This study used secondary data from a prospective cohort involving patients followed between 2016 and 2020 at the Oncogeriatrics Unit of the Instituto de Medicina Integral Prof. Fernando Figueira. Elderly patients over 60 years old with a recent cancer diagnosis and calf circumference evaluation at admission were included, excluding those with basal cell carcinoma, those who had received prior oncological treatment (except surgery), and those with physical limitations causing lower limb atrophy. Sociodemographic variables, lifestyle habits, clinical, nutritional, and comprehensive geriatric assessment data were collected at admission. The outcome assessed was death considered early, occurring within 180 days of cohort admission. Stata 13.0 was used to calculate the hazard risk via Cox proportional hazards multivariate analysis and to calculate the global survival rate according to calf circumference classification. **Results**: The sample comprised 414 participants, and 32.6% had low muscle mass. The overall lethality was 21.5%, meaning 89 patients died within 180 days. According to calf circumference, lethality was 25.9% for those with CC<31 cm and 19.4% for those with CC≥31 cm [HR=1.34; 95% CI (0.88–2.06); p=0.173]. No difference in survival probability was found according to CC (log rank p=0.171). In the multivariate analysis, controlling for calf circumference (HR=1.14; 95% CI 0.73–1.79; p=0.559), the factors remaining associated with early death risk were male sex (HR=1.81; 95% CI 1.11–2.96; p=0.017), polypharmacy (use of more than five medications) (HR=1.89; 95% CI 1.16–3.09; p=0.011), functional status (HR=2.72; 95% CI 1.68–4.42; p<0.001), and comorbidities (HR=1.84; 95% CI 1.11–3.06; p=0.018).**Conclusions**: Low calf circumference was not an independent risk factor for early death in elderly patients with cancer, in contrast to other factors, including male sex, polypharmacy, impaired functional status, and comorbidities, which were significant predictors of early death in these patients. These findings suggest that lower calf circumference should not be used as a sole predictor for assessing death risk in cancer patients and that a more comprehensive evaluation of clinical, functional, and pharmacological status is important for predicting survival.

Keywords: elderly; cancer; calf circumference; mortality; nutritional status; prognosis.

KNOWLEDGE, ATTITUDE, AND PRACTICE OF GYNECOLOGY AND OBSTETRICS MEDICAL RESIDENTS IN PERNAMBUCO REGARDING CONTRACEPTION

HENRIQUE EDUARDO SILVA DO NASCIMENTO

Advisor: Aurelio Antônio Ribeiro da Costa
Defense date: 2023 apr. 26

Introduction: Contraception refers to methods and techniques aimed at preventing pregnancy. Proper contraceptive guidance is essential, as poor counseling can lead to various complications. Medical residents in gynecology and obstetrics should be well-versed in the multiple contraceptive options, their use, side effects, and contraindications. **Objectives**: To assess the knowledge, attitude, and practice of gynecology and obstetrics residents in Pernambuco regarding contraception and their aptitude to prescribe, indicate, and educate on contraceptive methods. **Methods**: A cross-sectional survey was conducted between May and July 2022, with a sample of 157 gynecology and obstetrics residents from Pernambuco. A structured questionnaire was applied, and data were analyzed using the STATA 12.0 software. **Results**: The average age of participants was 28 years, with a predominance of females (heterosexual, single, Catholic, from Recife). The most used contraceptives were oral contraceptives (ACO), Mirena IUD, male condoms, and copper IUDs. Over 90% of respondents were familiar with the Eligibility Criteria and Pearl Index, but only about half correctly answered clinical case questions on contraception. 52.9% reported not using dual protection, and 40.1% claimed never using condoms. Most residents were comfortable with long-acting reversible contraception (LARC) and sterilization procedures. Many considered themselves adequately trained to counsel on all contraceptive methods. **Conclusion**: The knowledge regarding indications and contraindications for contraceptive methods was considered satisfactory. However, there were discrepancies when applying this knowledge to clinical cases. In terms of attitude, responses were mixed. The best results were seen in practice with LARC and sterilization, and more than half of the residents rated their knowledge, attitudes, and practices as highly satisfactory or adequate.

Keywords: contraception; knowledge; attitudes; and practices in health; medical residency; surveys; gynecology; obstetrics.

TELEMEDICINE IN POST-EXPOSURE PROPHYLAXIS TO BIOLOGICAL MATERIALS DURING THE COVID-19 PANDEMIC: IMPACTS ON ASSISTANCE AND USER SATISFACTION

FLÁVIO HENRIQUE DE HOLANDA LINS

Advisor: Maria Júlia Gonçalves de Mello
Defense date: 2023 apr. 26

Introduction: Post-exposure prophylaxis (PEP) to biological materials is critical in preventing HIV/AIDS, viral hepatitis, and sexually transmitted infections (STIs). The COVID-19 pandemic posed challenges for healthcare services, particularly due to restrictions on in-person care to combat the spread of the disease. Telemedicine emerged as an essential tool during this period.**Objectives**: To evaluate the effectiveness of telemedicine in PEP during the COVID-19 pandemic, describe the development of a minimum viable product (MVP), and assess its impact on healthcare indicators, outcomes, and user satisfaction.**Methods**: The study was conducted at Hospital Correia Picanço (HCP) in Recife, Pernambuco, with participants over 18 years old who had been exposed and followed up with PEP. Data were collected through a structured questionnaire via Google Forms and medical records in physical format. The results are presented in three articles:Article 1: Descriptive study of the development of a telemedicine MVP, detailing the script and tools used.Article 2: Effectiveness evaluation study comparing the pre-pandemic period (P1: Aug 2018–Jan 2019) with the pandemic period (P2: Aug 2020–Jan 2021).Article 3: Cross-sectional study evaluating user satisfaction during P2.**Results**:Article 1: The telemedicine system was developed as an MVP, operating asynchronously with platforms like WhatsApp Business, YouTube, Google Forms, and integrating with Excel and Word for data management. It enabled the follow-up of 742 cases of exposure during P2.Article 2: 4494 cases were evaluated (1997 in P1, 2497 in P2). P2 showed a 43% increase in consultations, with significant reductions in the time between exposure and the first consultation (51%), first examination (28%), and discharge (10%) (p<0.05). No difference in discharge percentages was observed between the two periods (p=0.339).Article 3: 395 participants (62.2% of eligible cases) were included, with a mean age of 34.4 years. Satisfaction score averaged 8.26 (SD ± 1.26), with high favorability for access (86.3%), effectiveness (87.6%), usability (87.3%), safety (79.7%), context (93.7%), and reliability (95.9%). **Conclusion**: The integration of available online tools allowed the development of a telemedicine MVP for maintaining healthcare during the COVID-19 pandemic. Telemedicine maintained similar outcomes to in-person care, improving service indicators and increasing the number of consultations while reducing the intervals between exposure and follow-up phases. High satisfaction rates were observed, with abandonment linked to lower satisfaction scores. The study suggests opportunities for developing a robust tool to integrate various routines for managing biological material exposure cases.

Keywords: telemedicine; Covid-19; post-exposure prophylaxis; effectiveness; healthcare quality; user satisfaction.

KNOWLEDGE, ATTITUDE, AND PRACTICE OF GYNECOLOGY AND OBSTETRICS MEDICAL RESIDENTS IN PERNAMBUCO REGARDING CONTRACEPTION

HENRIQUE EDUARDO SILVA DO NASCIMENTO

Advisor: Aurelio Antônio Ribeiro da Costa
Defense date: 2023 apr.26

Introduction: Contraception refers to methods and techniques aimed at preventing pregnancy. Proper contraceptive guidance is essential, as poor counseling can lead to various complications. Medical residents in gynecology and obstetrics should be well-versed in the multiple contraceptive options, their use, side effects, and contraindications. **Objectives**: To assess the knowledge, attitude, and practice of gynecology and obstetrics residents in Pernambuco regarding contraception and their aptitude to prescribe, indicate, and educate on contraceptive methods. **Methods**: A cross-sectional survey was conducted between May and July 2022, with a sample of 157 gynecology and obstetrics residents from Pernambuco. A structured questionnaire was applied, and data were analyzed using the STATA 12.0 software. **Results**: The average age of participants was 28 years, with a predominance of females (heterosexual, single, Catholic, from Recife). The most commonly used contraceptives were oral contraceptives (ACO), Mirena IUD, male condoms, and copper IUDs. Over 90% of respondents were familiar with the Eligibility Criteria and Pearl Index, but only about half correctly answered clinical case questions on contraception. 52.9% reported not using dual protection, and 40.1% claimed never using condoms. Most residents were comfortable with long-acting reversible contraception (LARC) and sterilization procedures. Many considered themselves adequately trained to counsel on all contraceptive methods. **Conclusion**: The knowledge regarding indications and contraindications for contraceptive methods was considered satisfactory. However, there were discrepancies when applying this knowledge to clinical cases. In terms of attitude, responses were mixed. The best results were seen in practice with LARC and sterilization, and more than half of the residents rated their knowledge, attitudes, and practices as highly satisfactory or adequate.

Keywords: contraception; knowledge; attitudes; and practices in health; medical residency; surveys; gynecology; obstetrics.

PALLIATIVE EXTUBATION IN PEDIATRICS: A CASE SERIES IN NORTHEAST BRAZIL

KATARINA MACIEL ABATH

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2024 apr. 25

Introduction: the development of life support therapies has enabled the survival of children with serious and complex illnesses, but this is not always associated with improved prognosis or quality of life. Palliative extubation (EP) is part of thedebate about limiting life-sustaining therapies (LTSV) as part of advanced palliative care (CP) plans in patients at the end oflife, where death is a likely outcome. In these cases, symptom control, comfort and allowing the natural evolution of the disease may be priorities in relation to prolonging life, and LTSV may be opted for. EP is the withdrawal of invasive mechanical ventilation (VMI) in these contexts. It is a difficult procedure to decide on and there is a lack of study in pediatrics, especially in Latin America. **Objective**: to describe the outcomes, clinical characteristics and procedures performed in patients undergoing EP in the Pediatric Intensive Care Units (UTIP) of the Instituto de Medicina Integral Prof.Fernando Figueira (IMIP), a teaching hospital in the Brazilian northeastern. **Methods**: This is a descriptive case series analysis, including patients under 14 years of age who underwent EP in the IMIP UTIP between 2016 and 2023. Data related to hospitalization diagnoses, indication for EP, therapies used, the steps before and after the procedure and the outcomes were consulted in the patient medical records. **Results**: 27 patients were included in the study, aged between five days and 10years, IIQ25-75 two and 13 months, 51.8% were female. At admission CP were indictable in all of them and 77.8% were diagnosed with an underlying chronic disease. Severe neurological impairment, failure of curative therapeutic proposals and failure to withdraw mechanical ventilation were related with the indication of EP. In 74% of the patients, CP had previously been discussed with the family. After EP, 48.1% of patients presented symptoms, with dyspnea (84.6%) andagitation (53.8%) being the most common. Death occurred in 88.8% of children, between 20 minutes and 38 days after EPand 3 patients were discharged home. **Conclusion**: EP was performed mainly in infants indicated for CP, with complex chronic diseases, neurological impairment and therapeutic failure. Death was the most frequent outcome, although threepatients undergo home. More studies are needed regarding the indication, decision-making and technical aspects involvedin PE in pediatrics.

Keywords: palliative care; extubating. mechanical ventilation; pediatric intensive care units.

FACTORS ASSOCIATED WITH FOLIC ACID DEFICIENCY IN PREGNANT WOMEN ATTENDED AT A MATERNAL-INFANT REFERRAL HOSPITAL IN NORTHEAST BRAZIL AND ITS IMPACT ON THE NEWBORN: A CROSS-SECTIONAL STUDY

TAZLA INGRIDE DE SOUSA LINS

Advisor: Maria de Fatima Costa Caminha
Defense date: 2024 apr. 26

Introduction: pregnancy represents a period that requires greater attention to maternal health care. For the physiological changes to occur, some elements are fundamental, such as folic acid. Studies suggest that low maternal levels of folic acid are associated with an increased risk of adverse pregnancy outcomes, including preterm birth, gestational hypertension, and preeclampsia. There is also evidence that maternal intake of this vitamin before and during early pregnancy prevents congenital neural tube defects and other negative outcomes for the newborn, such as low birth weight, poor fetal growth, and problems with placental development. **Objective**: to determine the factors associated with folic acid deficiency in pregnant women attending a maternal and child referral hospital in Northeast Brazil and the repercussions on the newborn. **Methods**: an analytical cross-sectional study based on the cohort "Nutrition and infection: the problem revisited due to the microcephaly outbreak". The original study was conducted with pregnant women attending the prenatal outpatient clinic at the Women's Care Center in a referral hospital, and for the current study, pregnant women with folic acid level results were included. Data were extracted from the original database, and an ad hoc database was created with information relevant to the objectives of the current study. Statistical analysis was performed using Stata 12.1 software. The prevalence of adequate and inadequate folic acid levels was presented as simple and relative frequencies with 95% confidence intervals. In the objectives of the associated factors, simple and multiple Poisson regression models were adjusted. The Wald test was used for the final model to analyze the statistical significance of each variable, considering a p-value <0.05 for statistical purposes. **Results**: folic acid levels were measured in 1,052 pregnant women, with levels considered adequate (> 5.38ng/ml) in 91.6% and inadequate (≤ 5.38ng/ml) in 8.4%. After multivariate analysis of Poisson with initial and final adjusted prevalence ratios, marital status, being single/divorced/widowed (p= 0.026) compared to married/in a stable union, and gestational age at the time of the test, considering the second trimester (p= 0.020) compared to the first trimester, as well as non-supplementation with folic acid during pregnancy (p<0.001) compared to those who supplemented, had a higher prevalence ratio for folic acid deficiency. Regarding the repercussions on the newborn, this study found no association between the folic acid deficiency in these pregnant women and the subsequent birth of their children in the low birth weight, prematurity, malformation, and stillbirth categories. **Conclusion**: pregnant women in the second trimester had a higher percentage of folic acid deficiency, as did those who were not supplemented with this micronutrient. Marital status, considered a stable union, was favorable for adequacy. Further studies with follow-up of these children and long-term evaluations are necessary regarding the repercussions of folic acid deficiency in newborns.

Keywords: folic acid deficiency; pregnancy; newborn; neural tube defects.

IN A HYPOTHETICAL END-OF-LIFE SITUATION, WHAT VALUES ARE REPORTED BY ELDERLY PATIENTS IN OUTPATIENT CARE

WAGNER GOMES REIS

Advisor: Maria Julia Goncalves de Mello
Defense date: 2024 aug. 14

Introduction: The aging population raises reflections on comprehensive health care, which includes the end-of-life process and related care. It is necessary to discuss how to ensure the patient's right to autonomy, promoting their values and validating their beliefs, as well as establishing an individualized care plan based on their values. **Objectives**: To analyze the values referred to by elderly patients in outpatient care in a hypothetical end-of-life situation. **Methods**: Cross-sectionalanalytical study conducted at the Eduardo Campos da Pessoa Idosa Hospital (HECPI) in Recife-PE from February toDecember 2023. Elderly patients (60+) in outpatient care were included. After being informed of the study's objective, understanding the risks, inconveniences, and benefits, and signing the Informed Consent Form, they responded to aquestionnaire validated in Brazil based on the PRISMA project, along with an instrument containing sociodemographic andclinical questions. Descriptive analysis and multivariate Poisson regression were performed for the dependent variables: always being informed about limited life expectancy, decision-making done by the patient themselves, and preference fordying at home. **Results**: Among the 650 participants, 70.1% would like to know that they have a condition with limited life expectancy, and 56.7% would like to be able to die at home. The symptoms that cause the most concern is not being able to breathe (34.6%), being a burden to others (27.9%), and feeling pain (15.4%). In an end-of-life situation, 70.2% priority equality of life. Factors associated with wanting to know that life expectancy is limited were age group 60-69 years (PR=1.69;95%CI: 1.01-2.84; p=0.04) and Evangelical religion compared to Catholics (PR=1.12; 95%CI: 1.01-1.25; p=0.05). As for thedesire to die at home, there was an association with the age group 80 years or older (PR=1.45; 95%CI: 1.12-1.88; p=0.004),marital status with a partner (PR=1.20; 95%CI: 1.05-1.37; p=0.007), having up to two comorbidities (PR=1.2; 95%CI: 1.05-1.37;p=0.04), polypharmacy (PR=1.28; 95%CI: 1.1-1.48; p=0.001), having a diagnosis of a serious illness (PR=1.19; 95%CI: 1.02-1.39;p=0.023), and having witnessed the death of a family member or friend (PR=1.2; 95%CI: 1.00-1.44; p=0.039). **Conclusion**: In ahypothetical end-of-life situation, elderly participants wished to be involved in the construction of their care plan, to die athome, and showed a greater interest in quality of life.

Keywords: end-of-life care; palliative care in terminal life; health services for the elderly; personal autonomy

EFFECTS OF OLFACTORY AND GUSTATORY STIMULI ON THE NUTRITION OF PRETERM INFANTS: A DOUBLE-BLIND RANDOMIZED CLINICAL TRIAL

LUANA GEYSE RIBEIRO DA FONSECA

Advisor: João Guilherme Bezerra Alves
Defense date: 2024 sep. 10

Introduction: prematurity is the main cause of infant morbidity and mortality in Brazil. Nutritional problems caused by digestive immaturity are generally associated with undesirable outcomes in the nutrition of premature babies, which poses achallenge in the tolerance of milk in these newborns. Despite discoveries about the functioning of the olfactory andgustatory system during intrauterine life, olfactory and gustatory stimuli have not yet been properly studied in the nutrition of premature babies. **Objectives**: To compare weight gain at the time of discharge from a NICU in premature infants whoreceived olfactory and taste stimuli with breast milk. **Methods**: randomized, double-blind clinical trial, carried out from April2023 to February 2024. Preterm infants with gestational age between 28 and 32 weeks and/or birth weight <1,500g not yetfed orally were included. Congenital malformations associated with the digestive system requiring surgery soon after birth, or congenital conditions that hindered growth were excluded from the study. To calculate the sample size, it was assumed that the standard deviation of weight gain in each group would be equal to 350 grams. Adopting a significant level of 5%and a power of 90%, it was found that samples from at least 30 children in each group were sufficient to detect an increase ofmore than 300 grams in the weight gain of the treated group in relation to the weight gain. weight of the control group. Theindependent variables analyzed were gestational age, sex, weight, head circumference and length at birth and theirrespective Z scores, type of delivery, APGAR score, pre-eclampsia, chorioamnionitis, gestational hypertension. The primary outcome consisted of comparing the groups based on weight gain at the time of discharge from the NICU, other dependent outcomes included: duration of feeding via oral/nasal gastric tube, time to reach discharge from the NICU, length and headcircumference with their respective scores Z at discharge from the NICU. The intervention was carried out immediately before feeding. The intervention group received olfactory and gustatory stimulation with breast milk and the control group was stimulated with placebo (double-distilled water). Statistical analysis was performed using Stata version 12.1. Comparisons of proportions were performed using the chi-square test or Fisher's exact test. Comparisons of means between two groups were performed using the student's t test when the variables presented distributions compatible with a normal distribution. For variables with asymmetric distribution, comparisons were made between medians using the bootstrapresampling method. In all tests, a significant level of 5% was adopted. **Results**: Of the 80 newborns analyzed, 17 wereexcluded and 63 were randomized, 36 male and 27 female newborns, 60 premature infants completed the study,

threenewborns died. There were no differences between the intervention and control groups regarding the maternal andbiological variables studied. Weight gain until hospital discharge was similar between the intervention and control groups715g (95% CI 544 to 876) vs 657g (95% CI 510 to 804); p=0.60. The hospital discharge time also showed no difference between the intervention and control groups, respectively, 39 days (95% CI; 30 to 49 days) vs 37 days (95% CI; 285 to 54); p=0.735. Thesecondary outcomes, length and head circumference showed no difference between the intervention and control groups,4.5cm (+0.9) vs 3.6cm (+1.1), p=0.351 and 3.0cm (+1.4) vs 3.9cm (+0.6); p=0.954. The other variables also studied did not show differences between the groups. **Conclusions**: The study found no evidence to support the idea that exposure to the smell and taste of breast milk in very premature newborns who were being tube-fed resulted in weight gain or early discharge from the NICU. No negative effects were observed with the olfactory and gustatory interventions. This simple and inexpensive technique requires further investigation to validate our results.

Keywords: premature; nutrition; human milk; smell; taste.

EARLY DETECTION OF CARDIOTOXICITY IN CHILDREN AND ADOLESCENTS WITH CANCER TREATED WITH ANTHRACYCLINES AT A REFERRAL CENTER IN NORTHEASTERN BRAZIL

JESSICA LAUREANO MARTINS

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2024 oct. 28

Introduction: the prospects for curing childhood and adolescent cancer are promising; however, complications inherent toantineoplastic treatment can affect several organs in the short, medium or long term, particularly the cardiovascular system. Anthracyclines are chemotherapeutic agents frequently used in pediatric oncology, with proven efficacy in treating various solid and hematological tumors. Cardiotoxicity is considered the most severe side effect resulting from anthracycline treatment, particularly in children and adolescents. Pediatric cardio-oncology is a highly relevant field in modern medicine due to the exponential increase in childhood cancer survivors. Early diagnosis and intervention are crucial for improving the cardiovascular outcomes of cancer survivors. Echocardiography is the primary tool for monitoring and detecting myocardialdysfunction resulting from antineoplastic treatment. **Objective**: to determine the frequency of cardiotoxicity and describe the clinical and echocardiographic profile of children and adolescents with cancer treated with anthracyclines. **Methods**: adescriptive, observational, cross-sectional study was conducted at a reference university hospital in Northeastern Brazil witha pediatric oncology service, from January 2018 to December 2022. Children and adolescents under 19 years of age with cancer treated with anthracyclines were included if they had a normal echocardiographic assessment of Left VentricularEjection Fraction (LVEF ≥ 55%) using the biplane Simpson method and abnormal Left Ventricular Global Longitudinal Strain (LVGLS), with an absolute value lower than -18%. Clinical and echocardiographic characteristics were evaluated. The left ventricular systolic function was analyzed through two-dimensional echocardiography using the LVEF (biplane Simpson) andLVGS methods. The patients included in the study were classified into Group 1, consisting of 45 patients with progressiveLVEF assessment and reduced LVGLS values; and Group 2, 19 patients with a ≥ 10 percentage point decline in LVEF compared to baseline or below normal values (< 55%); and/or LVGLS with a ≥ 15% percentage decline from baseline values. Theechocardiographic criteria established by guidelines were applied to diagnose cardiotoxicity. Descriptive data analysis was performed by constructing a table of absolute and relative frequency distribution, measures of central tendency (mean andmedian) and dispersion (standard deviation and amplitude). The Research Ethics Committee involving Human Subjects ofthe Oswaldo Cruz University Hospital (HUOC) approved this study under CAEE registration number 58831022.9.3001.5192.**Results**: of the 141 patients seen, 45 patients who met the inclusion criteria and had abnormal LVGLS were included (31.9%).Among these, 19 patients (42.2%) showed a percentage decline in LVEF

and/or LVGLS values compared to baseline exams.The most frequent type of cancer in both groups was Acute Lymphocytic Leukemia. The mean age at diagnosis was 10.3years, ranging from one year to 17 years. More than half of the sample was asymptomatic from a cardiovascular perspective (75.5%). In Group 2, the identified risk factors for cardiotoxicity were female gender (52.6%), age under five years (15.8%), and Down syndrome (5.3%). The cumulative dose of anthracyclines exceeded 250 mg/m^2 in 11 patients (57.9%). No patient underwent mediastinal radiotherapy. According to the echocardiographic criteria compared to baseline examination, an isolated percentage decrease in LVEF occurred in 26.3% of patients, an isolated reduction in LVGLS in 47.4% and abnormalities in both methods were observed in 26.3%. Among the patients with isolated decline in LVEF, three did not havea baseline LVGLS and progressed to significantly reduced values later. The baseline LVEF values ranged from 56.7% to 80%, while the post-treatment values ranged from 28% to 72%. Regarding the baseline LVGLS values, they ranged from -18% to-23.7% and the post-treatment values ranged from -11% to -17%. **Conclusions**: Early detection of cardiac toxicity in children and adolescents treated with anthracyclines is essential to ensure the safety and efficacy of cancer treatment. Echocardiography is one of the primary tools for diagnosing cardiotoxicity during and after chemotherapy, particularly in the subclinical phase through LVGLS.

Keywords: cardiotoxicity; echocardiography; anthracyclines; cancer; children.

DOCTORATE IN MATERNAL AND CHILD HEALTH

ANTENATAL CORTICOTHERAPY IN PREGNANT WOMEN WITH 34-36 WEEKS TO REDUCE THE INCIDENCE OF RESPIRATORY DISORDERS IN NEWBORNS: A RANDOMIZED CLINICAL TRIAL

ANA MARIA FEITOSA PORTO

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2010 ago. 25

Objectives: 1) To determine the effectiveness of antenatal corticosteroid therapy in reducing the incidence of respiratory disorders in late preterm newborns, describing biological, obstetric, and neonatal characteristics; 2) To identify the risk factors associated with respiratory morbidity in these newborns.**Methods**: A triple-blind randomized clinical trial was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira, comparing antenatal corticosteroid versus placebo administered to pregnant women between 34 and 36 weeks. A dose of 12mg of betamethasone was administered intramuscularly for two consecutive days, or placebo, to determine the incidence of respiratory disorders in newborns. 320 pregnant women were included, with 163 randomized to the treatment group and 157 to the control group, including 143 newborns in the corticosteroid group and 130 in the placebo group. To assess the association between the independent or predictive variables (use of corticosteroids or placebo) and the dependent variables (outcomes), contingency tables were constructed, calculating the Risk Ratio (RR) as a measure of relative risk, as well as the 95% Confidence Interval (CI95%). A secondary data analysis was performed to determine the risk factors for respiratory morbidity in late preterm newborns. In addition to calculating the Risk Ratio, multivariate analysis using multiple logistic regression was performed to identify the factors most strongly associated with respiratory morbidity. The study was approved by the Ethics and Research Committee in Humans of the institution under number 1029/2007.**Results**: These are presented in two articles. A low frequency of newborn respiratory distress syndrome (RDS) was observed (1.4% in the corticosteroid group and 0.8% in the placebo group, p=0.54), and a high frequency of transient tachypnea of the newborn (TTN) in both groups (23.8% vs. 22.3%, p=0.77). No reduction in the risk of any respiratory morbidity was observed with corticosteroid use (RR=1.09; CI95%=0.72-1.66). The need for ventilatory support was also similar, around 20% in each group. There was no difference in neonatal morbidity (61.5% vs. 71.5%, p=0.08) or in the length of hospitalization in both groups (5.12 days vs. 5.22 days, p=0.87), but the use of phototherapy was lower in neonates whose mothers received corticosteroids (RR=0.63: CI95%=0.44–0.91). When analyzing risk factors for neonatal respiratory morbidity, the variables that remained strongly associated with increased risk were gestational age below 35 weeks, birth weight less than 2500g, and Apgar score less than seven at the first minute. **Conclusions**: Antenatal corticosteroid therapy used in pregnant women between 34 and 36 weeks of gestation does not reduce the incidence of respiratory disorders in newborns. The main causes associated with respiratory morbidity are gestational age below 35 weeks, birth weight less than 2500g, and an Apgar score less than seven at the first minute. Strategies to prevent respiratory morbidity should be adopted,

aiming to delay delivery and avoid low Apgar scores in late preterm newborns. Note: No conflicts of interest. The medication used in this study was purchased by the Instituto de Medicina Integral Prof. Fernando Figueira from the Mantecorp Laboratory (betamethasone) and from the University of São Paulo – USP Pharmacy (placebo), and the authors did not receive any supplies, benefits, incentives, or payments from the pharmaceutical industry. This study was registered on the Clinical Trials platform with the number NCT00675246.

Keywords: prematurity; late preterm; antenatal corticotherapy; respiratory disorders in newborns.

STUDY OF THE EFFECTIVENESS AND IMPACT OF ANTIRETROVIRAL THERAPY IN CHILDREN AND ADOLESCENTS LIVING WITH HIV IN THE STATE OF PERNAMBUCO

EDVALDO DA SILVA SOUZA

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2010 mar. 24

Objectives: To study the effectiveness of antiretroviral therapy in children and adolescents in resource-limited settings and hybrid scenarios (full access to treatment in a population living in a resource-poor environment), long-term outcomes in HIV-1 infected adolescents through vertical transmission, and outcomes and predictors in a historical cohort of HIV-infected children and adolescents.**Methods**: A systematic review, a cross-sectional study, and a historical cohort study were conducted.**Results**: The median survival rate in children infected with HIV-1 in resource-limited settings was 92.2% (range: 80% - 100%) over a follow-up period of 20.2 months (median). The mean age of the long-term HIV-1 infected adolescents studied was 12.5 years, with the majority being female (73.5%) and a mean follow-up period of 9.0 years. Clinical and laboratory data showed that 71.4% of adolescents had no signs of HIV infection, 81.6% had CD4+ T-cell counts within the normal range, and 53.1% had undetectable HIV viral loads. The majority of patients attended school (89.8%), but school failure and school dropout were reported in 51.5% and 28.6% of the subjects, respectively. At the end of the historical cohort study follow-up, 102 (52.3%) patients had a successful response to antiretroviral therapy with an average treatment duration of 4.9 (SD, 2.5) years. After adjusting for baseline factors and those associated with treatment, therapeutic success was inversely associated with male gender (odds ratio, OR=0.5, p=0.029), associated with living in the Metropolitan Region of Recife (OR=2.8, p=0.017), and strongly associated with patients/caregivers considered adherent by the physician (OR=19.6, p<0.001). Additionally, time to failure of the first antiretroviral regimen was negatively associated with male gender (relative hazard, RH=0.5, p=0.021) and living outside the Metropolitan Region of Recife (RH=0.4, p=0.009), and associated with CDC stage 1 immunological status (RH=2.9, p=0.003) and patients who were considered adherent by physician judgment (RH=2.2, p=0.003).**Conclusions**: Combined antiretroviral therapy for children infected with HIV-1 living in resource-limited settings is effective in reducing mortality, controlling viral replication, and restoring immune function in patients. The majority of long-term surviving adolescents exhibit clinical, immunological, and virological control and high quality of life scores, but with limitations in school performance. The effectiveness of antiretroviral therapy and the duration of response in a hybrid scenario are associated with gender, place of residence, degree of immunodeficiency, and adherence to treatment.

Keywords: HIV; acquired immunodeficiency syndrome; highly active antiretroviral therapy; children; adolescents.

NON-INVASIVE VENTILATION AND USE OF EXOGENOUS PULMONARY SURFACTANT REPLACEMENT THERAPY IN PRETERM NEWBORN RESPIRATORY DISTRESS SYNDROME IN THE NEONATAL UNIT OF IMIP

JUCILLE DE AMARAL MENEZES

Advisor: Prof. João Guilherme Bezerra Alves
Defense date: 2010 apr. 28

Objectives: To compare two modalities of non-invasive ventilation, intermittent nasal positive pressure and continuous nasal airway positive pressure, to identify which reduces the need for assisted mechanical ventilation in the first 72 hours of life in preterm newborns with respiratory distress syndrome. Another objective was to identify risk factors associated with the failure of the INSURE method in a group of newborns undergoing this therapy. **Methods**: A clinical trial was conducted with preterm newborns between 26 and 34 weeks of gestational age and diagnosed with neonatal respiratory distress syndrome, randomized to either intermittent nasal positive pressure or continuous nasal airway positive pressure. The results of this study, along with previously published studies, were analyzed in a meta-analysis. Among the newborns who participated in the clinical trial, 124 who weighed less than 1500g at birth and underwent the INSURE method were analyzed retrospectively to identify risk factors associated with failure of this method, characterized by the need for mechanical ventilation within the first 72 hours of life. **Results**: A total of 200 newborns participated in the clinical trial, with 100 randomized to each mode of non-invasive ventilation assistance. The group randomized to intermittent nasal positive pressure had a lower failure rate of non-invasive ventilation compared to the group with continuous nasal airway positive pressure during the 24–72-hour period (10% vs. 22%, p=0.02). The results were similar in those newborns who received exogenous surfactant (10.9% vs. 27.1%, p=0.01), as well as in those with a birth weight greater than 1000g (22.5% vs. 39.6%). The meta-analysis showed a significant reduction in the risk of non-invasive ventilation failure in the intermittent nasal positive pressure group compared to the continuous nasal airway positive pressure group (RR 0.60, 95% CI 0.43–0.84) with an NNT of 6.6. Among the newborns in the retrospective study, 35% failed the INSURE method. In the logistic regression analysis, multiple gestation (aOR 2.88, 95% CI 1.06–7.83) and more severe respiratory disease (aOR 4.43, 95% CI 1.94–10.08) were considered risk factors associated with INSURE method failure. Intermittent nasal positive pressure reduced non-invasive ventilation failure when compared to continuous nasal airway positive pressure. The INSURE method was successful in the majority of preterm newborns. Multiple gestation and more severe respiratory disease were factors associated with therapeutic failure.

Keywords: non-invasive ventilation; INSURE; preterm newborn; neonatal respiratory distress syndrome.

INFLAMMATORY RESPONSE IN NASOPHARYNGEAL ASPIRATES OF CHILDREN UNDER FIVE YEARS WITH ACUTE RESPIRATORY INFECTION IN RECIFE, BRAZIL

MARIA DO CARMO MENEZES BEZERRA DUARTE

Advisor: Prof. Jailson de Barros Correia
Defense date: 2010 jul. 28

Objectives: To investigate whether cytokine concentrations in nasopharyngeal aspirates differ according to various respiratory pathogens in children with acute respiratory infection in Brazil, and whether cytokine concentrations differ based on the severity of disease in children from low socioeconomic backgrounds in Brazil infected with human respiratory syncytial virus (HRSV). **Methods**: A prospective, exploratory, descriptive study was conducted from June 2008 to October 2009. The first study included children under five years old with a clinical diagnosis of acute respiratory infection for up to seven days, with multiplex polymerase chain reaction positive for one of the following pathogens: human adenovirus, human bocavirus, human metapneumovirus, human rhinovirus, human respiratory syncytial virus, and Mycoplasma pneumoniae, with no co-detection for human influenza A and B, human parainfluenza 1, 2, 3, 4, coronavirus NL63, 229E, HKUI, OC43, and Chlamydophila pneumoniae. The second study included children under two years old with a clinical diagnosis of acute respiratory infection for up to seven days, with multiplex polymerase chain reaction positive for HRSV alone. Children with a history of complex congenital heart disease, severe chronic lung diseases, or immunodeficiencies were excluded from both studies. Cytokines interferon-γ, tumor necrosis factor-α, interleukins IL-4, IL-5, IL-6, IL-8, IL-10, IL-12, IL-13, IL-17, and macrophage and granulocyte colony-stimulating factor were measured in nasopharyngeal aspirates using ELISA. In the first study, 71 children under five years old with acute respiratory infection caused by a single respiratory pathogen (HRSV: 23, human metapneumovirus: 11, human adenovirus, human rhinovirus, human bocavirus: 10 each, or Mycoplasma pneumoniae: 7) were evaluated. None of the children required mechanical ventilation, and all survived. Overall, cytokine concentrations showed no significant differences between pathogens. Among the exceptions, IL-17 was higher in children with Mycoplasma pneumoniae compared to those with viral infections (p=0.036). Future studies are needed to clarify the role of the Th17 response in acute respiratory infection. The second study described cytokine concentrations in the nasopharyngeal aspirates of 44 children infected only with HRSV, based on the severity of the disease [hospital admission and clinical severity: mild (not hospitalized), moderate (hospitalized without oxygen therapy), and severe (hospitalized with oxygen therapy or oxygen saturation <93%)]. None of the cytokine responses showed statistically significant differences between the groups. The data from this study suggest that inflammatory mediators do not appear to predict hospital admission or the need for oxygen use in children with infection solely caused by HRSV in children from low socioeconomic backgrounds in Brazil.

Keywords: human adenovirus; human bocavirus; Brazil; bronchiolitis; cytokines; acute respiratory infection; human metapneumovirus; pneumonia; rhinovirus; human respiratory syncytial virus; mycoplasma pneumoniae.

EPIDEMIOLOGICAL STUDIES APPLIED TO THE INVESTIGATION OF PRENATAL EXPOSURE TO PESTICIDES

MARÍLIA TEIXEIRA DE SIQUEIRA

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2010 jul. 29

Objectives: The aim of this study was to analyze prenatal exposure to pesticides and the adverse effects on the fetus. Two observational epidemiological studies were conducted: an ecological study to correlate pesticide use with prematurity, low birth weight, congenital malformations at birth, fetal death, and infant mortality due to congenital malformations in Brazilian states in 2001; and a cohort study to analyze the association between maternal pesticide exposure and adverse fetal outcomes in an agricultural region of Pernambuco between 2007-2009. **Methods**: The first study used secondary data from the Brazilian System of Information on Live Births (SINASC), the Mortality Information System (SIM) for the year 2001, and the most recent pesticide use data published by state in 2000. The percentages of prematurity, low birth weight, and congenital malformations at birth, as well as proportional mortality due to congenital malformations and the infant mortality rate from congenital malformations (according to the International Classification of Diseases – ICD 10), were calculated and standardized by maternal age. A linear regression analysis was performed to test the association between health indicators and pesticide use (kg/hectare/year) by state, followed by a linear regression adjusted for a low number of prenatal consultations (0 to 3 consultations). Statistical analyses were performed using Minitab 14.0 and Stata SE 10.1. The second study followed a cohort of 1,477 pregnant women from the municipalities of Bonito, Camocim de São Félix, and São Joaquim do Monte, monitored during their prenatal care between July 2007 and January 2009. Data collection instruments, applied by trained staff, included information on socioeconomic and demographic conditions, smoking habits, alcohol use, pesticide exposure, pregnancy progression, and fetal birth/death outcomes. A univariate logistic regression analysis was conducted to assess the crude effect of pesticide exposure variables and covariates on adverse fetal outcomes. Variables showing a p-value <0.20 were then analyzed with multivariate logistic regression. The magnitude of the effect was estimated using the odds ratio with 95% confidence intervals and a p-value <0.05. Statistical analysis was performed using EPI.INFO 3.5.1, Stata SE 10.1, and SPSS 18.0. Both studies were approved by the Research Ethics Committee of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) under protocols 985/2007 and 1.515/2009. **Results**: The ecological study found that the highest pesticide users were the states of São Paulo, Goiás, and Mato Grosso do Sul, with pesticide use exceeding 4 kg/ha in 2000. A positive correlation was detected between the percentage of low birth weight (p=0.045) and pesticide use, as well as proportional mortality due to congenital malformations (p=0.004) and infant mortality rates due to congenital malformations (p=0.039) across states, both in crude and adjusted linear regression models.In the second study, the majority of pregnant women lived in urban areas, were younger than 24 years, had up to 4 years of schooling, and earned up to two minimum

wages. Over 50% of the women had seven or more prenatal consultations, and cesarean deliveries accounted for nearly 35% of the births. A total of 182 adverse fetal outcomes were recorded. The most frequent potential pesticide exposure was domestic. No association was found between pesticide exposure variables and adverse outcomes in both crude and adjusted analyses. **Conclusions**: The epidemiological studies showed different results regarding the association between prenatal pesticide exposure and adverse fetal outcomes. However, the need for further studies in the Brazilian population is emphasized, with a larger number of analysis units (municipalities) and continued monitoring of the cohort in Bonito, Camocim de São Félix, and São Joaquim do Monte to detect long-term effects of pesticide exposure. Such studies should be supported by public laboratories and enhanced professional training in the surveillance of populations exposed to pesticides. Regular reporting of pesticide sales by state and municipality is also recommended to support these investigations.

Keywords: epidemiological studies; pesticides; exposure/outcome; prenatal.

PREVALENCE OF VIRUSES, MYCOPLASMA PNEUMONIAE, CHLAMYDOPHILA PNEUMONIAE AND RISK FACTORS FOR HOSPITALIZATION IN CHILDREN UNDER FIVE YEARS OLD WITH ACUTE RESPIRATORY INFECTION IN RECIFE, BRAZIL

PATRICIA GOMES DE MATOS BEZERRA

Advisor: Prof. Murilo Carlos Amorim de Britto
Defense date: 2010 jun. 30

Objectives: The aim of this study was to determine the prevalence of viral and atypical bacterial pathogens in children under five years old with various clinical conditions and severities of acute respiratory infection (ARI), to investigate the temporal patterns exhibited by the pathogens, and to describe the risk factors for hospitalization due to viral ARI in children under five years old in the emergency department of Recife. **Methods**: A prospective, cross-sectional, hospital-based study was conducted from April 2008 to March 2009. The first study included children under five years old with a clinical diagnosis of ARI with up to seven days of illness. The second study included children under five years old with a clinical diagnosis of ARI with up to seven days of illness and a positive result from multiplex polymerase chain reaction (PCR) for respiratory viruses: human adenovirus (HAdV), human bocavirus (BV), human metapneumovirus (HMPV), human rhinovirus (HRV), human respiratory syncytial virus (HRSV), human influenza A and B, human parainfluenza viruses 1, 2, 3, and 4, and human coronaviruses NL63, 229E, HKUI, and OC43. Children with a history of complex congenital heart disease, severe chronic lung diseases, or immunodeficiencies were excluded. In the first study, multiplex PCR was used to detect 15 respiratory viruses and 2 atypical bacteria (Mycoplasma pneumoniae and Chlamydophila pneumoniae) in nasopharyngeal aspirate samples from 407 children under five years old. One or more pathogens were identified in 348 (85.5%) samples, with co-detection in 160 (39.5%). The most prevalent pathogens were HRSV in 151 (37.3%), HAdV 101 (24.8%), HRV 77 (18.9%), BV 76 (18.7%), HMPV 42 (10.3%), and Mycoplasma pneumoniae (Mpp) 40 (9.8%). HRSV was associated with more severe disease and a higher number of particularly severe cases of bronchiolitis. Mpp was associated with more severe cases of pneumonia and was detected in 17% of children hospitalized with pneumonia. Co-detection was not associated with more severe disease or any particular clinical manifestation. HRSV, HMPV, and Mpp exhibited strong seasonality, with HRSV cases peaking during the rainy season in Recife, followed by peaks in HMPV and Mpp cases. The second study included 303 children under five years old with multiplex PCR positive for 15 respiratory viruses, excluding atypical bacteria. Five risk factors for hospitalization were identified: birth weight <2500g, mothers under 21 years of age, low paternal education, disease occurrence between June and November, and a pneumonia diagnosis. **Conclusions**: The data from this study provide the first description of the prevalence of respiratory pathogens in different severities and clinical manifestations of acute respiratory infection in children under five years old in Recife, as well as the risk factors for hospitalization due to viral ARI in this age group.

Keywords: human adenovirus; human bocavirus; Brazil; bronchiolitis; risk factors; acute respiratory infection; metapneumovirus; mycoplasma pneumoniae; pneumonia; rhinovirus; human respiratory syncytial virus.

COMPARISON OF VISUOMOTOR BEHAVIOR BETWEEN CHRONOLOGICAL AND CORRECTED AGES IN PRETERM NEWBORNS

RAQUEL COSTA ALBUQUERQUE

Objectives: The objective of this study was to evaluate the visuomotor behavior of preterm infants and verify whether there is a difference in performance based on the need for correcting gestational age. **Methods**: This was a prospective, analytical cohort study involving a group of preterm infants aged between 28 and 36 weeks and 6 days of gestational age. The study was conducted at the Neonatology Service of the Instituto de Medicina Integral de Pernambuco Prof. Fernando Figueira (IMIP), Recife, Brazil. Visuomotor behavior was evaluated using the Method for Assessing Visual Behavior of Infants, adapted from the Bayley Scales of Infant Development II (Second Edition). Statistical analysis was performed using the Chi-square test, with a significance level set at $p<0.05$. **Results**: A total of 130 infants were analyzed. In the first month, when the corrected age was applied, 120 infants responded to the eye contact test, 118 to the horizontal visual tracking, 80 to vertical visual tracking, 20 to the upper limb movement test, and 123 to the visual exploration of the environment. All these tests showed statistical significance ($p<0.001$) when comparing corrected age with chronological age. In the second month, after correcting for gestational age, 128 infants ($p=0.013$) responded positively in the eye contact test, 126 ($p<0.008$) in horizontal visual tracking, 111 ($p<0.001$) in vertical visual tracking, 55 ($p<0.001$) in the upper limb movement test, and 129 ($p=0.012$) in visual exploration of the environment. **Conclusions**: The results of this study suggest that it is important to consider corrected gestational age as a parameter in evaluating the visuomotor behavior of preterm infants, thus preventing inaccurate diagnoses of visual impairments in preterm infants during the first months of life.

Keywords: prematurity; visuomotor behavior; corrected gestational age.

EXPLORATORY STUDY OF COSTS AND CONSEQUENCES OF PRENATAL CARE IN PERINATAL HEALTH IN FAMILY HEALTH UNITS IN A CAPITAL CITY OF NORTHEAST BRAZIL

SUELY ARRUDA VIDAL

Advisor: Prof. Isabella Chagas Samico
Defense date: 2010feb.24

This research was guided by a series of unanswered questions, such as: To what extent is prenatal care implemented in primary health care? Is the degree of implementation uniform among family health teams? What is its cost to the public system in these teams and units? What is the effectiveness of this action within the family health strategy? What are the costs and consequences of prenatal care on perinatal health? To answer these questions, the study employed an evaluative research strategy with two types of analysis: implementation and performance (efficiency). An economic evaluation model was built for the prenatal care program, quantifying resources (monetary values) and measuring various effects (consequences) on perinatal morbidity and mortality. The implementation analysis was conducted beforehand to determine the level of prenatal care implementation in the family health teams. Its explanatory power lies in the coherence between the observed effects in the empirical reality and the degree of adequacy of the program's structure and functioning.Primary and secondary data were used, collected from information systems. The performance analysis compared the costs of prenatal care with its effects on perinatal health in units where prenatal care was fully or partially implemented. In the group of units with fully implemented prenatal care, the adverse effects on perinatal health, including mortality rates, were proportionally lower. It was found that the average cost of prenatal care was higher in the partially implemented group, raising concerns about the potential waste of financial resources. The cost-effectiveness ratio for the analyzed effects was better in the group of family health units with fully implemented prenatal care.**Conclusions**: The model, based on an implementation analysis and cost-consequence evaluation, can be applied to other contexts and interventions, with necessary adaptations. The implementation analysis identifies failures in service structure and healthcare practices that may lead to poor outcomes. The results of cost-consequence analysis can be presented in a panel to facilitate decision-making by managers. Lastly, the model used, relying on secondary data from the service, saved time and resources. However, this advantage may also have posed a limitation due to the reliability of information systems, which may have introduced bias, though it did not invalidate the study.

Keywords: prenatal care; cost-effectiveness; perinatal health; family health units; health systems evaluation.

MISOPROSTOL IN ESCALATED TITRATED ORAL SOLUTION VERSUS VAGINAL ROUTE FOR INDUCTION OF LABOR: A RANDOMIZED CLINICAL TRIAL

ALEX SANDRO ROLLAND DE SOUZA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2011 ago. 23

Objectives: To determine the effectiveness and safety of misoprostol in an escalated titrated oral solution compared to the vaginal tablet for labor induction in full-term pregnant women with a live fetus. **Methods**: A triple-blind, multicenter randomized clinical trial was conducted from March 2010 to June 2011 at the Instituto de Medicina Integral Prof. Fernando Figueira, Policlínica and Maternidade Prof. Arnaldo Marques, and Hospital Barão de Lucena, located in Recife, Pernambuco, Northeast Brazil. A total of 200 women with an indication for labor induction were randomly assigned to receive misoprostol in an escalated titrated oral solution or vaginal tablet (100 in each group). Inclusion criteria were: singleton pregnancy with a live fetus in cephalic presentation, gestational age ≥ 37 weeks, estimated fetal weight < 4000g, amniotic fluid index > 5cm, and Bishop score ≤ 6. Exclusion criteria included previous uterine scar, altered fetal vitality, fetal anomalies, fetal growth restriction, genital bleeding, and contraindications to vaginal delivery. The initial dose for the oral solution was 20μg/h for the first six doses, increasing by 20μg/h every six hours until the maximum dose of 80μg/h. The vaginal tablet dose was 25μg every six hours. Labor induction was maintained until labor began or up to 48 hours. The primary outcome was vaginal delivery not occurring within 12 hours. Secondary outcomes included: vaginal delivery not occurring within 24 hours, uterine hyperstimulation syndrome, cesarean section, severe neonatal morbidity or perinatal death, severe maternal morbidity or maternal death, unfavorable cervical status after 12-24 hours, need for oxytocin, uterine hypertonia/hyperstimulation, tachysystole, uterine rupture, need for epidural analgesia, instrumental vaginal delivery, side effects (headache, nausea, vomiting, diarrhea, and postpartum hemorrhage), maternal satisfaction, and neonatal outcomes (meconium, Apgar scores <7 at 1 and 5 minutes, admission to neonatal intensive care unit, and rates of neonatal encephalopathy). Data were analyzed using chi-square and Fisher's exact tests for categorical variables, t-tests for normally distributed continuous variables, and Mann-Whitney tests for non-normally distributed continuous or discrete variables. Risk ratio (RR) and 95% confidence intervals were calculated. **Results**: No statistically significant difference was found in the meantime from induction to labor onset between the oral solution and vaginal misoprostol groups (16.4 ± 12.9 vs. 14.5 ± 11.3 hours; p=0.31), or from induction to vaginal delivery (22.9 ± 14.9 vs. 22.3 ± 13.0 hours; p=0.81), or from labor onset to vaginal delivery (7.05 ± 4.65 vs. 6.98 ± 3.83 hours; p=0.93). The frequency of vaginal delivery not occurring within 12 and 24 hours was similar between the groups (81% vs. 85% and 63% vs. 58%, respectively). No differences were found in the incidence of uterine hyperstimulation syndrome, unfavorable cervical status at 12 and 24 hours, need for oxytocin, tachysystole, epidural analgesia, side effects, or perinatal outcomes. There were no cases of severe neonatal or maternal morbidity or perinatal and maternal death, uterine hypertonia, or uterine rupture. About 70% of patients preferred the oral solution. **Conclusions**: The escalated titrated oral solution of misoprostol was as effective as the vaginal route for labor induction and was associated with greater maternal preference. However, further studies are recommended before its routine clinical use.

Keywords: misoprostol; induced labor; randomized controlled trials.

EFFECTIVENESS OF CONTRACEPTIVE COUNSELING IN WOMEN ATTENDED IN THE POST-ABORTION PERIOD IN THE CITY OF RECIFE – AN INTERVENTION STUDY

ANA LAURA CARNEIRO GOMES FERREIRA

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2010oct. 22

Objectives: To assess the effectiveness of personalized contraceptive counseling on the acceptance and use of contraceptive methods in women in the post-abortion period in the city of Recife, Northeast Brazil. **Methods**: An intervention study was conducted from July 2008 to September 2009 involving 246 women randomly allocated into intervention (n=123) and control (n=123) groups. The study took place at the Women's Outpatient Clinic of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). Women attending five public maternity hospitals in Recife for abortion care were invited to participate. The intervention was based on personalized contraceptive counseling, considering each woman's reproductive history, previous contraceptive experience, and individual needs. The analysis was conducted according to the intention-to-treat principle. The study was approved by the IMIP Research Ethics Committee. **Results**: After six months of follow-up, 121 (98.4%) women in the intervention group were still using a contraceptive method, compared to 86 (70.6%) women in the control group (p<0.001). The adherence rate to the method was 41% higher in the intervention group compared to the control group (p<0.001). Women in the intervention group were five times more likely to choose an injectable contraceptive than those in the control group (p<0.001). Additionally, women in the intervention group were more satisfied with the method they used and had an 83% lower chance of becoming pregnant compared to those in the control group. **Conclusions**: The strategy of personalized contraceptive counseling increased the acceptance and use of contraceptive methods, as well as significantly improved the correct use of the method during the first six months post-abortion. This study also highlighted that women in the intervention group were more likely to use more effective, long-acting contraceptive methods. The results of this intervention are promising, but longer follow-up periods are needed to evaluate long-term outcomes in various socio-economic contexts.

Keywords: abortion; contraception; counseling; patient adherence; family planning.

ASSESSMENT OF RESPIRATORY MUSCLE STRENGTH DURING PREGNANCY IN PRIMIGRAVIDAS

ANDRÉA LEMOS BEZERRA DE OLIVEIRA

Advisor: Prof. Ariani Impieri de Souza
Defense date: 2009 sep. 21

Objectives: The objective of this study was to describe the average values of inspiratory muscle strength (PImáx) and expiratory muscle strength (PEmáx) during pregnancy in primigravidas, compare them with nulligravidas values, and determine the association with clinical (gestational age, respiratory rate, resting dyspnea, and effort dyspnea), anthropometric (age, height, weight, and body mass index), and morphological (uterine fundal height and inter-rectus abdominal distance) variables.**Methods**: This was a cross-sectional study involving 120 low-risk obstetric primigravidas, from the 5th to the 40th week of gestation, and 40 nulligravidas aged 20 to 29 years, eutrophic, not engaging in physical activity, attended at the Women's Outpatient Clinic of the Instituto de Medicina Integral Prof. Fernando Figueira. The values for PImax and PEmax were obtained from the Residual Volume and Total Lung Capacity through a digital manovacuometer. The inter-rectus distance was measured at 3 levels (supra-umbilical, umbilical, and infra-umbilical) using a digital caliper, and dyspnea was assessed using the Borg scale. A comparison between the two groups was performed using the student's t-test. The correlation between independent variables and pressures was analyzed using Pearson's correlation coefficient and multiple linear regression, as well as the relationship between the group and age on the pressures. The study was approved by the Ethics and Research Committee in Human Beings of the mentioned hospital under protocol number 986/2007.**Results**: The PImax for primigravidas was 88.5 (SD=16.52) cmH2O, and for nulligravidas, it was 94.22 (SD=22.63) cmH2O (p=0.08). The PEmax for primigravidas was 99.76 (SD=18.19), and for nulligravidas, it was 98.67 (SD=20.78) (p=0.75). There was no correlation between gestational age and PImax (r=-0.06; p=0.49) or PEmax (r=-0.11; p=0.22). Height and effort dyspnea were the only variables showing a correlation, with only PImax, presented in the final regression model: (0.6 + 57.9 height – 1.68 effort dyspnea). The relationship between chronological age and PImax/PEmax did not differ between primigravidas and nulligravidas (slope coefficient for both=0.282 and 0.453, respectively). Uterine fundal height and inter-rectus distance were not associated with PImax or PEmax.**Conclusions**: Respiratory pressures in women aged 20 to 29 years were similar between primigravidas and nulligravidas and remained constant during pregnancy. Height and effort dyspnea interfered only with PImax during pregnancy. Despite the increase in the distance of the abdominal rectus musculature, this did not influence respiratory strength. These findings provide insight into the respiratory muscle biomechanics during pregnancy.

Keywords: maximum respiratory pressures; respiratory muscles; pregnancy; abdominal muscles.

LOSSES, DAMAGES, AND NEW BEGINNINGS: RESILIENCE OF ADOLESCENT GIRLS IN STREET SITUATIONS – A BIOECOLOGICAL PERSPECTIVE

ELIZABETH CORDEIRO FERNANDES

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense Date: 2011 jan. 26

Objectives: To study the resilience process of adolescent girls in street situations, focusing on the quality of social competence and the socio-educational network, as well as understanding their experiences and coping strategies in the face of adversity. **Methods**: A mixed-methods approach was used, combining quantitative and qualitative perspectives. The study involved 25 girls housed in a municipal shelter in Recife (PE), Brazil, between September 2009 and January 2010. Data collection instruments included: a) a semi-structured questionnaire on sociodemographic profile; b) assessment tools for personal characteristics (Incomplete Stories Test – THI); c) construction of the socio-affectivenetwork (Five Fields Map – MCC); d) semi-structured interviews and participant observation. The analysis was linked to the Bioecological Theory of Human Development. Quantitative methods included descriptive and inferential statistics with 95% confidence, applying Kolmogorov-Smirnov, Chi-Square, ANOVA, Kruskal-Wallis, and Spearman's Correlation tests. The study was approved by the Ethics and Research Committee of the Prof. Fernando Figueira Institute of Integral Medicine (IMIP) on 08/12/2009. **Results**: The average age of the girls was 14 years, and the average time spent on the streets was 2 years. The average social competence score was 16.5, with most scoring above this value. Self-efficacy and Active Competence scored higher than confidence (p=0.008) and time on the street (p=0.012). The socio-affective network highlighted the fields of Shelters, Family, and Streets. Mothers were the most frequently mentioned individuals, while fathers were either distant, absent, or idealized. Shelters were perceived as the most significant source of satisfactory relationships. Peers were mainly mentioned in the context of the street, with conflicts related to drugs and violence prevailing. School was the least mentioned field. The qualitative evaluation followed thematic and transversal content analysis. Three central themes emerged: Troubled family relationships, Life on the street, Interfaces of resilience. The strategy of fleeing was understood as a form of resilience, freeing the adolescents from violence and emotional deprivation within the family microsystem. The street (mesosystem) appeared as an ambiguous space: a site of sociability and subsistence, yet marked by begging, delinquent acts, unprotected sexual activities, and a high prevalence of psychoactive substance use, particularly crack. Shelters were perceived as sources of protection, reinforcing resilience. The socio-affective support network was based on the interrelations between the adolescents, their peers, and institutions. Family appeared as an ideal for reintegration, while school remained distant from their reality. There was a clear desire to break free from crack addiction, interrupt the intergenerational transmission of marginalization, and acquire professional training, contrasting with the activities offered, which the girls considered

insufficient or flawed (macrosystem).Two circuits were identified:Home-street-home,indicating a gradual departure from home.Street-shelter-street,showing temporal variables in the search for an exit.**Conclusions:**The girls demonstrated resilience potential, though public policies need to invest in more effective actions for addiction treatment, especially for crack, improve working conditions for professionals, and implement socio-affective networks before marginalization becomes irreversible.

Keywords: street-involved adolescents; social competence; support network; resilience; violence.

STUDY OF THE EFFECTIVENESS AND IMPACT OF THE MONOVALENT ROTAVIRUS VACCINE IN CHILDREN UNDER FIVE YEARS OLD WITH ACUTE DIARRHEA IN A TERTIARY HOSPITAL IN RECIFE, BRAZIL

FERNANDA MARIA ULISSES MONTENEGRO

Advisor: Prof. Jailson de Barros Correia
Defense Date: 2012 jul. 27

Objectives: To evaluate the effectiveness and impact of the monovalent rotavirus vaccine in children under five years old with acute diarrhea treated at a reference center in Recife, Pernambuco. **Methods:** A case-control and cross-sectional study was conducted. **Results:** The vaccine's effectiveness against gastroenteritis caused by the G2P[4] genotype in children aged 6 to 11 months was 77% (95% CI: 42-91%) among rotavirus-negative diarrhea controls and 77% (95% CI: 43-90%) among controls with acute respiratory infection. In children over one year old, a decline in vaccine effectiveness was observed. In the second study, the group A rotavirus antigen was detected in 29% (70/241) of cases during the pre-vaccination period (2004-2005) and in 16.3% (118/725) during the post-vaccination period (2007-2010) ($p<0.001$), representing a 43.8% reduction in rotavirus positivity. A shift in the distribution of rotavirus strains was also observed, with a predominance of the G2P [4] genotype in the post-vaccination period. **Conclusions:** Further studies are needed to monitor the genotypic diversity of rotavirus and the duration of vaccine protection.

Keywords: rotavirus; gastroenteritis; genotypes; human rotavirus vaccine; hospitalization; effectiveness.

THE TRANSGENERATIONAL TRANSMISSION OF HOMICIDE IN ADOLESCENTS IN THE CITY OF RECIFE: CASE-CONTROL STUDY

MARIANNE WEBER ARNOLD

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2010 dec. 10

Objectives: To evaluate factors associated with homicide among adolescents in Recife and to describe the presence of adolescents who were victims of homicide with a family history of homicide (transgenerational transmission).**Methods**: An analytical, observational, case-control study was conducted using a consecutive convenience sample of 101 adolescents aged 10 to 19 who were victims of homicide between March 2009 and January 2010, and 202 neighboring adolescents matched by age and gender. The association between homicide and individual and relational variables, as described by the World Health Organization (WHO), was analyzed by calculating odds ratios (OR) and 95% confidence intervals (95% CI). A multivariate analysis using multiple logistic regression was performed to identify factors most strongly associated with homicide. **Results**: Age ranged from 12 to 19 years, with a mean of 17.4 (SD = 1.46), and 89 victims were male. Among the variables associated with homicide, the following remained as risk factors in the multivariate analysis:Individual factors: having a police record (OR = 10.11; 95% CI = 4.68–21.83), having less than eight years of education (OR = 3.60; 95% CI = 1.72–7.55), and participating in a peer group or gang (OR = 3.34; 95% CI = 1.43–7.78).Relational factors: a family history of homicide (OR = 16.02; 95% CI = 3.33–76.99) and being the child of a teenage mother (OR = 2.35; 95% CI = 1.10–5.02).Among adolescents who were victims of homicide and had a family member also killed, the most common relative was the father (38.9%), followed by a cousin (33.3%). Of 18 adolescents murdered with a family history of homicide, grouping cases by generations showed 9 cases in the first generation (siblings or cousins) and 14 in the second generation (parents or uncles/aunts), totaling 23 events; in four cases, more than one relative was a homicide victim.**Conclusions**: A family history of homicide (transgenerational transmission of homicide) was shown to be an additional risk factor for adolescent homicide. In this study, 18% of adolescents who were victims of homicide had a family history of homicide, highlighting an issue that requires further investigation in subsequent studies.

Keywords: homicide; adolescent; violence; mortality; firearm; factors risk.

TAKING CARE OF YOURSELF AND OTHERS: ANINHAR IMPLEMENTATION ANALYSIS EDUCATIONAL-EXPERIENCE PROGRAM FOR ACTION IN VIOLENCE INTRAFAMILY IN THE BRAZILIAN NORTHEAST

MARLUCE TAVARES DE OLIVEIRA

Advisor: Prof. Isabella Chagas Samico
Defense date: 2011 jun. 30

Objectives: To evaluate an experiential-educational program aimed at professionals from social institutions that serve children and adolescents, focusing on identifying and addressing intrafamilial violence in two municipalities in the Agreste region of Pernambuco, between January 2009 and January 2011. **Methods**: A triangulated evaluation approach was employed, combining exploratory qualitative research and an implementation analysis of Component 2, as recommended by Denis and Champagne, using a case study design at two levels of analysis: municipal management and care practices for children and adolescents. The study population consisted of 76 participants from Health, Education, Social Assistance, Child Protective Services, Human Rights Councils, and the Public Prosecutor's Office, selected intentionally by quotas. Data was gathered through 10 focus group discussions, 29 in-depth interviews guided by a script, and consultation of documents, databases, and institutional records. Thirty-six professionals participated in more than one stage and/or data collection strategy. To assess the degree of intervention implementation, an analysis matrix was constructed based on the logical intervention model with five components: political and intersectoral coordination, continuous education, health surveillance, healthcare, and social mobilization. The influence of these components on expected outcomes was analyzed. Bardin's content analysis was used, focusing on the following thematic nuclei and emerging discourse categories: the meanings of violence and its determinants, associated with poor living and working conditions, the normalization of violence through the lens of gender and generation, and family disintegration with repeated patterns of violent interactions. **Results**: The participants' discourse highlighted barriers and opportunities in addressing and managing cases; the availability of reporting mechanisms contrasted with inaction due to fear of retaliation and the fragmentation of care. The degree of implementation was partial in Municipality 1, while the program was considered implemented in Municipality 2. Regarding the effects indicators related to the intervention, greater implementation of the political and intersectoral coordination component in Municipality 2 was associated with better results. For the effects "Changes in knowledge of the problem's magnitude" and "Improved care," no quantitative differences were observed in relation to the program's degree of implementation. However, qualitative analysis showed that training processes were considered strategic in both municipalities, both in terms of content and for providing care to individuals facing intrafamilial violence. This emphasized the importance of improving care quality and strengthening networked work. Limitations included the complexity of the subject, the short time between program implementation and evaluation, low professional coverage,

differences in implementation contexts, and limited availability of comprehensive indicators. These findings point to the need for expanding the intervention, collecting additional data, and conducting medium-term evaluations. **Conclusions**: The analysis of actions undertaken within the Family Health Program (FHP) provided insights into the phenomenon, expanding opportunities for critical reflection on its various dimensions. There is a clear need to structure networked work and create dialogue spaces to address emerging emotions, enhancing the care provided.

Keywords: health evaluation; domestic violence; children; adolescents; professional practice; qualitative research.

HPV POSITIVE WOMEN USERS OF THE SINGLE HEALTH SYSTEM: GENOTYPIC DISTRIBUTION AND RISK FACTORS FOR INTRA-EPITHELIAL INJURY HIGH GRADE AND CERVICAL CANCER

VILMA GUIMARÃES DE MENDONÇA

Advisor: Prof. Luiz Claudio Arraes de Alencar
Defense date: 2010 sep. 30

Objectives: To identify viral genotypes in women with cervical HPV infection treated at a public healthcare service in Recife, Northeastern Brazil, analyzing age distribution by oncogenic risk, the association of infection characteristics with cytological findings, and risk factors for high-grade squamous intraepithelial lesions and cervical cancer. **Methods**: A hybrid study design was used, consisting of a cross-sectional analysis and a nested case-control study. Initially, 610 women were selected from the gynecology outpatient clinic at the Institute of Integral Medicine Prof. Fernando Figueira. These women underwent HPV DNA testing for six genotypes (16, 18, 31, 33, 6, 11) using MY09 and MY11 primers, HIV serology, and cytological analysis. Women who were HPV-negative, HIV-positive, or had difficulties in cytological sample collection were excluded, resulting in a sample of 319 HPV-positive women. In the cross-sectional analysis, age distribution was assessed, and mean ages by oncogenic risk and infection type were compared using ANOVA (α=0.05). Associations between HPV-related variables and cytological findings were evaluated using the chi-square test or Fisher's exact test (α=0.05). In the nested case-control study, 248 women from the initial sample were selected: 76 with high-grade squamous intraepithelial lesions or cervical cancer (cases) and 172 with normal cytology or benign alterations (controls). Independent variables were hierarchized into three levels: distal (socio-demographic), intermediate (behavioral), and proximal (cytological screening). Variable frequencies for cases and controls were obtained, and homogeneity of proportions was assessed using the chi-square or Fisher's exact test (α=0.05). Crude ORs were calculated, and in the final modeling, logistic regression was performed, adjusting for the effect of each variable on the outcome by controlling for variables at the same and higher levels of causality.**Results**: Among the 319 women studied, high-risk HPV infections predominated (67.7%), with HPV 16 and 31 being the most frequent genotypes, followed by HPV 33 and 18. High-risk HPV infections peaked up to age 29, declined between ages 50–59, and rose again after age 60. No differences were found in mean age by oncogenic risk (p=0.225) or infection type (p=0.502). Oncogenic risk (p=0.021) and infection type (p=0.004) were associated with cytological findings.Risk factors for precursor lesions and cervical cancer were identified as follows:(a) Distal level: residing in rural areas (OR=2.71; 95% CI: 1.18–6.23), less than three years of education (OR=3.97; 95% CI: 2.09–7.54), and family income below two minimum wages (OR=3.30; 95% CI: 1.04–10.51).(b) Intermediate level: four or more pregnancies (OR=9.74; 95% CI: 2.48–38.28).**Conclusions**: HPV 16 and 31 are the primary viral types in cervical HPV infections. High-risk genotypes exhibit a bimodal age distribution. Residing in rural areas, low income, limited education, a high number of pregnancies, and lack of cytological screening are risk factors for precursor lesions and cervical cancer among women using public healthcare services in Northeastern Brazil.

Keywords: HPV; genotypes; PCR; cytological examination; cervical cancer; risk factors; vaccine.

EFFECTIVENESS OF VAGINAL MISOPROSTOL FOR IUD INSERTION IN NULLIPARAS: RANDOMIZED CLINICAL TRIAL

ADRIANA SCAVUZZI CARNEIRO DA CUNHA

Advisor: Prof. Melania Maria Ramos de Amorim
Defense date: 2012 apr. 30

Objectives: To determine the effectiveness of vaginal administration of misoprostol for cervical dilation prior to intrauterine device (IUD) insertion in nulligravidas and to evaluate adherence and satisfaction levels among nulligravida users compared to women with previous childbirths. **Methods**: In the first article, a triple-blind, randomized clinical trial was conducted with nulligravidas of reproductive age undergoing IUD insertion between July 2009 and November 2011 at the Instituto de Medicina Integral Prof. Fernando Figueira in Recife, PE, Brazil. The second article involved a cross-sectional study comparing a group of nulligravidas (participants from the first study) with women with previous childbirths who underwent IUD insertion during the same study period. In the first article, 179 women were randomly allocated into two groups: 86 received 400 µg of vaginal misoprostol 4 hours before IUD insertion, and 93 received a placebo. The second article included a convenience sample of 84 nulligravidas and 73 women with previous childbirths. In the first article, the risk ratio (RR) was calculated as a measure of relative risk with a 95% confidence interval (CI). The number needed to treat (NNT) and the number needed to harm (NNH) were also calculated. In the second article, Student's t-test was used for continuous variables with normal distribution, and the Mann-Whitney test for discrete or non-normally distributed variables. Categorical variables were analyzed using Pearson's chi-square test or Fisher's exact test, as appropriate. For results with three outcomes in two groups where expected values were less than five, Freeman-Halton's test was applied. A survival curve was constructed for IUD continuation, and a significance level of 5% was adopted for all analyses, with two-tailed p-values. **Results**: In the first article, significant differences were observed between the groups, with reduced difficulty during IUD insertion (RR = 0.49; 95% CI = 0.33–0.72; p = 0.00005) and a lower risk of dilation <4 mm in the misoprostol group (RR = 0.48; 95% CI = 0.33–0.70; p = 0.0001). The group that received misoprostol also reported less moderate to severe pain during IUD insertion (RR = 0.56; 95% CI = 0.41–0.76; p = 0.00008) and fewer unpleasant or very unpleasant sensations (RR = 0.49; 95% CI = 0.35–0.68; p = 0.000004). No significant differences were found between the groups regarding complications during IUD insertion, and no cases of uterine perforation were observed in either group. However, the frequency of cramping was 40% higher in the misoprostol group. In the second article, there were no significant differences between nulligravidas and women with previous childbirths regarding information about IUD use, prior contraceptive use, reasons for choosing the IUD as a current contraceptive method, reasons for discontinuation, side effects, adherence, and satisfaction levels. The survival curve for IUD continuation also showed no differences between the groups. **Conclusions**: Vaginal administration of 400 µg of misoprostol four hours before IUD insertion reduced procedural difficulty and increased cramping frequency. No differences in adherence or satisfaction levels were observed between nulligravidas and women with previous childbirths.

Keywords: intrauterine devices; contraceptive devices; misoprostol; clinical trial; family planning.

STUDY OF NOROVIRUS INFECTION IN CHILDREN WITH GASTROENTERITIS
ACUTE IN BRAZIL

ELIANE MENDES GERMANO LINS

Advisor: Prof. Jailson de Barros Correia
Defense date: 2012 ago. 17

Objectives: The aim of this thesis was to determine the frequency of norovirus positivity, and the strains identified in fecal samples of children up to five years old with acute diarrhea in Brazilian studies through a systematic review. Additionally, through a cross-sectional study, the objective was to determine the frequency of norovirus and its genogroups in fecal samples of children under two years old hospitalized with acute diarrhea at IMIP between February 2007 and April 2010, as well as to describe the clinical and epidemiological characteristics of these children. **Results**: In the systematic review, norovirus positivity ranged from 4.5% to 54.1% in 12 of the 47 publications, with a combined proportion of 27.0% (95% CI: 20.0–34.0) of a total of 2,800 children. Genogroup GII was most frequently identified (93.3%), with genotype GII.4 predominating (73.2%). Rotavirus was the most common co-infection. In the cross-sectional study, the frequency of norovirus positivity was 30.1%. A total of 103 children were included, with an average age of 9.6 months, mostly (70%) from the Metropolitan Region of Recife. Diarrhea onset occurred within 48 hours of hospitalization in 65.0% of cases. Vomiting and dehydration were present in 41.7% and 43.7% of the children, respectively, and diarrhea was watery in 84.0% of cases. Norovirus was classified as belonging to genogroup GII in 100% of fecal samples. The emergence of norovirus as a cause of gastroenteritis in children is highlighted, emphasizing the need for further studies on genotype identification, clinical characterization, and severity to enable early identification of children at greater risk of morbidity and mortality from diarrheal disease.

Keywords: norovirus; gastroenteritis; systematic review; hospitalization; diarrhea.

INTERGENERATIONAL EVOLUTION OF HEIGHT IN THE STATE OF PERNAMBUCO (1945-2006)

JOSÉ NATAL FIGUEIROA

Advisor: Prof. Malaquias Batista Filho
Defense date: 2011 jun. 28

Objectives: To describe and analyze the intergenerational trend in height evolution between 1945 and 2006 in Pernambuco, Brazil. **Methods**: This was an observational, analytical, quantitative study of secular trends. It used data collected during the Third State Health and Nutrition Survey (III PESN) and the survey on the prevalence of chronic diseases and non-communicable conditions, conducted simultaneously in 2006. The total sample included 6,471 individuals, of whom height was recorded for 5,321: 1,611 children aged up to five years, 1,391 individuals aged over five and up to 19 years, and 2,319 individuals aged over 19 and up to 61 years. Multilevel linear regression models were employed to describe height growth trajectories and identify factors associated with systematic changes in these trajectories. **Results**: Among adult men, the height gain was 0.23 cm/year from 1947 to 1987, while for adult women, it was 0.15 cm/year from 1945 to 1987. Compared to the WHO standard (2006), the estimated height deficits for men and women who turned 19 in 1987 were 5.0 cm in both groups. Children and adolescents showed a systematic but declining height deficit over the period from 1987 to 2006, with improvements across newer generations in both sexes. Regression model adjustments indicated that year of birth, female sex, education, per capita household income, and urban residence were positively associated with height growth in adults, adolescents, and children. For children under five years of age, maternal education replaced the individual's education level, and additional positive associations were found for prenatal care, birth weight, and urban residence. Conversely, diarrhea in the two weeks preceding the interview showed a negative association. **Conclusions**: Projecting the observed trends prospectively, adult men and women in Pernambuco would need approximately 22 and 33 years, respectively, to reach the international average standard recommended by the WHO in 2006. Meanwhile, children and adolescents exhibited declining height deficits, showing improvement across younger generations. Considering that the stunting prevalence in children under five years old decreased from 12.1% in 1997 (II PESN) to 6.4% in 2006 (III PESN)—equivalent to an annual reduction of 0.63%—it is estimated that, if this trend continues, the prevalence of stunting in this age group would reach 2.3% (the prevalence observed in the WHO international anthropometric normality standard) within 6 to 7 years, thereby compensating for the historical growth retardation in Pernambuco's younger population. Finally, the study results indicate that height growth was more favorable in environments with better socioeconomic and environmental conditions.

Keywords: anthropometry; multilevel models; secular height trends.

RISK FACTORS FOR HOMICIDES OF WOMEN IN RECIFE/ PERNAMBUCO – 2009/2010: CASE-CONTROL STUDY

MARIA ARLEIDE DA SILVA

Advisor: Prof. Gilliatt Hanois Falbo Neto
Defense date: 2011 dez. 27

Objectives: To determine the factors associated with the homicide of women in the city of Recife, Pernambuco, Brazil, and to identify the epidemiological profile of women who were victims of homicide in the same city. **Methods**: An observational, analytical, case-control study was conducted, matched by age in a 1:1 ratio, including 114 women who were residents of Recife and had undergone autopsy by the Legal Medical Institute (IML) of the same city (cases), and neighbors of the cases (controls). A questionnaire was used based on data from death certificates, supplemented with socioeconomic, demographic, biological, and relational variables. Statistical analysis was performed using Epi Info 3.5.3 and MedCalc 12.1.3.0. Frequency analysis and measures of central tendency were used, along with chi-square association tests and Fisher's exact test for bivariate analysis, considering a significant level of 5%. The Odds Ratio (OR) and its 95% Confidence Interval (CI) were calculated. Stepwise logistic regression analysis was conducted, initially including variables associated with the outcome at a significance level of 20%, with variables associated at the 5% significance level remaining in the final model. The percentage of cases correctly predicted by the final model was calculated. The research project was approved by the Ethics Committee of IMIP under number 1011. **Results**: There were 60 homicides during the study period, and 58 cases were analyzed. The ages of the victims ranged from 12 to 48 years, with a mean of 27.0 (SD=8.7). Most were adults, of mixed-race or black descent, with low education and income levels. Firearms were used in 69.0% of these homicides. In the bivariate analysis, associations were found between the outcome and the following independent variables: education [OR=2.18 (95% CI=0.94-5.11)], religious practice [OR=0.31 (95% CI=0.12-0.82)], smoking [OR=6.93 (95% CI=2.42-20.30)], alcohol use [OR=2.80 (95% CI=1.16-6.82)], illicit drug use [OR=8.21 (95% CI=1.96-39.52)], any drug use [OR=4.36 (95% CI=1.85-10.29)], drug trafficking (p=0.003), and physical and/or sexual violence experienced in the last 12 months [OR=4.96 (95% CI=1.65-15.42)]. In the logistic regression analysis, smoking [ORa=6.21 (95% CI=2.24–17.23)] and physical and/or sexual violence experienced [ORa=3.89 (95% CI=1.29–11.77)] were identified as the main risk factors. This model correctly predicted 74.5% of the cases. **Conclusions**: Increased likelihood of smoking and victimization by physical and sexual violence were observed among women victims of homicide in the city of Recife, Pernambuco.

Keywords: homicide; etiology; women; violence; case-control studies.

VIOLENT BEHAVIOR IN ADOLESCENCE: VALIDATION OF SCALE FOR EVALUATION

MÔNICA CRISTINA BATISTA DE MELO

Objectives: To validate a scale for analyzing violent behavior in adolescents based on their perceptions of violent scenes shown in children's programming on Brazilian open television and in daily life. **Methods**: Scale validation study. A total of 437 adolescents aged 12 to 16 years, of both sexes, from public and private schools in the city of Recife, Pernambuco, participated, along with 361 parents and 344 teachers. The study used questionnaires for adolescents, parents, and teachers. Semantic analysis, judge analysis, dimensionality analysis, reliability, discrimination, convergent, and fidelity tests of the instrument were performed. **Results**: Dimensionality analysis was conducted using Principal Component Analysis with Varimax Rotation. The four selected factors and Cronbach's Alpha for Phase A were as follows: 1. Violence perceived in the community context (Alpha 0.830); 2. Violence perceived in the family context (Alpha 0.769); 3. Violence perceived in the individual context (Alpha 0.666); 4. Violence perceived against oneself (Alpha 0.772). The selected factors and Cronbach's Alpha for Phase B were: 1. Perception of oneself in the dimensions of individual violence (Alpha 0.806); 2. Perception of oneself in the dimensions of family violence (Alpha 0.715); 3. Perception of oneself in the dimensions of community violence (Alpha 0.660). In the discriminative analysis, Alpha values above 0.80 were observed, indicating groups of items that differentiate subjects between high and low levels of violent behavior. Similarly, differences between sexes were identified, but significant differences were found between ages. The correlation analysis between the groups of items from Phase A, Phase B, and the parents revealed correlations between 17 items, confirming the hypothesis and the convergence between items. Finally, the instrument's fidelity was confirmed by the significance of the correlation between items in the test and retest (p<0.001). **Conclusions**: The scale shows validity evidence as an instrument for evaluating violent behavior in adolescents, but further studies are recommended to confirm the validation method through comparison of results, including in other states of Brazil. With the use of this instrument, it will be possible to identify and promote family guidance actions and public policies to prevent adolescent violence, focusing on family, education, leisure, and culture.

Keywords: adolescent; behavior; media; scale validation; violence.

ANALYSIS OF THE NATIONAL EMERGENCY CARE POLICY FROM THE PERSPECTIVE OF METROPOLITAN SAMU OF RECIFE, FROM 2010 TO 2012

ADRIANA CONRADO DE ALMEIDA

Advisor: Prof. Fernando Antonio Ribeiro de Gusmão-filho
Defense date: 2013 nov. 26

Objectives: To analyze the PNAU (National Policy on Urgency Care) from the perspective of the Metropolitan SAMU of Recife, using a case study with multiple units of analysis. **Methods**: The case studied was the Metropolitan SAMU of Recife, and the units of analysis were the components of PNAU, such as surveillance and strategic actions for quality of life and health promotion, organization of the emergency care network, ongoing education, and humanization. A triangulation of methods and data was chosen, using semi-structured interviews with 57 professionals working in this SAMU, observations (both systematic and spontaneous), records, and documents. For analyzing interview data, spontaneous observations, and documents, the technique of meaning condensation was used; for data from systematic observations and records, the average frequency of events was calculated. **Results**: It was found that surveillance in the emergency area is inadequate, as SAMU does not produce performance indicators. However, due to changes in the mortality profile, it was observed that there are actions for quality of life and health promotion, even though they are not publicly disclosed. It was noted that there is disorganization and a deficit in the coverage of services within this network. The study also found that the state of Pernambuco did not take on the coordination of the Regional Management Committee for the Urgency Care System, compromising the governance of the regional emergency care network. Additionally, it was identified that training in the area of Mobile Pre-Hospital Care (APH) is deficient and does not meet the requirements of current legislation. The processes of ongoing education and humanization are incipient and fragile. **Conclusions**: The SAMU network serves as an excellent observatory of the health system and emergency care, as the assistance provided by the teams of the Metropolitan SAMU of Recife revealed deficiencies and strengths in the implementation of the principles and guidelines of PNAU's RAU (Urgency Care Network) and the Unified Health System (SUS). These were confirmed by the triangulation of methods and sources.

Keywords: pre-hospital emergency care; health service evaluation; national health policy.

BREASTFEEDING: DIALOGUE BETWEEN TECHNICAL PERSPECTIVE, MATERNAL PRACTICE AND INTERACTIVE PSYCHODYNAMICS MOTHER AND BABY

MARISA AMORIM SAMPAIO

Advisor: Prof. Ana Rodrigues Falbo
Defense date: 2013 feb.27

Objectives: To understand the inter-relationships between the technical rationality related to breastfeeding and the practices of health professionals and mothers, evaluating the repercussions on the psychodynamics of the mother-baby interaction.**Methods:** An ethnographic study was developed based on hermeneutic-dialectics and psychoanalysis, between July 2009 and August 2010, in Recife, Pernambuco, from the last trimester of pregnancy to the sixth month of the baby's life. The study involved a medical doctor, nurse, five community health agents, and 12 mothers/diads with no contraindication for breastfeeding (BF), who received prenatal care at the Family Health Unit (USF). Fieldwork was conducted in the following settings: medical and nursing consultations, educational groups, and home visits with or without team members. Observations, document analysis related to daily routines, semi-structured interviews, and filming were conducted, with records in the field diary. Interviews were concluded when the material produced allowed for an in-depth interpretation of the empirical categories, and observations ended when saturation was reached. Ethical research principles were followed. The analysis considered historical-social/individual contexts and the transferential phenomenon, and the categories formed three thematic areas: (1) communicative practices in assisting the construction of motherhood and parenting; (2) communication in promoting breastfeeding; and (3) the construction of intimacy between mother and baby during feeding.**Results:** In prenatal care, consultations focused on the biological aspects of pregnancy without addressing the psychic aspects of gestation. For professionals, exclusive breastfeeding (EBF) for six months was seen as the result of a conscious desire from the woman, starting from pregnancy. Communication subordinated to technical know-how led to missed opportunities in supporting the construction of motherhood, parenting, and breastfeeding. Difficulties during the initial period of the mother-baby dyad, due to inadequate or unsatisfactory relationships, highlighted the potential of the Family Health Strategy (FHS), which was underutilized in this study for systematic monitoring of mothers and babies, and for helping to build mother-child intimacy and early detection of interactional disharmonies. The association of breastfeeding and maternal responsibility with child health reinforced the "logic" of sacrifice, obscuring the real needs of the situation, with harmful repercussions for both professional practices and the mother-baby dyad. In educational activities, the team relied on the concept that "a good mother breastfeeds," without negotiation, leading women to remain silent. None of the mothers breastfed exclusively for six months. The cessation of breastfeeding was related to unique aspects of the dyad, such as immature breaks in the relationship, which may have resulted in interactional and functional harm to the baby, as well as signs of fostering a

healthy separation between mother and baby through gradual introduction of others, which is important for the child's development. Women who continued breastfeeding saw it as part of a tonically libidinal dialogue, allowing their babies to breastfeed and feeling this experience as rewarding and satisfying for the dyad. In the first six months, significant indicators of subjectivity were present in the practice of exclusive breastfeeding. Breastfeeding was not a simple decision but fundamentally represented the unconscious return of the woman to the place of herself as a baby, reactivating her desire through the relationship with her child and partner.

Keywords: breastfeeding; maternal milk, health communication; mother-child relationships; psychoanalysis; family health program; comprehensive health care; ethnography; qualitative research; child health.

DOCTORATE IN COMPREHENSIVE HEALTHCARE

FACTORS ASSOCIATED WITH ABDOMINAL ADIPOSITY IN NEWBORN

VIVIANNE DE OLIVEIRA BARROS

Advisor: João Guilherme Bezerra Alves
Defense date: 2013 apr. 30

Introduction: Obesity represents one of the major public health problems, both in developed and developing countries. Recent evidence has shown that obesity may have its origins in fetal life. However, few studies have addressed the growth and distribution of adipose tissue during the neonatal period. A better understanding of the factors that may influence the distribution and growth of visceral and subcutaneous adiposity during intrauterine life could contribute to improved prevention and control of obesity. Excess visceral adipose tissue, more associated with insulin resistance, present in the neonatal period, can increase these children's exposure to insulin resistance and dyslipidemia, raising the risk of chronic non-communicable diseases throughout life.**Objectives:** To determine the maternal factors associated with abdominal, visceral, and subcutaneous adiposity in newborns, and to examine the correlation between visceral adiposity and components of metabolic syndrome in the neonatal period.**Methods:** A cross-sectional study was conducted with 116 mother-newborn pairs recruited between 2009 and 2010. The dependent variable was the abdominal adiposity (visceral and subcutaneous) of the newborn. The following maternal independent variables were assessed: age, per capita income, years of schooling, number of prenatal consultations, parity, initial BMI, final BMI, waist circumference, blood glucose, insulin levels, insulin resistance homeostasis, total cholesterol, HDL, LDL, and triglycerides. The newborn variables included: weight for gestational age, lipid profile, glucose, and insulin levels. Abdominal adiposity (visceral and subcutaneous) in the newborn was measured using abdominal ultrasonography. Pearson's correlation coefficient was used to determine the relationship between visceral adipose tissue and the newborn's lipid profile, glucose, insulin, and insulin resistance homeostasis (HOMA-IR). Multiple linear regression models were constructed to identify the main factors associated with abdominal adiposity, with a significance level of 5%.**Results:** After linear regression analysis, a positive association was observed between the newborn's subcutaneous fat and the mother's waist circumference (r=0.005; p=0.00), and a negative association with the number of prenatal consultations (r=-0.012; p=0.00). For the newborn's visceral fat, the mother's waist circumference also showed a positive association (r=0.036; p=0.00), and a negative association with years of schooling (r=-0.071; p=0.03) and the number of prenatal consultations (r=-0.166; p=0.00). A significant association was found between the newborn's visceral adipose tissue and the following biochemical markers of the newborn: insulin (r=0.30; p=0.03) and HOMA-IR (r=1.61; p=0.01). After multiple linear regression, only HOMA-IR remained associated with higher abdominal fat (r=1.61; p=0.01). **Conclusion:** Maternal factors such as waist circumference, years of schooling, and prenatal consultations seem to influence the newborn's abdominal adiposity. Visceral adiposity in the newborn shows a positive correlation with insulin resistance. These findings suggest that increased maternal abdominal adiposity may contribute to increased abdominal adiposity in the newborn, and excess visceral adipose tissue in the neonate may be associated with insulin resistance. Exposure to insulin resistance early in life may increase the risk of chronic non-communicable diseases. As these findings were described for the first time in this study, further validation of our results is required.

Keywords: abdominal obesity; waist circumference; prenatal care; visceral obesity; lipids; glucose; insulin resistance; newborn.

ACUTE EFFECTS OF PHYSICAL EXERCISE ON THE TREADMILL AND BICYCLE STATIONARY TRIAL ON PREGNANT WOMAN AND FETUS: RANDOMIZED CLINICAL TRIAL

JOUSILENE DE SALES TAVARES

Advisor: Melania Maria Ramos de Amorim
Defense date: 2013 may 13

Introduction: Exercise is now widely recognized for its beneficial effects on individual health across all ages, and this practice is a key strategy for health promotion and disease prevention. In this context, the effects of exercise during pregnancy on maternal and fetal health are discussed. **Objective**: To compare the maternal and fetal responses to two types of moderate-intensity physical exercise. **Methods**: A randomized clinical trial was conducted comparing two groups of pregnant women who performed moderate-intensity physical exercise: treadmill (n=64) and stationary bicycle (n=56). Fetuses were monitored for 60 minutes using computerized cardiotocography (CTG), divided into three 20-minute stages: initial assessment, monitoring during exercise, and recovery period. Maternal blood pressure was measured by auscultation for the first 60 minutes and through Ambulatory Blood Pressure Monitoring (ABPM) for 24 hours post-exercise, while fetal heart rate (FHR) was monitored throughout the 60-minute CTG. Blood samples were collected to measure glucose (before, during, and after exercise) and lactate (before and during exercise). Exercise intensity was moderate, monitored using the Borg scale of perceived exertion (12 to 14), maternal heart rate below 140 bpm, and lactate levels were analyzed afterward. The variables analyzed included maternal and fetal heart rate, systolic and diastolic blood pressure, transient accelerations, decelerations, long-term variation, glucose, and lactate. The study was approved by the Ethics Committee on Research with Human Beings at the State University of Paraíba under number 0323.0.133.000-07. Bivariate analysis was conducted using the chi-square test for association or Fisher's exact test. Repeated measures analysis was then performed to compare the changes in FHR variability, systolic (SBP) and diastolic (DBP) blood pressure, maternal heart rate (MHR), glucose, and lactate before, during, and after exercise in both groups, and 24 hours post-exercise (MHR, SBP, and DBP). A comparison of the mean differences between treadmill and bicycle groups (MHR, FHR, SBP, DBP, glucose, and lactate) at various time points was also made. **Results**: MHR increased during exercise (84 bpm and 87 bpm at rest vs 112 bpm and 107 bpm during exercise, p<0.0001, treadmill vs bicycle, respectively), with no significant difference between the two exercise modalities (p=0.80). Lactate levels were higher at 20 minutes of exercise, with a similar increase in both groups (p=0.73). FHR decreased during exercise in both modalities (141 bpm and 141 bpm at rest vs 127 bpm and 129 bpm during exercise, p<0.0001, treadmill vs bicycle, respectively). The decrease in FHR was accompanied by an increase in its variability, with similar progression in both groups (p=0.09). The frequency of bradycardia reached higher levels after 20 minutes of exercise (43.8% on the treadmill vs 39.3% on the bicycle, p=0.38). A decrease in glucose levels (G) was observed, independent of the modality (G15' =85 mg/dl and 84 mg/dl at rest vs

80 mg/dl and 78 mg/dl during exercise, p=0.01 and 0.001, treadmill vs bicycle, respectively). No cases of hypoglycemia were observed. SBP increased during exercise (110 mmHg at rest vs 118 mmHg during exercise on the bicycle, p=0.06 and 112 mmHg at rest vs 120 mmHg on the treadmill, p=0.02). SBP began to decline after exercise, reaching its lowest point at the 14th hour (104 mmHg), then increasing again, and by the 19th hour returned to pre-exercise levels. DBP increased during exercise (70 mmHg at rest vs 75 mmHg during exercise on the bicycle, p=0.39 and 70 mmHg at rest vs 76 mmHg on the treadmill, p=0.18), independent of the modality (p= 0.27), reaching its lowest level at the 13th hour (59 mmHg). **Conclusions**: Despite the decrease in FHR and the high percentage of bradycardia during exercise, results such as the increase in FHR variability and the rapid return to resting values after exercise suggest that fetal well-being was maintained in both exercise modalities. No differences were observed in the hemodynamic responses between the studied groups; however, an exercise-induced hypotensive effect was noted for about 14 hours post-exercise. An effect of physical exercise was observed on most of the variables studied, with similar responses in both exercise modalities. This study was registered on the Clinical Trials platform under the number NCT01383889.

Keywords: exercise; fetal heart rate; glucose; blood pressure.

EFFECTIVENESS OF CLONIDINE VERSUS CAPTOPRIL FOR TREATMENT OF CRISIS HYPERTENSIVE IN THE PUERPERIUM: RANDOMIZED CLINICAL TRIAL

CARLOS NORONHA NETO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2013 ago. 12

Introduction: The progression of blood pressure levels in postpartum women with hypertensive syndromes, as well as the most effective treatment options, require further clarification. Although studies have shown the effectiveness of captopril, its adverse effects are frequent. Data on the use of clonidine in this specific group of patients and its short-term adverse effects are still scarce in literature. **Objective**: To determine the effectiveness of clonidine, compared to captopril, in the treatment of hypertensive peaks in postpartum women with hypertensive syndromes during pregnancy. **Methods**: A randomized, controlled, triple-blind clinical trial was conducted between November 2012 and June 2013 in the obstetric intensive care unit (ICU) of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). Ninety postpartum women with hypertensive syndromes of pregnancy, presenting hypertensive peaks (systolic blood pressure (SBP) > 180 mmHg and/or diastolic blood pressure (DBP) > 110 mmHg), and requiring magnesium sulfate, were randomized into two groups: clonidine (0.1 mg) vs captopril (25 mg). Exclusion criteria included patients with heart disease, smokers, illicit drug users, contraindications to captopril or clonidine, inability to take oral medication, and inadvertent use of captopril and/or clonidine prior to study inclusion. Blood pressure (BP) was measured every two hours, and if any hypertensive peaks were observed, either captopril or clonidine was administered, with a 20-minute interval, until BP stabilization. The maximum daily dose did not exceed 150 mg of captopril and 0.6 mg of clonidine. In case of inability to use these medications, an alternative drug was chosen according to severity and medical decision. The primary outcome was the frequency of hypertensive peaks during hospitalization in the IMIP obstetric ICU. Secondary outcomes included daily averages of SBP and DBP, number of days with hypertensive peaks until BP control using the antihypertensive, percentage of reduction in SBP and DBP, number of doses used until blood pressure control, need for another antihypertensive, number of antihypertensives used, need for sodium nitroprusside, maternal complications, adverse effects, and maternal mortality. Categorical variables were associated using the chi-square and Fisher's exact tests when appropriate. The relative risk (RR) was calculated, and its 95% confidence interval was determined. The evolution of SBP and DBP measurements between the two groups was compared using daily mean or median values. For the daily average of hypertensive peaks, repeated measures analysis was used. P-values for all tests were two-tailed, and the significance level was set at 5%. **Results**: There was a lower frequency of hypertensive peaks during hospitalization (2.1 ± 2.1 vs 3.5 ± 4.7; p=0.08), a higher percentage of SBP reduction (14.0% ± 8.6% vs 10.8% ± 8.8%; p=0.08), and a lower need for sodium nitroprusside (2.3% vs 13.3%; RR: 0.17; 95% CI 0.02-1.39; p=0.06) in the clonidine group

compared to the captopril group, though without significant difference. The daily averages of SBP and DBP did not show differences between the groups, but on the third day of hospitalization, the mean SBP was lower in the clonidine group (151.9 ± 11.8 mmHg vs 158.1 ± 13.6 mmHg; p=0.02). Although not statistically significant, the occurrence of adverse reactions was more frequent in the captopril group (28.8%) compared to the clonidine group (18.6%). **Conclusion**: Both clonidine and captopril are effective and safe drugs; however, clonidine is cheaper and can be used in patients with acute kidney injury.

SOCIAL CONGRUENCE, COGNITIVE CONGRUENCE AND THE TUTOR'S KNOWLEDGE AND THEIR ASSOCIATION WITH THE LEARNING PROCESS IN THE TUTORIAL GROUP IN PBL. LONGITUDINAL STUDY BASED ON CONCEPT MAPS

ANTONIO CARLOS SANSEVERO MARTINS

Advisor: Gilliatt Hanois Falbo Neto
Defense date: 2014 sep. 05

Scenario: Medical schools using Problem-Based Learning (PBL) methodologies offer powerful, complex, and dynamic learning environments where interactions between students and between students and tutors are crucial for knowledge construction. In the PBL tutorial group, the negotiation of concepts mediated by processes of elaboration and co-construction is responsible for encoding new information into students' semantic networks. The tutor plays a key role in the tutorial group meetings. To perform this role, the tutor must be competent in both content knowledge and group facilitation, characterized by the domains of social congruence and cognitive congruence. **Objectives**: To analyze the influence of the tutor's characteristics, in terms of social congruence, cognitive congruence, and content expertise, on the knowledge production process in tutorial groups. **Methods**: A longitudinal study based on an evaluation technique using concept maps, applied to a cohort of first-year medical students, obtained at three points: at the end of the problem opening, reflecting prior knowledge; at the end of the problem closing, reflecting immediate cognitive gain; and four weeks later, reflecting retention of concepts in long-term memory. The number of concepts and propositions, along with the degree of concept sharing and the clustering into information niches showing distribution and relevance, were compared between groups and analyzed according to each tutor profile, as evidenced by an evaluation instrument based on a Likert scale covering all three competence domains, both separately and combined. Statistical analysis included repeated measures ANOVA to compare mean concept maps at the three study points, Spearman's correlation coefficient for the relationship between tutor characteristics and map scores, and independent samples t-test for comparing tutor groups. The significance level was defined at a 95% confidence interval ($p<0.05$). **Results**: Regarding cognitive gain, social congruence, in isolation, was associated with a higher average score on concept maps, with a convergence average of 0.40 compared to 0.32 for groups with lower scores ($p<0.05$). The content knowledge domain, in isolation, did not influence group performance, but when combined with cognitive and social congruence, it produced the largest differences in convergence scores (42% and 32%; $p<0.05$). Cognitive congruence was associated with knowledge retention, with 21.8% lower convergence indices in tutor groups with low scores in this domain ($p<0.05$). The relationship between cognitive congruence and knowledge was associated with a greater sharing of concepts, with 73% more concepts shared in groups with scores above the cutoff compared to tutor groups with low cognitive congruence ($p<0.05$). **Conclusion**: The study suggests that the learning process in PBL is correlated with the tutor's effectiveness. While the balance between the tutor's effectiveness domains ensures the quality of the learning process in tutorial groups, the presence of social congruence is a prerequisite for excellence in PBL learning. Social congruence facilitates the free flow of concepts, while cognitive congruence, supported by content knowledge, aids in encoding these concepts into students' neural networks.

Keywords: Problem-Based Learning; tutoring; learning outcomes; concept maps.

TRICOMPARTIMENTAL DISTRIBUTION OF THORACIC CAGE VOLUMES IN INFANTS BORN AT TERM AND PRETERM

CYDA MARIA ALBUQUERQUE REINAUX

Advisor: Murilo Carlos Amorim de Britto
Defense date: 2014ago. 29

VT and FEV, and to associate the distribution of thoracic cage volumes with birth weight, weight, and height on the test day in term and preterm infants, multivariate analysis was used. To compare the mean values of respiratory variables, the student's t-test was applied, considering a p-value <0.05 as significant. **Results**: From a total of 200 breaths (10 breaths/infant), VT measurements were simultaneously calculated using OPT and NPT in 20 infants born at 35.1 ± 4.6 weeks of gestational age, at a postmenstrual age of 3.5 months. The two methods showed good agreement, with an average difference of -0.02 ml and a concordance limit between -4.1 and 4.1 ml (95% CI). The RCp compartment contributed 12.4 ± 9.7%, RCa contributed 5.2 ± 5.1%, and AB contributed 82.4 ± 11.4% to VT. Forty-seven infants, including term-born (n = 23) and preterm (n = 24) infants with gestational ages of 38.7 ± 0.9 and 31.9 ± 2.7 weeks, respectively, and a postmenstrual age of 3.5 months, were evaluated using OPT. A FRCVT was positively associated with weight on the test day. Independently of weight and height on the test day, prematurity was associated with a higher FRCp% (4.5%, p < 0.001) and a lower FRCa**%** (3.2%, p < 0.001), as well as a 10% increase in VTAB (p < 0.04).**Conclusions**: OPT can be used with the adult protocol for three CT compartments in infants from three months of postmenstrual age during spontaneous sleep. Prematurity, regardless of weight and height, is associated with delayed achievement of thoracic cage distribution and configuration, characterized by lower CT muscle and diaphragm activity.

Keywords: respiratory physiological phenomena; respiratory muscles; preterm; respiratory function tests.

EFFECTIVENESS OF A PHYSICAL TRAINING PROGRAM IN RESPONSE INFLAMMATORY, FUNCTIONAL CAPACITY AND QUALITY OF LIFE IN CHILDREN AND ASTHMATIC ADOLESCENTS. RANDOMIZED TRIAL

LIVIA BARBOZA DE ANDRADE

Advisor: Murilo Carlos Amorim de Britto
Defense date: 2014 feb.06

Introduction: Asthma is a common condition in the pediatric age group, characterized as an inflammatory disease in which various cells and mediators play a significant role. It is postulated that the chronic inflammatory process of asthma results from complex interactions between inflammatory and structural airway cells. A progressive reduction in exercise capacity is a significant challenge for individuals with asthma, limiting their functional activities and creating a vicious cycle of immobility, which leads to a substantial and progressive decline in cardiorespiratory performance. Studies suggest that aerobic exercise in asthma patients is associated with a reduction in the inflammatory process, a decrease in the sensation of dyspnea, and a lower frequency of exacerbations and symptoms related to the disease. Few studies have examined the effects of aerobic exercise on asthmatic children and their role in the inflammatory component and functional outcomes. **Objectives**: To evaluate the effectiveness of aerobic physical training in asthmatic children on the inflammatory component, functional capacity, respiratory muscle strength, quality of life, and symptom scores. **Methods**: A randomized trial was conducted with asthmatic children classified as having moderate and severe asthma. They were subjected to aerobic training in an exercise group (EG) for six weeks (N=14) versus a control group (CG) (N=19). Serum cytokines (IL-17, IFN, TNF, IL-10, IL-6, IL-4, and IL-2 via flow cytometry), distance covered in the six-minute walk test, lung function (spirometry and maximal respiratory pressures), quality of life (Pediatric Asthma Quality of Life Questionnaire - PAQLQ), and symptom scores (asthma-free days) were evaluated. For inflammation analysis, the Mann-Whitney test was used for independent variables and the Wilcoxon test for paired ones, while other variables were analyzed using the t-test. A significant level of 5% was adopted. **Results**: No changes were found in the inflammatory component in plasma after the aerobic training program in the studied groups. For other outcomes, there was an increase in functional capacity in the EG (p<0.01), improvement in peak expiratory flow (p=0.002), maximal inspiratory pressure (p=0.005), and maximal expiratory pressure (p<0.01) between groups. Furthermore, all PAQLQ domains showed significant improvement in the EG. The exercise group achieved a higher average of asthma-free days compared to the control group (p=0.012) and reported a lower sensation of dyspnea at the end of the study (p<0.01). **Conclusions**: Six weeks of aerobic exercise demonstrated improvements in key outcomes such as functional capacity, maximal respiratory pressures, quality of life, and asthma-related symptoms in asthmatic children. However, significant changes in plasma cytokines were not observed in the individuals studied.

Keywords: asthma; aerobic exercise; child; adolescent; quality of life; inflammation.

SELECTIVE EPISIOTOMY VERSUS IMPLEMENTATION OF A PROTOCOL OF NO PERFORMING EPISIOTOMY: A RANDOMIZED CLINICAL TRIAL

MARIA INES BEZERRA DE MELO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2014 sep. 01

Introduction: An episiotomy rate of around 10% is recommended. The procedure should be performed sparingly, with physicians using clinical reasoning to determine when it is necessary. There is no clinical evidence supporting any specific indication for episiotomy, raising the question of whether it is truly necessary in any obstetric context. **Objective**: To compare maternal and perinatal outcomes in women subjected to a protocol of no episiotomy versus selective episiotomy. **Methods**: An open label randomized clinical trial was conducted at the maternity ward of the Instituto de Medicina Integral Prof. Fernando Figueira from January 2013 to February 2014. Clinically stable women in labor, with term pregnancies, a live fetus in cephalic vertex presentation, and cervical dilation between 6 and 8 cm, were included. Women with pregnancy-related hemorrhagic syndromes or indications for cesarean delivery were excluded. Primary outcomes included the frequency of episiotomy, duration of the second stage of labor, frequency of spontaneous lacerations, instrumental delivery and perineal trauma, postpartum blood loss, need for perineal sutures, number of sutures used, Apgar scores at the first and fifth minutes, need for neonatal resuscitation, and umbilical cord blood pH. Secondary outcomes assessed were the frequency of severe perineal trauma, complications related to perineal sutures, postpartum perineal pain, maternal satisfaction, neonatal morbidity, and neonatal ICU admissions. Data analysis was performed by a "blinded" statistician using the Epi Info 7 software and adhering to the intention-to-treat principle. Statistical tests included Student's T-test, Mann-Whitney test, Pearson's chi-square association test, and Fisher's exact test. P-values were two-tailed, with a significant level of 5%. The study was approved by the IMIP Research Ethics Committee (CAAE: 06561712.8.0000.5201) and registered on the Brazilian Clinical Trials Registry (REBEC) and ClinicalTrials.gov (Identifier: NCT02178111). All participants were included only after signing an informed consent form. **Results**: Of the 263 women approached, 19 were excluded due to cephalopelvic disproportion or labor dystocia. Three declined participations, and four were excluded after randomization due to non-reassuring fetal heart rates. A total of 115 women were allocated to the no-episiotomy protocol (Experimental Group) and 122 to the selective episiotomy group (Control Group). There were no significant differences between the two groups in terms of maternal or perinatal outcomes. The episiotomy rates were similar, as were the duration of the second stage of labor, the frequency of perineal lacerations, and blood loss during delivery. **Conclusions**: A no-episiotomy protocol appears to be safe for both mothers and babies, suggesting the need to investigate whether the procedure is truly necessary.

Keywords: episiotomy; vaginal delivery; randomized clinical trial; outcome.

EFFECTIVENESS OF POSITIVE AIRWAY PRESSURE AFTER AEROBIC EXERCISE IN HYPERTENSIVE PEOPLE WITH SLEEP APNEA

JOSE HERISTON DE MORAIS LIMA

Advisor: João Guilherme Bezerra Alves
Date of defense: 2014 jun. 09

Introduction: Obstructive Sleep Apnea Syndrome (OSAS) is a clinical condition characterized by recurring episodes of airflow cessation (apneas) or reduction (hypopneas) caused by the inspiratory collapse of the upper airway during sleep. This leads to intermittent hypoxia, decreased arterial oxygen saturation (SaO_2), and sleep fragmentation, with activation of the autonomic nervous system. Epidemiological studies show that OSAS is highly prevalent in the general population, affecting over 4% of men and 2% of women. OSAS is an independent risk factor for systemic arterial hypertension (SAH), with the prevalence of hypertension among individuals with OSAS ranging from 40% to 90%. Patients with OSAS exhibit significant blood pressure variability at night and may lack the nocturnal dip seen in healthy individuals, resulting in elevated nighttime blood pressure even when daytime levels are normal. **Objectives**: To evaluate the efficacy of continuous positive airway pressure (CPAP) on post-exercise ambulatory blood pressure in hypertensive patients with sleep apnea. **Methods**: This was a "before and after" clinical trial where all participants underwent the same intervention. An initial evaluation included the Epworth Sleepiness Scale, measurement of maximum inspiratory pressure using a manometer, and a session of aerobic exercise followed by placement of ambulatory blood pressure monitoring (ABPM). After the ABPM period, participants underwent five days of auto-CPAP treatment. They then returned for a new exercise session and repeat ABPM. **Results**: Thirty-two patients participated in the study. A reduction was observed in the mean systolic blood pressure, from 128.9 mmHg ± 3.43 to 126.5 mmHg ± 3.5 (p < 0.001), and in mean diastolic blood pressure, from 86.9 mmHg ± 3.3 to 84.8 mmHg ± 3.3 (p < 0.001). Regarding nocturnal systolic pressure dip, an increase was noted from 9.7 ± 0.3 to 10.3 ± 0.4 (p < 0.001). Inspiratory muscle strength increased from 111.8 ± 19.0 to 112 ± 19.0 (p < 0.001). The Epworth Sleepiness Scale score decreased from 20.1 ± 1.8 to 17.5 ± 1.8 (p < 0.001). **Conclusion**: The use of CPAP combined with aerobic exercise reduced mean systolic and diastolic blood pressure at the ambulatory level, increased the nocturnal systolic pressure dip, and improved inspiratory muscle strength. This resulted in better sleep quality, as reflected by the Epworth Scale.

Keywords: sleep apnea; hypertension; positive airway pressure.

LABORATORY AND CYTOKINES PROFILE IN CHILDREN ANDADOLESCENTS WITH ACUTE PNEUMONIA

RITA DE CASSIA COELHO MORAES DE BRITO

Advisor: Jailson de Barros Correia
Defense date: 2014 aug. 28

Introduction: The pathophysiological mechanisms of lung injuries in acute pneumonia are complex and involve various molecules that can be influenced by host factors and the etiological agent, resulting in diverse phenotypes regarding clinical manifestations and pneumonia severity. **Objectives**: To describe the clinical and laboratory profile of children and adolescents admitted to a tertiary healthcare service in the city of Recife, in northeastern Brazil, and to also describe cytokine profiles and their association with clinical aspects and hematological changes in children and adolescents with varying severities of pneumonia treated at three pediatric reference centers in the same city. **Methods**: Two distinct studies were conducted. The first was a retrospective case series study analyzing the medical records of hospitalized patients at a tertiary healthcare service in Recife, northeastern Brazil. For comparative analysis, the population was divided into two groups: Group I – pneumonia with pleural effusion and Group II – pneumonia without pleural effusion. The second study was exploratory and prospective, involving hospitalized children and adolescents whose peripheral blood samples were tested for pro- and anti-inflammatory cytokines on admission, on the third day, and on the eighth day of hospitalization to evaluate early therapeutic response and recovery monitoring. Patients were categorized into two groups: pneumonia and severe/very severe pneumonia and compared regarding cytokine levels and clinical-laboratory profiles. **Results**: In the first study, 80 medical records were analyzed. There was a predominance of males (61.3%) and children under four years old (73.8%). Fever and cough were the symptoms that persisted the longest. The severity of cases was characterized by the need for chest drainage in 68.8% of admitted children, oxygen use in 31.2%, and a mortality rate of 7.5%, exclusively among children from rural areas, with 50% of deaths occurring before the fourth day of hospitalization. There were gaps in the documentation of some clinical signs necessary for severity classification as recommended by the 2007 Brazilian Guidelines on Community-Acquired Pneumonia in Pediatrics.In the second study, cytokines TNF, IL-1β, IL-6, IL-8, IL-12p70, IFN-γ, IL-17A, IL-10, and IL-5 were detected on admission. In cases of severe/very severe pneumonia, IL-6 was associated with vomiting (P=0.019), dyspnea (P=0.012), and leukocytosis (P=0.045), IFN-γ with subcostal retractions (P=0.053), TNF (P=0.025) and IL-1β (P=0.040) with monocytosis. IL-10 was associated with lymphocytosis (P=0.025) in pneumonia cases. There was statistical significance for subcostal retractions (P<0.000), respiratory distress (P=0.007), oxygen saturation (P=0.011), wheezing (P=0.032), and vomiting (P=0.021) regarding severity. During disease progression, patients with pneumonia showed normalization of temperature by day 3 (P=0.002), while in severe/very severe pneumonia, this occurred between days 3 and 8 (P=0.001), along with respiratory rate

normalization (P=0.014) and resolution of hypoxia by day 8. In the temporal analysis of cytokines, IL-6 levels showed statistical significance in both groups, with no differences between them. **Conclusion**: There is higher mortality among children from rural areas, suggesting delays in treatment initiation. Clinical signs are good predictors of pneumonia severity and are associated with serum cytokine levels. The detection of serum IL-6 is linked to the inflammatory process and is the most critical cytokine in characterizing pneumonia severity, with reductions in its serum levels associated with clinical recovery.

Keywords: pneumonia; inflammation.

COMMUNITY PNEUMONIA IN CHILDREN UNDER FIVE YEARS OF AGE IN THE POST CONJUGATED PNEUMOCOCCAL VACCINE ERA – CLINICAL CHARACTERISTICS AND FACTORS RISK

EDUARDO JORGE DA FONSECA LIMA

Advisor: Jailson de Barros Correia
Defense date: 2014 aug. 29

Introduction: Community-acquired pneumonia is a significant cause of morbidity and mortality in childhood and is associated with risk factors. The introduction of the 10-valent conjugate pneumococcal vaccine in Brazil, starting in 2010, raised questions about potential changes in pneumonia risk factors. Guided by this question, the general aim of this thesis was to describe the demographic and clinical characteristics of children aged one month to five years hospitalized with pneumonia, according to severity, and to identify risk factors for severe pneumonia after the introduction of the 10-valent conjugate pneumococcal vaccine in Brazil, at a referral hospital in the Northeast. **Methods**: The research included two studies involving samples of children aged 30 days to 59 months. The first was a cross-sectional, prospective study to describe the epidemiological and clinical characteristics of community-acquired pneumonias. The second study was a hospital-based, prospective case-control study aiming to identify risk factors for pneumonia in this population. Sample size calculation for the second study determined the inclusion of 452 children in the case group (hospitalized for pneumonia) and 407 in the control group (admitted for outpatient pediatric surgery). Cases were diagnosed clinically and radiologically according to World Health Organization criteria. Children with comorbidities were excluded. In the first study, variables related to clinical history, nutritional status, vaccination history, diagnosis, disease progression, prognosis, and treatment were analyzed in the cases. In the second study, multivariate analysis was conducted using the forward method, including variables with a significance level of 0.20 or less in the bivariate analysis. Factors associated with pneumonia with a significance level of 0.05 remained in the final model. **Results**: In the first study, approximately 70% of the children were under two years old, with no gender differences. Family income was up to one minimum wage in half of the families, and about 40% of mothers had completed high school. Only 10% of the children had weight-for-age inadequacies. Vaccination compliance for both influenza and Pneumo 10V was around 50%. The first medical consultation occurred after more than 72 hours from symptom onset in 42% of cases. Pneumonia was classified as severe or very severe in 83.9% of patients and complicated in 23%. The fatality rate was 1.5%. Hypoxia was diagnosed in 51.5% of the children and appeared to be a good prognostic predictor. The median hospital stay was five days. In the second study, bivariate analysis revealed that traditional risk factors for pneumonia, such as prior hospitalization, low weight-for-age, insufficient family income, maternal age under 19 years, low maternal education, household smoking, or maternal

smoking, were associated with a higher likelihood of pneumonia. However, in the multivariate analysis, only family crowding (OR=2.08), absence of influenza vaccination (OR=3.7), and male gender (OR=0.57) remained in the model. **Conclusion**: The risk factors for pneumonia have undergone changes associated with the epidemiological transition in recent years. However, these results need to be compared with etiological and case-control studies, including risk factors not yet studied.

Keywords: pneumonia; children; risk factors; descriptive epidemiology; pneumococcal vacines; influenza vaccines.

SURGICAL REPAIR OF PELVIC ORGAN PROLAPSE: EFFECT ONQUALITY OF LIFE

MARCIA SILVA DE OLIVEIRA

Advisor: Aurélio Antônio Ribeiro da Costa
Defense date: 2014 jan. 30

Introduction: Pelvic Organs Prolapse (POP) is a common condition in women, with its prevalence increasing with age, affecting up to 50% of women over the age of 79. Associated symptoms compromise quality of life, which is an important parameter to consider when evaluating a patient with POP. Various surgical procedures are employed for the treatment of genital prolapse, and the impact of these interventions on quality of life needs to be reliably measured. By administering validated questionnaires, it is possible to determine the impact of genital prolapse and surgical treatment on these women's quality of life. There is an international standard for POP quantification through physical examination, the Pelvic Organ Prolapse Quantification System (POP-Q), allowing for an objective assessment of prolapse before and after surgical treatment. This enables a quantitative comparison of the improvements achieved through treatment. **Objectives**: To evaluate the quality of life in women undergoing pelvic organ prolapse correction. **Methods**: A cohort study was conducted between May 2011 and August 2013, including symptomatic patients with POP who were indicated for surgical correction and treated at the Urogynecology Outpatient Clinics of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) and the Centro Integrado de Saúde Amaury de Medeiros (CISAM). Women with neurological or collagen diseases, HTLV 1 and 2 infections, anal incontinence, cognitive impairment preventing questionnaire comprehension, pregnancy, or who had undergone childbirth or any obstetric/gynecological procedure within 12 months before the questionnaire application were excluded.After signing the informed consent form, patients completed the Prolapse Quality of Life Questionnaire (P-QoL) and the International Consultation on Incontinence Questionnaire – Vaginal Symptoms (ICIQ-VS), along with a sociodemographic data collection form. The principal investigator or an undergraduate student read the questionnaires to all participants. All patients were examined by the principal investigator according to the POP-Q. Three and six months after the surgical procedure, patients completed the P-QoL and ICIQ-VS questionnaires again and underwent reevaluation using the POP-Q system at each time point. Data analysis was performed by the researcher, their advisors, and the study statistician. Multiple linear regression was used to analyze the association between POP-Q reference points and the scores of the domains obtained from each questionnaire and pelvic floor function symptoms to identify which points were significant for each variable in the questionnaires. The STATA software version 11.0 was used for statistical analysis. For the comparative study of P-QoL and ICIQ-VS scores between preoperative and three- and six-months postoperative assessments, the Kruskal-Wallis non-parametric test was applied. Pearson's correlation coefficient was calculated to examine the association between questionnaire domains. The GraphPad Instat 7.0 software was used for these tests. To

evaluate the responsiveness of the P-QoL questionnaire, the effect size (ES) index was calculated. A 5% significance level was adopted for the statistical tests. **Results**: Preoperative evaluation revealed that older women (p=0.006) and those with higher parity (p=0.029) presented more advanced stages of prolapse. No differences were found in P-QoL domain scores across different prolapse stages. Sexual complaints scores (SCS) of the ICIQ-VS were significantly higher among patients with stage 2 POP (p=0.02). There was no association between prolapse points evaluated by POP-Q and urinary symptoms in the P-QoL. Vaginal bulging and digital assistance for bowel evacuation were associated with staging (p=0.000 and p=0.002, respectively).In postoperative evaluations at three and six months, there was a significant reduction in all P-QoL domain scores (p<0.0001), urinary symptoms (p<0.0001), vaginal symptoms (p=0.0001), intestinal symptoms (p=0.0001), prolapse stage (p=0.001), as well as vaginal symptom scores (p=0.0001), sexual complaints (p=0.02), and quality of life (p=0.0001) assessed by ICIQ-VS, compared to preoperative values. No significant differences were observed between three- and six-month postoperative evaluations (p>0.05). **Conclusion**: Patients with POP showed no differences in P-QoL scores relative to prolapse staging; however, sexual complaints scores of the ICIQ-VS were higher among women with stage 2 POP. Significant improvements in all quality-of-life measures were observed, both for genital prolapse (P-QoL) and vaginal symptoms (ICIQ-VS), up to six months after surgical correction.

Keywords: pelvic organ prolapse; quality of life; questionnaires; personal satisfaction; pelvic floor.

ANALYSIS OF IMPLEMENTATION OF STATE FOUNDATIONS IN TWO STATES BRAZILIANS: THE CASES OF BAHIA AND SERGIPE

RENEIDE MUNIZ DA SILVA

Introduction: From a management perspective, health, as enshrined in the Federal Constitution, is guided by an intersectoral vision and the articulation of public policies. This represents a significant challenge for federal entities, requiring the development and adoption of collaborative and cooperative mechanisms. Various institutional modalities for public health management are observed, including Public Foundations under private law. These foundations aim to promote autonomy and managerial and administrative flexibility, enhance systemic coordination capacity, and improve efficiency, rationality, and quality of service delivery. **Objective:** To analyze the implementation of State Foundations as an alternative management model in the states of Sergipe and Bahia from 2009 to 2012. **Methods:** This evaluative research employed an implementation analysis of types 1a and 1b, using a multiple case study strategy with embedded units of analysis. Type 1a examines the influence of the implementation context on program transformation over time and considers changes in form and program adaptation to its context. Type 1b assesses differences in program implementation levels due to contextual factors and deviations between what was planned and what was effectively implemented. Data were collected from official documents, questionnaires, and semi-structured interviews with managers, professionals, health service users, and directors of state foundations. Interviews were analyzed using dialectical hermeneutics. A normative evaluation of structure and process was conducted, creating a scoring system to classify the degree of implementation as critical (0-25%), incipient (>25-50%), intermediate (>50-75%), or advanced (>75-100%). The implementation context was analyzed using the model proposed by Araújo Jr. and Maciel Filho, considering macro and micro contextual dimensions. **Results:** An advanced degree of implementation was achieved by the State Foundation for Family Health (84.6%) and the State Health Foundation (75.3%). The characteristics of the actors played a decisive role in implementation. Given its reform-oriented nature, the context was marked by intense conflict, which influenced the level of foundation implementation. The uniqueness of each context highlighted the variety of situations experienced by the foundations. The components of service delivery and workforce management produced satisfactory results. However, the need for changes in the organizational culture of the contracting entity and financial sustainability challenges, as structural consequences of the health system itself, were emphasized as significant barriers to the successful implementation of state health foundations.

Keywords: health management; public administration; public-private partnership; program evaluation.

IMMUNOLOGICAL ASSESSMENT OF RHD NEGATIVE PREGNANT WOMEN: STUDYEXPLORATORY

JULIANA ARAUJO DE CARVALHO SCHETTINI

Advisor: Melania Maria Ramos de Amorim
Defense date: 2015 jun. 26

Introduction: Erythrocyte alloimmunization during pregnancy is characterized by a maternal inflammatory response with the production of IgM and IgG antibodies against fetal erythrocyte antigens. However, studies assessing the inflammatory cytokine and chemokine profile in pregnant women based on maternal RhD status and the presence of erythrocyte alloimmunization are lacking. **Objective:** To evaluate the immune response and erythrocyte hematological parameters in RhD-negative pregnant women. **Methods:** An analytical, exploratory, and translational study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), involving 82 pregnant women (43 RhD-negative, 16 RhD-negative alloimmunized, and 23 RhD-positive) and 30 healthy controls (non-pregnant women), aged between 18 and 45 years. Laboratory analyses included: indirect antiglobulin testing; quantification of cytokines (IL-1β, IL-2, IL-4, IL-6, IL-8, IL-10, IL-17a, TNF-α, and IFN-γ) and chemokines (MCP1, MIG, RANTES, and IP10) in the supernatant of cell cultures stimulated with phytohemagglutinin; immunophenotyping of T lymphocytes, TCD4+, TCD8+, B cells, and NK cells via flow cytometry; and, in alloimmunized pregnant women only, fetal RhD genotyping in maternal plasma using real-time PCR with the TaqMan method. Statistical analysis was performed using the Mann-Whitney test and Spearman's correlation coefficient (r) with the GraphPad® Prism 6 software. The study was approved by the IMIP Ethics and Research Committee. **Results:** Alloimmunized pregnant women showed elevated levels of IL-12 and MCP1 and lower concentrations of IL-1β and RANTES compared to healthy controls. In these women, positive correlations were observed between cytokines IL-8 vs. IL-10 (r = 0.51, p = 0.04), IL-8 vs. IL-6 (r = 0.59, p = 0.01), IL-1β vs. IL-6 (r = 0.57, p = 0.02), IL-1β vs. IL-10 (r = 0.57, p = 0.02), IL-6 vs. IL-10 (r = 0.79, p = 0.004), and IL-12 vs. IL-12 (r = 0.50, p = 0.04); and between chemokines MIG vs. RANTES (r = 0.58, p = 0.02), MIG vs. MCP1 (r = 0.50, p = 0.04), and MIG vs. IP10 (r = 0.55, p = 0.02). Among the 16 alloimmunized pregnant women, 10 presented anti-D and anti-D/-C antibodies. Fetal RhD genotyping revealed that 74% of fetuses were RhD-positive. No statistically significant differences were found in the median values of red blood cells, hematocrit, hemoglobin, and platelets between low-risk pregnant women in the second and third trimesters. Pregnant women had reduced relative and absolute values of B cells and NK cells compared to healthy controls, along with increased circulating TCD4+ and TCD8+ lymphocyte percentages. **Conclusions:** Alterations in circulating lymphocyte profiles are observed in pregnant women. Alloimmunized pregnant women exhibit a Th1-type inflammatory response and increased chemokine production, promoting lymphocyte and monocyte migration to the decidua. No significant changes in immunological or erythrocyte hematological parameters were observed between pregnant women in the second and third trimesters.

Keywords: inflammation; B cells; NK cells; pregnancy; genotyping techniques.

CARE IN THE PUERPERIUM: PERCEPTIONS AND PRACTICES OF WOMEN AND THE TEAM FAMILY HEALTH

MARIA SUELY MEDEIROS CORREA

Introduction: Women experience profound transformations during the postpartum period and are exposed to a higher frequency of conditions that can be specific causes of maternal morbidity and mortality. This underscores the need to integrate the technical and relational dimensions of healthcare. A systematic review of the literature, through a metasynthesis of the perception of postpartum care by women and healthcare professionals, revealed that studies often prioritize postpartum illnesses and immediate complications, with limited attention to the subjective experiences of those involved. **Objective:** To understand the perceptions and practices of women and the Family Health Strategy (FHS) team regarding postpartum care. **Method:** This qualitative research, based on Gadamer's hermeneutics, was conducted with an FHS team in the VI Health District of Recife, from October 2012 to September 2013. Data was collected through participant observation and semi-structured interviews. A team with typical performance in maternal and postpartum care was intentionally selected, ensuring the unit was not under renovation and that public violence did not restrict mobility in the area. A saturation-based data collection strategy was used, involving seven professionals (a nurse, a physician, and five community health workers—CHWs) and ten women in their last trimester of pregnancy, aged 18 or older, who had attended prenatal consultations with the team at the unit. Observations focused on postpartum care situations, such as demand organization, home visits (HVs), and consultations, with records kept in a field diary. Observation concluded when data reached recurrence and complementarity. Women were interviewed during the third trimester of pregnancy, late postpartum, and remote postpartum until the third month after delivery. Typically, four interview sessions were conducted with each woman. Professionals participated in two interview sessions each (except the physician, who had one session due to leaving the team), during an advanced stage of participant observation. Interviews were audio-recorded and transcribed in full. Data collection concluded upon reaching saturation. Three guides were used (for observation, women, and professionals), and participants signed informed consent forms. For analysis, materials from interviews (with women and professionals) and observations were grouped into five sets, leading to the development of four empirical categories: work characteristics, action coordination, welcoming, and rapport. Interpretation considered the sociocultural and historical context. **Results:** According to the team, CHWs and nurses are responsible for HVs, clinical cases without complications are managed by nurses, and complex cases by the physician. CHWs and the nurse criticized the physician for not participating in HVs. Although there is a workflow to coordinate activities, the lack of risk criteria discussion increases CHWs' perception that other professionals undervalue postpartum care. Communication aims to guide actions, but CHWs feel

uncomfortable with the physician. Postpartum consultations are not offered, and HVs in the first week after hospital discharge are infrequent. Women expressed dissatisfaction with the lack of immediate postpartum HVs, the absence of the physician/nurse, gaps between HVs, lack of prioritization, and difficulties accessing medical consultations. Actions, mostly carried out by CHWs and nurses, focus on the baby. Physical exams and anamneses for women are rare, and women find guidance insufficient, often suppressing their concerns but desiring listening and dialogue. CHWs identified barriers to healthcare access. **Conclusion:** The lack of a unified care project reinforces the disconnection and juxtaposition of actions within the team, perpetuating the traditional approach to postpartum care that the FHS aims to transform. Barriers to access, along with technical and relational limitations in the care provided, highlight the need for changes in team conceptions and practices to enhance the visibility of women and improve the quality of care during this phase of the maternal cycle.

Keywords: postpartum period; care; women's health; primary healthcare.

EFFECTIVENESS OF FUROSEMIDE FOR RECOVERING BLOOD PRESSURE INPUERPERA WITH SEVERE PRE-ECLAMPSIA: RANDOMIZED CLINICAL TRIALPLACEBO-CONTROLLED

TELMA CURSINO DE MENEZES

Advisor: Melania Maria Ramos de Amorim
Defense date: 2015 mar. 09

Scenario: Hypertension during pregnancy is the leading cause of maternal death in Brazil and the second worldwide, with preeclampsia and eclampsia being the most severe conditions. Preeclampsia is a systemic syndrome of likely placental origin, characterized by widespread maternal endothelial dysfunction. The expression of placental antiangiogenic factors is responsible for the clinical manifestations of the disease. Patients with preeclampsia and eclampsia may continue to experience postpartum hypertension due to fluid mobilization from the interstitial and extravascular spaces into the intravascular space, total body water overload, and inappropriate sodium retention. Blood pressure elevation can lead to an increased frequency of hypertensive spikes, which are important factors associated with postpartum eclampsia, acute pulmonary edema, and cerebrovascular accidents. Furosemide, a loop diuretic, may act in patients with intravascular overload by reducing blood volume and blood pressure.**Objective:** To determine the effectiveness of furosemide in controlling blood pressure in the postpartum period of women with severe preeclampsia and eclampsia.**Method:** A triple-blind, placebo-controlled clinical trial was conducted, including 120 women with severe preeclampsia and eclampsia after completing prophylactic treatment for eclampsia with magnesium sulfate and achieving adequate diuresis. Participants were treated at CAM-IMIP from March to November 2013. Women with chronic hypertension or those who had used diuretics were excluded. Informed consent was obtained from all participants. Patients were randomized to receive furosemide (40 mg orally every 24 hours) or a placebo for five days. Primary outcomes were blood pressure levels and the frequency of hypertensive spikes. Secondary outcomes included the need for ongoing antihypertensive therapy, the number of antihypertensives required for blood pressure control, hospital stay duration, adverse effects, and maternal complications. Categorical variables were analyzed using chi-square or Fisher's exact test. Relative risk (RR) and 95% confidence intervals (CIs) were calculated, along with the number needed to treat (NNT) to achieve benefit and corresponding 95% CIs. For numerical variables, measures of central tendency and dispersion were calculated, and Student's T-test or Mann-Whitney tests were used. Repeated measures analysis was performed to compare daily blood pressure averages between groups, with sphericity assumed for all variables. A significant level of 5% and the intention-to-treat principle were adopted. The study was approved by the IMIP Human Research Ethics Committee. **Results:** The furosemide group showed lower mean systolic ($p < 0.001$) and diastolic ($p < 0.001$) blood pressures, a reduced frequency of hypertensive episodes on day 20 ($p = 0.002$) and day 50 ($p = 0.03$), lower use of antihypertensive drugs on day 30 ($p = 0.03$),

shorter time to blood pressure control (p = 0.04), and fewer antihypertensive agents prescribed at discharge (p = 0.04) compared to the placebo group. **Conclusions:** Furosemide at a dose of 40 mg per day for up to five days proved effective compared to placebo in reducing mean systolic and diastolic blood pressures, time to blood pressure control, and hospital stay duration.

Keywords: preeclampsia; hypertensive spike; diuretic; clinical trial.

COMMUNITY ESSAY ON COSTS AND CONSEQUENCES OF A PROGRAM FOR PERSISTENT ASTHMA CONTROL FOR CHILDREN AND ADOLESCENTS

NECIULA DE PAULA CARNEIRO PORTO GOMES

Advisor: Murilo Carlos Amorim de Britto
Defense date: 2015 apr. 04

Introduction: Asthma is considered a public health issue in Brazil, significantly reducing the quality of life for those affected and imposing high socioeconomic costs on society. Brazilian prevalence studies on asthma primarily focus on schoolchildren and populations attending healthcare centers. The greatest challenge in managing this disease is the lack of control over asthma attacks, leading to increased healthcare utilization and costs for the public health system (SUS), private services, and families. Evidence-based medicine identifies inhaled corticosteroids as the primary therapeutic measure for controlling asthma. These are safe, cost-effective for prolonged use, and reduce hospitalization rates, emergency consultations, and mortality. Local asthma control programs implemented in Brazil have shown significant reductions in hospitalizations by improving disease management and providing free access to medications. However, there are few studies assessing the costs and outcomes of asthma control programs in Brazilian communities. **Objectives**: To determine the prevalence of asthma among children and adolescents in a low-income community in Recife, estimate the direct and indirect costs of asthma treatment for family health units (USF) and families, and evaluate the costs and outcomes of an asthma control program for children and adolescents in a community covered by the Family Health Strategy (ESF), referred to a medium/high-complexity outpatient clinic in Recife. **Methods**: Each specific objective of the study was addressed using a different methodology: Study 1: A cross-sectional study using the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire. Of 1,080 children and adolescents residing in the community, 1,072 participated. Study 2: A retrospective cost analysis conducted in a community linked to a USF in 2013. Asthma treatment costs were analyzed according to the Methodological Guidelines for Economic Evaluation Studies of Health Technologies from the Ministry of Health, using a sample of 66 children aged 2–14 years with asthma symptoms identified through the ISAAC questionnaire. Monetary values were provided by the Recife City Hall.Study 3: A community trial involving 19 children aged 2–14 years with persistent asthma from 2013 to 2014, using the year prior to intervention as a control. The intervention included active community outreach, coordination between the USF and outpatient clinic, and provision of medication and transportation for one year. The BASICC method was used from a societal perspective with a one-year time horizon and no discount rate. **Results**: Study 1: 325 participants reported wheezing in the past 12 months (30.3%; 95% CI: 31.9–37.6%), with most cases among children aged 2–5 years. The cumulative prevalence of diagnosed asthma was 23.6% (95% CI: 21.1–26.0%), annual wheezing episodes ≥4 crises were 8.2% (95% CI: 6.6–9.8%), wheezing disrupting sleep ≥1 time per week was 13.3% (95% CI: 11.3–15.3%), and annual nocturnal coughing was 40.6%

(95% CI: 37.7–43.5%). There was no association between annual wheezing prevalence and family income or caregiver education, but there was an association with sex. Study 2: Annual direct costs for families were limited to transportation and medication purchases, totaling R$128.45, with indirect costs of R$74.98 due to lost workdays. For the healthcare system, annual direct costs totaled R$83,610.00 for medical consultations and community health worker visits, while indirect costs reached R$148,533.20. Study 3: Of the 19 participants, 74% were male, with an average age of 7.6 years. Median monthly per capita income was R$173.15 (range: R$34.00–R$486.67), and 68.4% (n=13) of caregivers had primary education. Regarding asthma severity, 68.4% (n=13) had mild persistent asthma and 31.6% (n=6) had moderate asthma. Only two participants completed the trial. Effect measures included a 96% reduction in asthma crises, 93% fewer emergency visits, 97% fewer school absences, and 83% fewer work absences. The total program cost was R$819.99 per patient. **Conclusions**: Study 1: Asthma symptom prevalence was high in this low-income community, especially among preschoolers. Study 2: Total asthma treatment costs at the USF level were lower than outpatient costs. For families, direct costs were higher than indirect costs, and total costs represented 30% of the minimum wage. Study 3: Although cost-effectiveness analysis was not feasible, the observed effects suggest the program could be effective if objectives were achieved for all participants. The program's failure in "real-world" healthcare settings highlights the need for implementation within the ESF to ensure effective follow-up, as asthma is highly responsive to primary healthcare actions.

Keywords: child health; prevalence; family health strategy; primary care; costs and cost analysis.

PREVALENCE, HOSPITALIZATIONS AND FACTORS ASSOCIATED WITH DIARRHEA IN CHILDREN UNDER FIVE IN THE STATE OF PERNAMBUCO, IN THE YEARS OF 1997 AND2006

MARIA JOSEMERE DE OLIVEIRA BORBA

Advisor: Malaquias Batista Filho
Defense date: 2015 fev. 26

Introduction: Despite significant changes in the global health landscape, diarrhea remains one of the main public health problems, especially affecting children under five years old in developing countries. It represents a significant component of morbidity and mortality and places a heavy demand on healthcare services. **Objectives**: To evaluate temporal trends (1997–2006), geographic patterns, hospitalizations, and factors associated with diarrhea in children in the state of Pernambuco, Brazil. **Methods**: This was a prevalence study utilizing data from two population-based surveys (II State Health and Nutrition Survey, 1997, and III State Health and Nutrition Survey, 2006) conducted with probabilistic samples of 2,078 and 1,650 children, respectively. Diarrhea cases were defined using WHO criteria, based on reports of its occurrence in the two weeks preceding the interview. Hospitalization was defined as the treatment of children hospitalized for at least 24 hours within the 12 months prior to the data collection date. The prevalence and hospitalization rates for diarrhea in 1997 and 2006 were compared using Pearson's chi-square test, while comparisons among geographic regions were conducted using Marascuillo's multiple comparison test. The results were presented in two articles: "Diarrheal diseases and hospitalizations in children under five years old, based on population surveys in Pernambuco, 1997 and 2006.""Factors associated with the prevalence of diarrhea in children under five years old in Pernambuco, based on surveys conducted in 1997 and 2006." Associated factors were organized into three independent levels, from the most distal (geographic area) to the most proximal (biological variables related to the child). Factors with a p-value < 0.25 in univariate analyses for each year were selected for inclusion in the adjusted multivariate analysis model (Poisson regression), starting from the most distal level and progressing to the most proximal. Variables with p-values < 0.05 in this sequence were considered significant and included in the final "explanatory" model for diarrhea occurrence for each study year. **Results**: At the state level, diarrhea prevalence remained almost unchanged between 1997 (19.8%) and 2006 (18.1%). However, in the Metropolitan Region of Recife (RMR), a significant decline was observed, from 16.9% to 10.5%. Statewide, hospitalizations due to diarrhea increased from 2.7% to 5.5%. In the RMR, hospitalization rates rose from 1.6% in 1997 to 3.8% in 2006, demonstrating an inverse trend compared to prevalence. Across all three geographic areas, diarrhea hospitalizations increased as a proportion of total hospitalizations for all causes. In the univariate analyses, which included 20 groups of variables, the main risk factors for diarrhea were urban and rural areas outside the RMR, alternative water sources and treatment methods, a higher number of people per room or bedroom, lack of a refrigerator, family income below 0.5 times the minimum wage, maternal age under 19, low maternal

education, and child age under two years. In multivariate analyses, geographic area, number of people per room, maternal age, and child age remained in the adjusted model. Waste disposal, absence of a refrigerator, and maternal education were significant only for 1997. **Conclusions**: In terms of prevalence, the situation in Pernambuco remained practically stable, except for the significant decline observed in the RMR. Excluding four variables (geographic area, number of people per room, maternal age, and child age), the "explanatory" models for diarrhea occurrence varied significantly between 1997 and 2006. The descriptive and analytical characteristics of the problem in children under five years old highlight an epidemiological scenario of marked variation, requiring new demands for sectoral and intersectoral policy responses.

Keywords: diarrhea; prevalence; hospitalization; risk factors; child health.

RESPONSE TO BRONCHODILATOR BY SPIROMETRY: CUT-OFF POINTS AND ACCURACY IN PRESCHOOLERS

EDJANE FIGUEIREDO BURITY

Orientador: Murilo Carlos Amorim de Britto
Data de defesa: 2015 sep. 09

Introduction: Spirometry with bronchodilator response assessment is a test used in the diagnosis of respiratory diseases in adults and older children, but it is still rarely used in the evaluation of preschool-aged children. A limiting factor is the low percentage of preschoolers who are able to exhale for one second or more. For this age group, it is recommended to use forced expiratory volume in the first half second (FEV0.5) and forced expiratory volume in 0.75 seconds (FEV0.75) of forced vital capacity (FVC) to replace forced expiratory volume in one second (FEV1) for those who cannot exhale for a full second. There are still insufficient studies to establish consensus on the most appropriate cutoff point for this response in preschoolers. **Objectives**: To determine the bronchodilator response cutoff points in asymptomatic preschoolers from a respiratory perspective, using the 95th percentile of response for the parameters FEV1, FEV0.5, FEV0.75, and FEF25-75; to define reference equations for FEV0.75; and to determine the accuracy and acceptability of FEV1, FEV0.5, FEV0.75, and FEF25-75 in evaluating the bronchodilator response in preschoolers. **Methods**: Two concurrent studies were conducted: one evaluating the bronchodilator response parameters' precision, and another for diagnostic test validation, with data collection from February to December 2014. Questionnaires were administered to preschool children aged three to five years, selected from 18 daycare centers and public schools in the city of Recife, Brazil. For the first study, designed to establish cutoff points for bronchodilator response, the sample size calculation aimed to identify the number of children needed to achieve a 4.5% mean increase in FEV0.75, with a standard deviation of 5.1% (as found by Borrego et al.), at 95% confidence and an estimation error of 1%, which required at least 100 children. For the second study, the sample size calculation for diagnostic test validation, aimed at estimating the percentage of children with wheezing who exceeded the 95% response cutoff for bronchodilator, measured by post-bronchodilator variation in FEV0.5, with 95% reliability, a 5% estimation error, and a 12% prevalence of persistent wheezing (as found by Kuruculaaratchy et al.), required 162 children. The parameters evaluated were FVC, FEV1, FEV0.5, FEV0.75, and FEF25-75. In the first study, the bronchodilator response cutoff points were determined by calculating the 95th percentile of response: absolute post-bronchodilator variation, percentage variation from baseline values, and percentage variation from predicted values for the parameters FEV1, FEV0.5, FEV0.75, and FEF25-75. In the second study, the cutoff points identified in the first study were validated by applying them to analysis groups: Asymptomatic, Intermittent Wheezers, and Persistent Wheezers. **Results**: In the first study, the initial sample consisted of 266 children, but only 160 (60.0%) performed acceptable and reproducible maneuvers. Regarding age, 19 (11.9%) were 3 years old, 74 (46.3%) were 4 years old, and 67 (41.9%) were 5 years old. A reference equation for FEV0.75

was created, separated by sex. The bronchodilator response cutoff points found for FEV1, FEV0.5, FEV0.75, and FEF25-75, based on the percentage variation from predicted values, were 11.6%, 16.0%, 8.5%, and 35.5%, respectively. In the second study, the initial sample consisted of 372 children, but only 223 (60.0%) were able to perform acceptable and reproducible tests: 160 (71.7%) Asymptomatic; 42 (18.8%) Intermittent Wheezers, and 21 (9.4%) Persistent Wheezers. The age distribution was as follows: 23 (10.3%) were 3 years old, 98 (43.9%) were 4 years old, and 102 (45.7%) were 5 years old. There was no significant difference between the mean spirometric parameters in the baseline phase across the groups. ROC curve analysis showed that the Asymptomatic and Wheezing groups (intermittent and recurrent wheezers, analyzed together) did not differ significantly. The sensitivity of the bronchodilator response cutoff points tested for FEV0.5 and FEV0.75 was less than 9%, and the specificity was greater than 93%. **Conclusion**: This is the first known study in the literature on defining bronchodilator response cutoff points by spirometry in preschoolers. For greater clinical practicality, it is recommended to use the following cutoff points: ≥ 12.0%, ≥ 16.0%, ≥ 8.0%, and ≥ 35% for percentage variation of FEV1, FEV0.5, FEV0.75, and FEF25-75, respectively. Spirometry with bronchodilator response assessment in preschoolers is not a highly accurate test, although reproducible, for discriminating asymptomatic children from wheezers in population-based studies.

Keywords: spirometry; preschooler; bronchodilator; reference values; sensitivity; and specificity.

SEROLOGICAL STATUS OF PREGNANT WOMEN FOR NATIONAL TRANSMISSIBLE INFECTIONS FETUS IN A CAPITAL IN NORTHEAST BRAZIL

ADRIANA AVILA MOURA

Advisor: Maria Júlia Gonçalves de Mello
Defense date: 2015 ago. 20

Introduction: Infectious diseases, when associated with pregnancy, play a significant role, potentially influencing the pregnant woman, the fetus, and, in some cases, future pregnancies. The prenatal screening for these conditions should be defined considering the local epidemiology of each continent, country, state, or municipality. **Objectives**: The main objective of this thesis was to determine the prevalence of susceptibility to rubella and infection by Treponema pallidum, human immunodeficiency virus (HIV), human T-lymphotropic virus (HTLV), and hepatitis B virus (HBV) in pregnant women undergoing prenatal screening for infectious diseases in Maceió, Alagoas. The specific objectives were: 1) to determine the rubella serological status of pregnant women before and after the 2008 national immunization campaign, evaluating socio-demographic factors related to susceptibility to the disease; and 2) to determine the prevalence of infection by T. pallidum, HIV, HTLV, and HBV, as well as coinfections and seroconversion for T. pallidum and HIV.**Methods**: This was an observational, cross-sectional study that evaluated secondary data from the prenatal infectious disease screening program of the Municipal Health Department (SMS) of Maceió. From June 2007 to May 2012, 54,813 pregnant women enrolled in the Unified Health System (SUS) performed screening for infections transmissible to the fetus during their first prenatal visit, including screening for T. pallidum, HIV, HTLV, and HBV infections, as well as rubella serological status. Capillary blood collection using the dried blood spot technique on filter paper was used for serological testing. The following information was obtained from the pregnant women: date of birth, self-reported ethnicity, gestational age at the start of prenatal care, number of previous abortions, and district of origin within Maceió. Statistical analysis was performed to determine the prevalences of T. pallidum, HIV, HTLV, and HBV infections, as well as rubella serological status. The chi-square test and prevalence ratios were calculated to verify associations between serological status prevalences and socio-demographic variables. Variables with $p<0.20$ in univariate analysis were included in the multivariate model. A p-value of <0.05 was considered significant for all comparisons. **Results**: The results of the thesis were presented in two scientific articles. The first article showed that the prevalence of women considered susceptible to rubella in the pre-national immunization campaign period was 9.4%, decreasing to 2.8% in the post-campaign period. In the multivariate analysis of the post-campaign period, it was found that pregnant women who were more likely to be seronegative were those born after 1990, those who started prenatal care at 12 weeks of gestation or later, and those from the first sanitary district of Maceió. The second article revealed that the prevalences of infection by T. pallidum, HIV, HTLV, and HBV were 2.8%, 0.3%, 0.2%, and 0.4%, respectively. Seroconversion

for T. pallidum and HIV occurred in 0.5% and 0.06% of the screened pregnant women. The overall prevalence of coinfections was 0.08%. Pregnant women infected with T. pallidum had a 4.62 times higher risk of being coinfected with HIV compared to those uninfected, while pregnant women infected with HIV had a 5.71 times higher risk of being coinfected with T. pallidum, compared to those with negative HIV serology. The prevalences of T. pallidum coinfection with HTLV, HBV, and HIV were 0.007%, 0.009%, and 0.05%, respectively. The prevalences of HBV coinfection with HIV and HTLV were 0.002% and 0.009%, respectively. No cases of HIV and HTLV coinfection were found. The proportion of HIV infections among pregnant women with syphilis was 1.8%, while the proportion of syphilis cases among pregnant women infected with HIV was 15.1%, both statistically significant. The proportion of HTLV infections among pregnant women infected with HBV was 2.2%, and the proportion of HBV infections among pregnant women infected with HTLV was 4.2%, both significant. **Conclusions**: 1. The reduction in the prevalence of susceptible pregnant women in Maceió to values below 5% provides evidence that the 2008 Brazilian rubella immunization campaign was successful; 2. The prevalence of syphilis among pregnant women in Maceió was significantly higher than the national average, while the prevalences of HIV and HTLV infection were similar to the national average; 3. There was a statistically significant association between HIV and syphilis infection, and between HBV and HTLV infection.

Keywords: seroepidemiological studies; prenatal diagnosis; immunization.

STRENGTH TRAINING IN THE ELDERLY AND ITS EFFECTS ON MUSCLE FATIGUE ANDIN MICROCIRCULATION: RANDOMIZED CLINICAL TRIAL

DANILO DE ALMEIDA VASCONCELOS

Advisor: João Guilherme Bezerra Alves
Defense date: 2015 sep. 14

Introduction: Aging represents a dynamic and progressive process resulting in a series of organic changes that can decrease the functional capacity of older adults and impair their quality of life. With advancing age, vascular and neuromuscular alterations can lead to muscle weakness and fatigue, balance deficits, decreased functional autonomy, and reduced peripheral microcirculation, which consequently increases the risk of falls. Falls are a major public health issue, causing morbidity and affecting the quality of life of elderly individuals worldwide. Regular physical exercise can reduce the risk of falls by increasing muscle strength and improving postural balance. **Objective**: To assess the effects of a muscle strength training program on functional capacity, muscle performance, and microcirculation in elderly women. **Methods**: This was a randomized clinical trial involving 60 elderly women, aged between 65 and 85 years, who participated in a muscle strength training program conducted at the Physiotherapy School Clinic of the State University of Paraíba (UEPB), located in Campina Grande, Paraíba, from March to June 2014. Elderly women with signs and symptoms preventing participation in exercises and tests were excluded. The women were randomly divided into two groups: Group A, the experimental group that underwent the strength training program (PTF), conducted twice a week for 16 weeks, and Group B, the control group. Both groups underwent two evaluations: one at the beginning and one at the end of the study. The evaluation included the following tests: Berg Balance Scale (BBS) and Timed Up and Go Test (TUG) for functional balance assessment; Falls Efficacy Scale International (FES-I) for assessing fear of falling; General Index of Functional Autonomy (GIFA) for evaluating functional autonomy; Surface Electromyography (SEMG) for evaluating muscle fatigue through Root Mean Square (RMS) and Median Frequency (MF); the 30-Second Chair Stand Test (CSC30) for assessing muscle strength; and Reactive Hyperemia Post-occlusion (RHPO) analysis using laser Doppler flowmetry to assess microvascular function. **Results**: The experimental group showed significant improvements in several parameters: BBS score increased from 38.46±5.11s to 41.53±3.87s (p<0.05); TUG score decreased from 8.79±1.08s to 7.13±1.52s (p<0.05); fear of falling (FES-I score) decreased from 39.80±8.34 to 28.00±9.55 (p<0.05); functional autonomy improved, with the GIFA score decreasing from 25.51±4.25 to 23.08±3.63 (p<0.05); muscle strength increased in the CSC30 test from 9.63±1.90 reps/30s to 15.16±3.23 reps/30s (p<0.05); muscle fatigue decreased as evidenced by a reduction in RMS from 43.02(4.43)μV to 22.45(3.08)μV (p<0.01), and an increase in MF from -3.07(0.82)Hz to -1.50(0.85)Hz (p<0.01); the fatigue index (αFM) increased from -2.68(5.67) degrees to -1.50(0.85) degrees (p<0.05); neuromuscular efficiency improved with a decrease in the Neuromuscular Efficiency Index (IENM) from 43.02(4.43) to 22.45(3.08) (p<0.05); the

Electromyographic Fatigue Threshold (LFEMG) increased from 9.47(0.79) to 19.98(4.5) reps (p<0.05); maximum blood flow (MF) increased from 65.84±22.21UP to 73.94±28.24UP (p<0.01), the ratio between maximum blood flow and resting flow (MF/RF) increased from 6.79±1.85 to 7.58±2.86 (p<0.01), and the hyperemia area (HA) increased from 1261.21(1170.95) mm^2 to 1576.99(771.87) mm^2 (p<0.01). **Conclusion**: Strength training improved the functional capacity, muscle strength, reduced muscle fatigue, and increased microcirculation in elderly women.

Keywords: elderly; microcirculation; electromyography.

SEXUAL VIOLENCE AGAINST CHILDREN AND ADOLESCENTS IN RECIFE AND THE REGIONMETROPOLITAN/PERNAMBUCO- 2012-2013: CROSS-CROSS STUDY

CLAUDIA ALVES DE SENA

Advisor: Maria Carolina Martins de Lima
Defense date: 2015 fev. 27

Scenario: Violence in recent decades has become a pervasive problem in society on a global scale. However, studies on sexual violence, particularly among children and adolescents, who are considered more vulnerable and at greater risk of experiencing violence, remain scarce. **Objective**: To determine the incidence of sexual violence against children and adolescents in Recife and the Recife Metropolitan Region in Pernambuco, Brazil, during the 2012/2013 biennium. **Methods**: This is a descriptive epidemiological cross-sectional study with a quantitative approach based on secondary data obtained from sexological examination reports during the 2012/2013 biennium, conducted by the Antônio Persivo Cunha Legal Medicine Institute (IMLAPC). A form was created based on the IMLAPC forensic report document, including variables such as age, sex, skin color, marital status, disability, place of origin, presence of violence, type of aggression, relationship/family degree with the victim, aggressor's sex, presence of STDs, pregnancy, and referrals made. The statistical analysis was performed using descriptive statistics, initially representing cases of violence by frequency distribution and measures of central tendency. The incidence rate used the resident population as the denominator, with rates represented per 100,000 inhabitants. For the thematic map, the incidence rate was distributed by municipalities in the state and stratified into tertiles, considering municipalities with at least one case of violence. To verify associations between the studied variables and types of violence, Pearson's chi-square and Fisher's exact tests were applied when necessary. The statistical significance level was set at 5% ($p < 0.05$), and STATA version 12.0 software was used. Data collection was performed after approval by the Secretary of Public Security (SDS/PE), and the study was approved by the Ethics Committee in Research of the Instituto de Medicina Integral Professor Fernando Figueira (IMIP), under CAAE: 26092114.5.0000.5201. **Results**: Among the victims of sexual violence, adolescents aged 10 to 14 years predominated (61.3%), with the majority being female (92.8%) and of mixed race (91.6%). Only 2.3% had some form of disability, though this information was not recorded in 9.4% of the cases. Regarding the type of sexual violence, 69.9% involved vaginal intercourse, followed by 15.6% involving other sexual acts, 7.6% involving anal intercourse, and 6.9% involving lewd conduct. In 35% of the cases, the aggressor was someone known to the victim, and most aggressors were male. Sexual violence of various types showed statistical significance when associated with the victim's sex and age ($p<0.001$) and the aggressor ($p=0.036$). The highest incidences were found in the most populous municipalities of the state (>36.6 cases/100,000 inhabitants), primarily concentrated in the Metropolitan Region and the North and South Zona da Mata regions. **Conclusion**: The incidence of sexual violence cases against children and adolescents, as evidenced by forensic reports from IMLAPC in Recife and the Metropolitan Region of Pernambuco, Brazil, highlights the need for visibility on this issue and contributes to the development of public policies aimed at its prevention. The study confirms a high incidence in the more populous municipalities.

Keywords: violence; sexual violence; children; adolescentes; incidence.

ADAPTATION OF THE BRAZILIAN VERSION OF THE PALLIATIVE CARE KNOWLEDGE TEST(PCKT) FOR DOCTORS AND NURSES IN THE AREA OFPEDIATRICS AND ANALYSISMEASUREMENT PROPERTIES

ALESSANDRA COSTA DE AZEVEDO MAIA

Advisor: Maria Júlia Gonçalves de Mello
Defense date: 2016 jun. 15

Introduction: The lack of knowledge among healthcare professionals about palliative care is one of the main barriers to providing quality care to patients. The Palliative Care Knowledge Test (PCKT) was developed to assess knowledge, including psychiatric and gastrointestinal issues, and can be applied to both nurses and doctors.**Objectives**: To evaluate the methodological quality of the measurement properties of instruments assessing palliative care knowledge, adapt the Brazilian version of the PCKT for healthcare professionals in pediatric care, and analyze its dimensionality, internal consistency, and construct validity.**Method**: The systematic review followed a pre-established protocol by two independent reviewers, considering studies on the measurement properties of instruments evaluating healthcare professionals' knowledge of palliative care in its original format. The methodological quality assessment was performed using the Consensus-based Standards for the selection of Health Measurement Instruments (COSMIN) and Terwee's criteria. For the adaptation of the PCKT, the Brazilian version used for adults was employed. The face validity process was carried out by professionals working in the pediatric area. A panel of specialists, composed of five pediatric/neonatology professionals and five palliative care professionals, adapted the PCKT for pediatrics. A pilot study was conducted with six doctors and four nurses to identify the need for further adjustments. Then, the questionnaire was applied in two public hospitals with pediatric care. The investigation of the dimensionality of the pediatric PCKT data was performed through factor analysis, with factors extracted using principal component analysis and oblique rotation. Parallel analysis was performed to identify the number of factors to be retained (items with factor loadings between -0.3 and 0.3 were discarded). The internal consistency of the instrument was assessed using the Kuder-Richardson-20 coefficient. Pearson's coefficients were calculated to establish the correlation between factors. The significance level considered for this analysis was ≤ 0.05. Additional analyses were carried out using the Rasch model from Item Response Theory (IRT). **Results**: The thesis presents three scientific articles as results:In the systematic review, of the 406 studies identified, only six were included for analysis. Methodological failures were found in all instruments, such as sample size and inadequate methodological analysis. No instrument assessed error measures, criterion validity, or interpretability. In the application of the PCKT adapted for pediatrics, the sample included 205 healthcare professionals, comprising 125 pediatricians and 80 nurses. The correct response rate was 47.6% out of a total of 41 items. Doctors showed a higher percentage of correct answers in the fields of "adverse effects" (p < 0.02) and "gastrointestinal problems" (p < 0.05). The dimensionality of the pediatric PCKT was

evaluated through a three-factor analysis. The version showed internal consistency between 0.58 and 0.69. Factor 2 (medication use and interventions for symptom relief) showed the highest level of difficulty compared to other factors (factor 1 - basic care and factor 3 - communication and treatment). **Conclusions**: No evaluation instruments for healthcare professionals' knowledge on palliative care with adequate measurement properties were identified. The knowledge level of pediatric doctors and nurses was low, thus highlighting the need for more attention to the training off these professionals. According to the research results, the pediatric-adapted version of the PCKT has internal consistency below the recommended threshold but may be an important option for evaluating palliative care knowledge in Brazilian professionals and could be used in clinical settings and research programs aimed at improving knowledge.

Keywords: palliative care; knowledge; pediatrics; questionnaire; reliability; validation studies; factor analysis.

PRE-NATAL CARE IN A SUBNORMAL URBAN CLASS AND ANALYSISPROPOSAL FOR PROTOCOLS ON ZIKA VIRUS INFECTION INPREGNANT WOMEN

RACHEL DE SÁ BARRETO LUNA CALLOU CRUZ

Advisor: Malaquias Batista Filho
Defense date: 2016 aug. 17

Introduction: It is recognized that the gestational period is influenced by multiple factors, ranging from biological to social, economic, cultural characteristics, and environmental conditions of the population, in addition to the access to and technical quality of available healthcare services. Prenatal care, essentially based on epidemiological principles, is an important programmatic action, as it allows monitoring pregnancy and identifying risk situations for both the mother and the fetus, facilitating decision-making. These actions, when appropriate and timely, provide benefits during pregnancy and childbirth, potentially preventing or minimizing important negative events for both mother and fetus, such as fetal and neonatal death, intrauterine growth restriction, prematurity, and low birth weight. In the case of Zika virus infection, currently considered an international health emergency, prenatal care is essential for the early identification of all pregnant women infected with a possible occurrence of microcephaly, aiming at timely interventions throughout the gestational period, whether preventive or therapeutic. Its importance is even greater for the most vulnerable pregnant women in peripheral areas, as they face higher exposure to diseases, receive fewer preventive care, and encounter more barriers to accessing higher-quality healthcare, which results in additional risks for both mother and child. **Objectives**: To describe and analyze the main characteristics of prenatal care offered to pregnant women in an urban slum (favela) in Recife, Pernambuco, and to present a summary of the guidelines from protocols related to Zika virus infection during pregnancy to be followed in prenatal care, as well as the rationale for studying the co-participation of nutritional factors in the occurrence of microcephaly cases. **Methods**: A population-based, observational, cross-sectional study with descriptive and analytical objectives was conducted, using secondary data extracted from the database of the research "Child Development in an Urban Slum (Favela) in Recife, Pernambuco," carried out in a favela in Recife called "Comunidade dos Coelhos" in 2015. The research population considered all mothers of children under three years old living in the area, comprising a census study of 310 mothers. Prenatal care was considered satisfactory when it met the minimum recommendations set by the Ministry of Health, provided the pregnant woman: 1) was enrolled by the 13th week of pregnancy (first trimester); 2) attended six or more consultations; 3) had at least one consultation in the first trimester, two in the second, and three in the third trimester; 4) received guidance on exclusive breastfeeding (EBF) during consultations and/or educational lectures; and 5) understood the correct duration of EBF (the first six months of the child's life). Prenatal care was considered adequate when all items were present. The identification of possible factors associated with the quality of prenatal care was done through the adjustment of Poisson regression models, both univariate and

multivariate, with robust standard error. Prevalence ratios (PR) for each variable were calculated, along with their 95% confidence intervals and statistical significance, with a critical value set at 0.05. The study was approved by the Research Ethics Committee on Human Beings at IMIP, under protocol 3201-12 and updated in June 2015. To carry out the synthesis and justification of the nutritional hypothesis regarding nutritional factors in the occurrence of microcephaly, the protocols from the Ministry of Health, Pernambuco, and the Centers for Disease Control and Prevention (CDC) were analyzed. **Results**: The quality of prenatal care in the studied community was considered adequate for less than half of the sample (44.28%). In addition to low adequacy, significant inequalities were identified, with a higher proportion of inadequate prenatal care among women from lower social classes (p=0.050), black women (p=0.008), those with lower levels of education (p=0.032), and those who owned their homes (p=0.015). This finding points to the need for joint efforts to improve both the quantity and quality of prenatal care offered by SUS services, especially for pregnant women in lower socioeconomic conditions. With the outbreak of microcephaly cases starting in August 2015, the need for a reorganization of prenatal care for pregnant women was indicated, including protocols to reduce the chances of possible infection with the virus, detect suspected cases early, and follow up on confirmed cases.**Conclusions**: The inadequacy of prenatal care quality was associated with several factors indicative of social inequality, showing that socially vulnerable groups receive deficient prenatal care, thus highlighting the "inverse law of health care," where healthcare resources are distributed inversely to needs. It is suggested that intervention strategies be used to target groups requiring more attention, with the goal of increasing not only the number of pregnant women at risk monitored by the health service network but also their frequency of service visits and the quality of care provided. Regarding Zika virus infection, given the gaps in knowledge about this morbidity, it is emphasized that the information and recommendations are subject to revision in light of new knowledge and evidence, as well as the need to adjust surveillance actions in new epidemiological contexts. In the analysis of the protocols, no changes were observed in the nutritional recommendations already established for low-risk pregnant women. Therefore, the authors proposed the inclusion of prenatal and preconceptional care to prevent and control isolated or multiple deficiencies that may be related to microcephaly.

Keywords: prenatal care; women's health; child health; slums; zika virus; microcephaly.

CYTOKINES AND CHEMOKINES IN CHILDREN AND ADOLESCENTS WITH INFECTIONS
ACUTE BACTERIALS

NARA VASCONCELOS CAVALCANTI

Advisor: Jailson de Barros Correia
Defense date: 2016 may 05

Introduction: Infectious diseases were responsible for approximately 3.2 million deaths in children under five years old worldwide in 2013, accounting for 52% of the causes of death in this age group. The diversity of clinical syndromes can be attributed to the complex immune response of each host against different pathogens. Cytokines and chemokines are soluble proteins that act at various stages of the immune response. Studies have investigated cytokine and chemokine concentrations in different clinical situations. However, there are few articles in the literature regarding the role of specific cytokines like IL-17, particularly IL-17F, and chemokines such as MCP-1, RANTES, MIG, and IP-10 in children with acute bacterial infections. The aim of this thesis was to evaluate serum concentrations of cytokines and chemokines in children and adolescents with sepsis, pneumonia, and skin abscesses. **Methods**: A translational, cross-sectional study with a longitudinal component and an internal comparison group, conducted from March 2011 to March 2016. A total of 109 children were included, with 37 hospitalized with sepsis, 27 with pneumonia, 25 with skin abscesses, and 20 controls undergoing elective surgeries. Serum concentrations of cytokines and chemokines were determined by flow cytometry using the BDTM CBA – Human Inflammatory Cytokines Kit, BDTM CBA – Human TH1/TH2/TH17 Cytokines Kit, and BDTM CBA – Human Chemokines Kit (BD BIOSCIENCES, CA), following the manufacturer's instructions. The IL-17F assay was performed by the ELISA technique using the Human IL-17F Platinum ELISA Kit (eBioscience, CA). **Results**: In the cytokine analysis, it was observed that the median serum levels of IL-17F were 10 times higher than those of IL-17A (204.9 pg/mL vs. 17.5 pg/mL, respectively, p< 0.0001). Children with sepsis and pneumonia had significantly higher levels of IL-17F, IL-17A, IL-6, and IL-10 than the controls. No significant differences in these cytokine concentrations were found between the sepsis and pneumonia groups. In the chemokine analysis, RANTES levels were higher in children with sepsis, pneumonia, and skin abscesses compared to the controls (p = 0.0057, p = 0.0004, and p = 0.0108, respectively). IP-10 concentrations were higher in children with sepsis compared to children with skin abscesses (p = 0.0075). MCP-1 levels were decreased in children with sepsis compared to the controls (p = 0.0136). MIG concentrations showed no difference between the groups. **Conclusion**: Our original results suggest that the cytokine IL-17F and the chemokine RANTES may play an important role in the pathogenesis of bacterial infection. Sepsis patients exhibited a specific response profile with elevated levels of IP-10 and reduced levels of MCP-1, which should be more widely investigated as predictors of severity.

Keywords: children; sepsis; pneumonia; skin abscess; inflammation.

ANTHROPOMETRIC CLASSIFICATION IN PREGNANCY: HISTORICAL REVIEW,CONCEPTUAL AND COMPARATIVE ANALYSIS OF METHODS USED IN BRAZIL ANDLATIN AMERICA

SUZANA LINS DA SILVA

Advisor: Malaquias Batista Filho
Defense date: 2016 feb. 25

Introduction: There is a widely accepted recognition of the importance of a pregnant woman's nutritional status for the mother-fetus dyad, particularly regarding energy-protein adequacy, which is assessed using anthropometric indices. However, in contrast to this consensus, the methods applied to nutritional anthropometry during pregnancy yield conflicting results, whether regarding deficiency conditions or excesses represented by overweight/obesity.**Objective**: To analyze, both individually and comparatively, five methods for classifying pregnancy weight and determine which one most closely approximates the results obtained for non-pregnant women at a population level, from the perspective of nutritional anthropometry of pregnant women in the state of Pernambuco.**Method**: A review of guidelines and classifications developed since 1957 was conducted to describe normative principles for initial assessment and the evolutionary milestones of pregnancy weight gain, with a focus on proposals presented in the past few decades. The most frequently referenced contributions at an international level were selected, with 10 studies chosen. Each model's rationale was outlined (assumptions, procedures, reference populations, samples, classifications with respective cut-off points, and expected outcomes), providing an analytical framework that outlines the generic characteristics of each method. From this review, five methods were selected: four used in Latin American countries (the Rosso and Mardones method in its two versions: percentiles for weight/height/gestational age and body mass index (BMI) by gestational age; the Atalah et al. method; and the Institute of Medicine (IOM) method from 2009) and one already applied in Brazil (the Centro Latino-Americano de Perinatologia-CLAP method). A cross-sectional diagnostic testing study was then conducted based on secondary data from the study "Nutritional status of pregnant women: methodological, epidemiological aspects, and implications for prenatal care," involving the Institute of Integral Medicine Prof. Fernando Figueira (IMIP) and the Department of Nutrition at the Federal University of Pernambuco. Data collection was carried out from September 2011 to April 2012 at three prenatal care units in the state of Pernambuco, located in Recife (coastal region), Vitória de Santo Antão (Zona da Mata), and Caruaru (Agreste), with a sample of 1,108 pregnant women. Besides low pregnancy risk, the age range from 19 to 35 years, gestational age, weight, and height were considered variables for constructing the anthropometric indices. A questionnaire containing sociodemographic, obstetric, and weight/height measurement data was applied. For data processing and analysis, Stata 12.1SE software was used. Along with statistical comparison of the methods (Kappa, chi-square goodness of fit, and graphical illustration), an evaluation of the differences in expected outcomes based on the nutritional status of non-pregnant women in reproductive age in

Brazil was made.**Results**: The review showed that, except for some agreements (such as average values for pregnancy weight gain and birth weight), the conception and methodological designs (reference populations, sample sizes, and cut-off points) presented significant discrepancies. Furthermore, it was evident that the classifications according to the categories of low weight, adequate weight, and overweight/obesity varied significantly between the methods and differed from the expected values based on the nutritional status of non-pregnant women (p < 0.001), with prevalence ratios reaching nearly five times for low weight, alongside percentage differences between 10% and 26% regarding overweight/obesity.**Conclusion**: The differences in the occurrence of low pregnancy weight on one hand, and overweight/obesity on the other, are clearly evident compared to the reference standard. These disparities result from the heterogeneity of methods, justifying the need for national surveys to define standards applicable to our population.

Keywords: nutritional status; nutritional assessment; anthropometry; pregnant women.

AGREEMENT BETWEEN DIAGNOSTIC METHODS OF ANAL HPV LESIONINDUCED IN WOMEN WITH CERVICAL NEOPLASM IN PERNAMBUCO

SANDRA DE ANDRADE HERACLIO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2016 aug. 29

Scenario: Epidemiological studies have established an association between human papillomavirus (HPV) and cervical, vulvar, vaginal, and anal cancer, independent of the presence of other risk factors. Considering the biological similarity between cervical and anal neoplasms, several authors suggest screening for anal neoplasia using cytology, anoscopy, and biopsy. **Objectives**: The present study aims to determine the agreement between various screening methods for HPV-induced anal intraepithelial lesions: anal cytology, anoscopy, and the presence of viral DNA by polymerase chain reaction (PCR).**Methods**: A cross-sectional observational study was conducted on 324 women diagnosed with intraepithelial neoplasia and cervical cancer, from December 2008 to December 2009, at the Institute of Integral Medicine Prof. Fernando Figueira (IMIP). The research was approved by the Institutional Ethics and Research Committee. The statistical analysis used the Pearson chi-square association test at a 5% significance level. To verify the agreement between anoscopy, cytology, and PCR results for HPV, the Kappa coefficient was used, with a 95% confidence interval. **Results**: A total of 324 anal cytologies were performed, of which 6.2% (n=20) were unsatisfactory, 62.3% (n=202) were normal/benign alterations, and 31.5% (n=102) showed some degree of squamous atypia, such as low-grade anal intraepithelial lesion (LIEAbg) in 19.1% (n=62), high-grade anal intraepithelial lesion (LIEAag) in 3.1% (n=10), and atypical squamous cells of undetermined significance (ASC-US) in 9.3% (n=30) of cases. Of the patients who underwent biopsy, 25.7% (n=20) were positive, with seven cases showing histology compatible with HPV infection; five with grade one intraepithelial neoplasia (NIA1); six with grade two anal intraepithelial neoplasia (NIA2); and two with grade three intraepithelial neoplasia (NIA3). Of the 303 samples suitable for HPV research using PCR, 84.2% (n=255) tested positive for HPV DNA. The agreement between anoscopy and cytology was weak, with a kappa of 0.31 (p=0.00; 95% CI: 0.22-0.40), there was slight agreement between cytology and PCR for HPV with a kappa of 0.08 (p=0.01; 95% CI: 0.01-0.15), and no agreement between anoscopy and PCR for HPV.**Conclusions**: The agreement between various diagnostic methods for HPV-induced anal lesions ranges from slight to weak; however, anal cytology allows for the identification of HPV-induced lesions and directs patients to anoscopy and biopsy. Further studies are needed to establish an anal screening program for HPV-induced lesions in this specific risk group.

Keywords: cytology; HPV; anal intraepithelial neoplasia; cervical intraepithelial neoplasia; anal cancer; anal canal.

CORRELATION BETWEEN PRE-GESTATIONAL BMI AND VISCERAL ADIPOSITYMATERNAL WITH FETAL BIOMETRY IN THE SECOND TRIMESTER OF PREGNANCY

KARINA REIS DE MELO LOPES

Advisor: Luiz Claudio Arraes de Alencar
Defense date: 2016 nov. 21

Introduction: The existence of factors that act during critical periods of intrauterine life or the immediate postnatal period, determining long-term health, has become increasingly recognized. Maternal body composition before and during pregnancy can influence the fat mass of the fetus from fetal life to adulthood. Fat distribution is very important when analyzing outcomes associated with obesity, as central adiposity is more strongly associated with obesity-related complications than peripheral adiposity. The effect of maternal body mass index (BMI) on fetal growth is still not well established, and there is no data on the effect of maternal visceral adiposity on fetal growth in obese, non-obese, diabetic, and non-diabetic pregnant women.**Objective:** To determine the correlation between pre-gestational BMI and maternal visceral adiposity with ultrasonographic variables related to fetal biometry in the second trimester of pregnancy, and to compare these correlations between previously obese and non-obese pregnant women, as well as those with gestational diabetes and non-diabetic women.**Methods:** This secondary analysis of a prospective cohort study included 740 pregnant women who received prenatal care at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) between October 2011 and September 2013. Pre-gestational BMI was determined using the self-reported pre-pregnancy weight and height measured during the first prenatal consultation. Maternal visceral adiposity was measured by ultrasonography, simultaneously with fetal biometry. The correlations between maternal visceral adiposity and pre-gestational BMI with the ultrasonographic biometric variables were evaluated using Pearson's correlation coefficient. Among the groups, the obtained correlation coefficients were compared using Fisher's Z-test. This test was also used to test the null hypotheses of the correlation coefficients between pairs of variables. To test the null hypotheses of the adjusted correlation coefficients, Student's t-test was used. The study was approved by the research ethics committee before its initiation. **Results:** Pre-gestational BMI showed no correlation with fetal biometric parameters. Maternal visceral adiposity was positively correlated with fetal abdominal circumference (r=0.529, P<0.001), estimated fetal weight (r=0.524, P<0.001), head circumference (r=0.521, P<0.001), femur length (r=0.521, P<0.001), and biparietal diameter (r=0.524, P<0.001). The analysis remained statistically significant after controlling for gestational age. Among the groups, maternal visceral adiposity was also positively correlated with fetal biometry measures, with no significant differences between them. **Conclusions:** Pre-gestational BMI showed no correlation, while maternal visceral adiposity was positively correlated with fetal biometry in the second trimester of pregnancy, even after adjusting for gestational age. Maternal visceral adiposity was also positively correlated with fetal biometry in the second trimester of pregnancy in groups of previously obese, non-obese, gestational diabetic, and non-diabetic pregnant women. The correlation coefficients were statistically similar among the groups.

Keywords: abdominal obesity, body mass index, fetal weight, fetal growth, gestational diabetes, obesity.

LUNG FUNCTION AND BODY COMPOSITION IN PREGNANT WOMEN WITH LOW RISK: CROSS-CUT STUDY

ANDREA CARLA BRANDAO DA COSTA SANTOS

Advisor: Melania Maria Ramos de Amorim
Defense date: 2016 aug. 29

Introduction: Pregnancy induces hormonal and mechanical changes in the thoracoabdominal configuration, which can lead to modifications in pulmonary function. **Objective**: To describe and compare pulmonary function and body composition across pregnancy trimesters and between primigravidas and multigravidas. **Methods**: A cross-sectional study was conducted with 120 low-risk pregnant women between the 5th and 40th week of pregnancy. The study was carried out at the Physical Assessment Laboratory (LAF/SANNY) of the University Center of João Pessoa (UNIPÊ) from November 2015 to May 2016. Women aged 18 to 35 years, with a single pregnancy and no physical exercise habits, were included. Exclusion criteria included inability to undergo bioimpedance or pulmonary function tests, respiratory, cardiac and/or neuromuscular diseases, thoracic deformities, presence of metallic devices such as pacemakers, and smoking. The study variables included obstetric data (maternal age, gestational age, trimester of pregnancy, uterine height); anthropometric data (height, pre-gestational weight, pre-gestational body mass index [BMI]); pulmonary function (forced vital capacity [FVC], forced expiratory volume in the first second [FEV1], forced expiratory flow 25%-75%, peak expiratory flow [PEF], and maximum voluntary ventilation [MVV]); and body composition (current weight, current BMI, fat mass, lean mass, fat-free mass, total body water [TBW], and extracellular water [ECW]). Pulmonary function was assessed by flow spirometry, and body composition by multi-segmental bioelectrical impedance analysis. The comparison of means between trimesters was performed by analysis of variance with Tukey's post-hoc test and by Student's t-test for the comparison of two groups. The association between independent variables and PEF and FEF25%-75% was determined by Pearson's correlation coefficient and multiple linear regression. The study was approved by the Ethics Committee in Human Research of UNIPÊ, Paraíba, Brazil, under CAEE number 50141215.9.0000.5176. **Results**: FVC, FEV1, PEF, and FEF25%-75% appeared to decrease as pregnancy progressed, but without statistical significance. A significant increase was observed in current weight (p<0.02), current BMI (p<0.003), TBW (p<0.04), ECW (p<0.03), fat mass (p<0.04), and lean mass (p<0.04) across pregnancy trimesters. Positive and significant correlations were found between maternal age, height, pre-gestational weight, TBW, ECW, lean mass, and fat-free mass with PEF. Pre-gestational weight, current weight, TBW, ECW, fat mass, lean mass, and fat-free mass were positively and significantly correlated with FEF25%-75%. Multiple linear regression analysis showed that height and maternal age explained 14.7% of PEF variability, while pre-gestational weight explained 6.5% of FEF25%-75%. In multigravidas, the average body composition values were significantly higher

compared to primigravidas. PEF correlated significantly with maternal age and height in primigravidas. In multigravidas, no significant correlation with gestational age was observed. Multiple linear regression analysis showed that in primigravidas, height and age were associated with PEF, explaining 14.5% of its variability. Current weight and maternal age explained 42.3% of PEF variation in multigravidas. **Conclusion**: It is suggested that pulmonary volumes and capacities did not change during pregnancy. Height and age influenced PEF, and pre-gestational weight influenced FEF25%-75%. Despite increases in body composition variables in multigravidas, this did not affect pulmonary function. These findings provide insights into better understanding pulmonary function and body composition during pregnancy.

Keywords: pregnant women; pulmonary function test; spirometry; composition.

COST OF TREATMENT OF CERVICAL CANCER UNDER DIFFERENT COSTING METHODS

CANDICE AMORIM DE ARAÚJO LIMA SANTOS

Advisor: Suely Arruda Vidal
Co-supervisor: Ariani Impieri de Souza
Defense date: 2017 oct. 06

Introduction: Cervical cancer is the third most common cancer among women in Brazil, and its treatment is increasingly causing a greater economic impact on society. The costs associated with cancer vary widely across different countries. Costing methods can differ, with microcosting being more labor-intensive but more accurate, and macrocosting being less precise but simpler to conduct. **Objectives**: To conduct a systematic review of studies on costing methods used for the treatment of invasive cervical cancer (CCU) worldwide, determine the annual treatment cost per CCU patient using different methods in an oncology center in Brazil, and estimate the treatment costs for Brazil. **Methods**: A systematic review of studies on costing methods used to determine the costs of CCU treatment in various regions was conducted. A prospective cost analysis study was then carried out with a sample of 134 women diagnosed with CCU, followed between May 2014 and July 2016 at a tertiary hospital in Recife, Brazil. Direct medical costs, direct non-medical costs, and indirect costs were collected during the study period from a societal perspective. The annual cost per patient was described in international dollars (I\$) for the systematic review and in U.S. dollars (US\$) for the cost analysis, both adjusted to the year 2016. Based on the base case, estimates were made for Brazil. **Results**: The systematic review revealed that the average treatment cost of CCU across the countries studied was I\$ 16,390.15, representing a median of 61.4% of the Gross Domestic Product (GDP) per capita in each country where the study was conducted. The proportion of the treatment cost to the GDP per capita in these countries did not vary according to costing methods (p=0.522), but it was found that in middle-income countries, the treatment cost was proportionally higher than in high-income countries (p=0.032). In the cost analysis, direct costs recorded in patient files and indirect costs collected through face-to-face interviews at the outpatient clinic and during hospitalization were analyzed. The annual treatment cost of CCU per patient was US\$ 2,219.73 (or I\$ 3,591.72). Direct medical costs accounted for 81.2% of this, and indirect costs accounted for 15.3%. Of the therapeutic modalities, 38.2% of the costs were allocated to radiotherapy and 27.4% to outpatient chemotherapy. A difference was found between the costing methodologies used; therefore, when microcosting (representing institutional costs for IMIP) was applied, the treatment costs were higher compared to when macrocosting (used as a proxy for the payer, the Unified Health System [SUS]) was applied (US\$ 581,985.75 vs. US\$ 523,218.22, p=0.0237). The estimated cost for Brazil for one year of CCU treatment in the SUS population using the base case was US\$ 25,954,195.04. **Conclusions**: The treatment costs for CCU found in the systematic review represented a larger portion of the GDP per capita in poorer countries compared to wealthier ones, and the different costing methodologies did not interfere with the results. The direct medical costs found in the cost analysis revealed underfunding in the SUS for CCU treatment from the perspective of a public oncology center. These estimates could be applied in cost-effectiveness studies related to the treatment and prevention of CCU.

Keywords: disease cost; cost and cost analysis; cervical neoplasms.

SHORT-TERM EFFECT OF THE KANGAROO POSITION ON ACTIVITYELECTROMYGRAPHIC AND MICROCIRCULATORY PARAMETERS OF PRETERM NEWBORN

KAÍSA TROVÃO DINIZ

Advisor: José Eulálio Cabral Filho
Defense date: 2017 aug. 31

Introduction: The Kangaroo Method (KM) is a healthcare approach for preterm newborns (PTNB) with significant clinical benefits. Its main feature is the Kangaroo Position. Many short-term effects promoted by KM have been attributed to the skin-to-skin contact facilitated by the Kangaroo Position. **Objective**: To evaluate the short-term effect of the Kangaroo Position on electromyographic activity and microcirculatory parameters in PTNB. **Methods**: A clinical trial (registered at ClinicalTrials.gov - NCT02849665) was conducted at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP), Brazil, from January to July 2017, involving 44 PTNB randomly assigned to two groups: the Kangaroo Group (n=21) consisting of PTNB subjected to the Kangaroo Position, and the Control Group (n=23) consisting of PTNB not subjected to the Kangaroo Position. In the Kangaroo Group, electromyographic activity and microcirculatory parameters (blood flow, tissue oxygen saturation, and temperature) were assessed at three points: before the first Kangaroo Position (T0), after one hour in the Kangaroo Position (T1), and after two hours in the Kangaroo Position (T2). In the control group, three assessments were also made at corresponding times, but the PTNB were not subjected to the Kangaroo Position between evaluations. Electromyographic signals were transformed into Root Mean Square (RMS) (microvolts) and normalized (%). To compare the mean of variables between the three evaluations within the same group, Repeated Measures Analysis of Variance (ANOVA) was used for parametric data or the Kruskal-Wallis test for non-parametric data. When significant, post hoc multiple comparisons were made using the Tukey and Dunn tests. The alpha error for rejecting the null hypothesis was set at $p < 0.05$. **Results**: In the Kangaroo Group, RMS values for the brachial biceps were different across the three assessment points ($p < 0.001$), increasing between the first (T0) and second (T1) assessments ($p < 0.05$), and between the second (T1) and third (T2) assessments ($p < 0.05$). For the hamstrings, RMS values also differed between the assessment points ($p = 0.004$), increasing from the first (T0) to the third (T2) assessment ($p < 0.05$). In the Control Group, no statistical differences were found between RMS values at the assessment points for both the brachial biceps and hamstrings. Blood flow values differed between the assessment points in the Kangaroo Group ($p = 0.004$), increasing between the first (T0) and second (T1) assessments ($p < 0.05$), with no statistical differences between the assessment points in the Control Group. **Conclusion**: The Kangaroo Position led to an increase in RMS values for the brachial biceps and hamstrings, as well as an increase in blood flow in PTNB.

Keywords: kangaroo method; premature; electromyography; microcirculation.

EFFECT OF AQUATIC PHYSICAL EXERCISE ON GESTATIONAL DIABETES MELLITUS: CLINICAL TRIAL

JOSÉ ROBERTO DA SILVA JUNIOR

Advisor: João Guilherme Bezerra Alves
Defense date: 2017 sep. 01

Introduction: Regular physical exercise has been considered one of the most important measures for the prevention and control of type 2 diabetes mellitus (T2DM) and its related morbidities. Studies have been developed to assess the impact and safety of exercise in the treatment of gestational diabetes mellitus (GDM). **Objective**: To evaluate the acute effects of aquatic physical exercise on blood glucose, maternal hemodynamic parameters, and fetal heart rate in pregnant women with gestational diabetes mellitus. **Methods**: A non-randomized clinical trial was conducted at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP), Recife, Pernambuco, Brazil, between April and December 2016. Seventy pregnant women were included and divided into two groups: those with GDM (35) and those without GDM (35). Inclusion criteria were pregnant women over 18 years of age, gestational age between the 26th and 32nd weeks, sedentary lifestyle, and a single pregnancy. Exclusion criteria included renal disease, collagenoses, previous history of GDM, type 1 or type 2 diabetes, severe hypertension, labor, vaginal bleeding, severe cognitive, auditory, visual, or motor deficits, skin conditions, urinary infections, and adverse maternal/fetal conditions. The sample was characterized by variables such as maternal age, origin, living with a partner, education, occupation, family per capita income, alcoholism, smoking, gestational age, parity, maternal weight, height, and body mass index. The primary outcomes considered were blood glucose, blood pressure (BP), heart rate (HR), oxygen saturation (SpO2), respiratory rate (RR), and fetal heart rate (FHR). All participants underwent a session of aquatic physical exercise based on the American College of Obstetricians and Gynecologists (ACOG) recommendations, which included five phases: stretching and warm-up, aerobic exercises, muscle strengthening exercises, cool-down, and relaxation. For group comparisons, descriptive statistics, paired Student's t-test (within-group), and independent sample Student's t-test (between-group) were used. A significant level of 0.05 was adopted. The study was approved by the IMIP Research Ethics Committee (CAAE15469113.0.0000.5201). **Results**: In the within-group analysis, before and after the intervention, a significant increase in the mean respiratory rate (21.1±3.3 breaths per minute vs. 23.1±2.9 breaths per minute; p=0.003) and a decrease in maternal blood glucose (94.1±10.9 mg/dL vs. 78.6±7.7 mg/dL; p<0.001) were observed in the GDM group. In the non-GDM group, there was a significant increase in mean systolic blood pressure (115.7±12.7 mmHg vs. 120.3±12.0 mmHg; p=0.01) and respiratory rate (23.2±10.3 breaths per minute vs. 24.5±9.3 breaths per minute; p=0.042), and a decrease in maternal blood glucose (90.7±15.6 mg/dL vs. 82.3±15.3 mg/dL; p<0.001). In the between-group analysis, a difference in the mean before and after the intervention was observed, with a more pronounced decrease in maternal blood glucose in the GDM group (-15.5 mg/dL vs. -8.5 mg/dL; p=0.007). The other parameters evaluated showed no significant differences within

and between groups. No potential adverse effects of the intervention were observed in any of the participants. **Conclusions**: The proposed aquatic physical exercise protocol can promote acute metabolic and hemodynamic responses in both maternal and fetal parameters in pregnant women with and without GDM, within safe parameters for the evaluated population.ClinicalTrials.gov ID: NCT02931656

Keywords: pregnancy; aquatic physical exercise; gestational diabetes.

EFFECTS OF PRESSURE SUPPORT VENTILATION WITH TWO LEVELS OFEND EXPIRATORY POSITIVE PRESSURE IN AN EXPERIMENTAL MODEL OFMILD ACUTE RESPIRATORY DISCOMFORT SYNDROME

PAULO ANDRE FREIRE MAGALHÃES

Advisor: Maria do Carmo Menezes de Bezerra Duarte
Defense date: 2017 jan. 23

Introduction: Assisted mechanical ventilation has been suggested to minimize the development of ventilator-induced lung injury (VILI) in acute respiratory distress syndrome (ARDS). However, spontaneous breathing may exacerbate lung injury, increase patient-ventilator asynchrony, and respiratory effort. We hypothesized that the level of positive end-expiratory pressure (PEEP) should be carefully adjusted during assisted mechanical ventilation to reduce VILI. **Objective**: To compare the biological and mechanical effects of spontaneous breathing in the ventilatory support pressure mode with controlled pressure at two different PEEP levels on the lungs in a mild ARDS experimental model. **Methods**: Design, setting, and participants: Thirty-five Wistar rats (weight 310 ± 19g) were administered intratracheal Escherichia coli lipopolysaccharide to induce mild ARDS. After 24 hours, the animals were anesthetized and randomly allocated to pressure-controlled ventilation (PCV) (n = 14) or pressure-support ventilation (PSV) (n = 14). Each group was further assigned to low PEEP levels (2 cmH2O, P2) or moderate PEEP levels (5 cmH2O, P5). The tidal volume was kept constant (VT = 6 mL/kg). Additionally, 7 non-ventilated animals (NV) were used for post-mortem analysis. Primary Outcome Measures: Pulmonary mechanics, arterial blood gases, diffuse alveolar damage (DAD) score, and biological markers associated with inflammation [interleukin (IL)-6 and cytokine-induced neutrophil chemoattractant 1 (CINC-1)] and injury to type II epithelial cells as measured by surfactant protein B (SP-B). **Results**: Oxygenation improved in all groups regardless of the ventilatory strategy. PCV and PSV, P5 compared to P2, maintained epithelial integrity, measured by Ecadherin expression. In PSV, P5 compared to P2, the DAD score was reduced [median (interquartile range) 11 (8.5-13.5) vs. 23 (19-26), p <0.05], and the expressions of IL-6 and CINC-1 were lower (p = 0.02 for both), while the mRNA expression of SP-B increased (p = 0.03), suggesting protection from type II epithelial cell damage. PSV showed lower peak and mean transpulmonary pressures compared to PCV (p = 0.04 and p = 0.0002, respectively) in P5. **Conclusions**: In experimental animals with mild ARDS, only PSV with PEEP = 5 cmH2O improved biological and mechanical responses in the lungs, reducing lung damage and inflammatory markers while maintaining epithelial cell integrity.

Keywords: respiratory mechanics; artificial respiration; acute respiratory distress syndrome; ventilator-induced lung injury.

FREQUENCY AND FACTORS ASSOCIATED WITH METABOLIC SYNDROME AND MATERNAL ADIPOSITY IN EARLY PREGNANCY AND IN THE IMMEDIATE POST PARTUM

MARIA DO CARMO PINTO LIMA

Advisor: Melania Maria Ramos de Amorim
Defense date: 2017 jun. 19

Introduction: Pregnancy, whether associated with pre-pregnancy overweight or not, leads to the accumulation of adipose tissue, with a higher risk of fat deposition from conception to postpartum. Abdominal obesity appears to be the best predictor of obesity and metabolic diseases during pregnancy, and when associated with other factors such as elevated triglycerides, blood glucose, resting blood pressure, and decreased high-density lipoprotein levels, it characterizes the complex disorder known as metabolic syndrome (MS).**Objective**: To determine the frequency of MS and the factors associated with the syndrome and maternal subcutaneous and visceral adiposity at the 16th week of pregnancy and in the immediate postpartum period.**Methods**: Two cross-sectional studies were conducted in a cohort of 200 pregnant women, with 200 evaluated at the 16th week of pregnancy and 187 in the immediate postpartum period. The participants received prenatal care at basic health units in Campina Grande/PB, Brazil. Included women had a gestational age of up to 16 weeks, with a living fetus, received public prenatal care, and resided in urban areas. Excluded were women with pre-pregnancy diabetes, chronic maternal diseases, psychiatric disorders, multiple pregnancies, and congenital malformations. MS was diagnosed using the National Cholesterol Education Program Adult Treatment Panel III (NCEP/ATPIII) criteria, and visceral and subcutaneous adiposity were assessed using ultrasonography. Anthropometric measurements and biochemical analysis were also evaluated. For statistical analysis, the Epi-Info version 7.2 and Medcalc version 15.4 programs were used. Percentages were calculated for categorical variables, and measures of central tendency (mean or median) and dispersion (standard deviation or interquartile range) were calculated for numerical variables. As the variables had a normal distribution, confirmed by the Kolmogorov-Smirnov test, Student's t-test was used to compare means at the 16th week and postpartum. Final stepwise logistic regression models were constructed to identify the main factors associated with MS, initially including variables with a significance level of 20% in the bivariate analysis. For the factors associated with visceral and subcutaneous adiposity, Pearson's correlation coefficient was used to determine the correlation between independent variables (biological, sociodemographic, obstetric characteristics, blood pressure, biochemical variables, and anthropometric variables) and dependent variables (visceral and subcutaneous adiposity at the 16th week and postpartum). The final multiple linear regression model included only variables that remained significantly associated with a significance level of 5%. **Results**: The frequency of MS at the beginning of pregnancy was 3.0%, and in the postpartum period, it was 9.7% (p=0.01). After multiple logistic regression, the pre-gestational body mass index (BMI) (p=0.04) and high-density lipoprotein cholesterol (HDL-c) (p=0.02) at the 16th week, and

triglycerides (p<0.00) in the postpartum period, remained associated with MS. The means of visceral adiposity were 5.2±1.3 and 5.6±1.6 (p<0.00) at the 16th week and postpartum, respectively, and subcutaneous adiposity was 2.3±0.8 and 2.5±0.9 at the two periods (p=0.03). There was a significant correlation between visceral adiposity and maternal weight (r^2=0.32; p<0.00), BMI (r^2=0.28; p<0.00), fasting insulin (r^2=0.22; p<0.00), HOMA-IR (r^2=0.18; p=0.01), suprailiac (r^2=0.44; p<0.00) and tricipital (r^2=0.21; p<0.00) skinfolds, abdominal circumference (r^2=0.31; p<0.00), arm circumference (r^2=0.25; p<0.00), and thigh circumference (r^2=0.15; p=0.03) at the 16th week. In the postpartum period, correlations were observed with weight (r^2=0.32; p<0.00), BMI (r^2=0.31; p<0.00), suprailiac (r^2=0.26; p<0.00), tricipital (r^2=0.32; p<0.00), abdominal circumference (r^2=0.35; p<0.00), and arm circumference (r^2=0.28; p<0.00). For subcutaneous adiposity, correlations were found with weight (r^2=0.64; p<0.00), BMI (r^2=0.65; p<0.00), fasting insulin (r^2=0.41; p<0.00), triglycerides (r^2=0.18; p=0.01), HOMA-IR (r^2=0.25; p<0.00), suprailiac (r^2=0.52; p<0.00) and tricipital (r^2=0.55; p<0.00) skinfolds, abdominal circumference (r^2=0.66; p<0.00), arm circumference (r^2=0.64; p<0.00), and thigh circumference (r^2=0.39; p<0.00) at the 16th week. In the postpartum period, correlations were observed with weight (r^2=0.46; p<0.00), BMI (r^2=0.51; p<0.00), weight gain (r^2=0.20; p<0.02), fasting insulin (r^2=0.17; p=0.05), suprailiac (r^2=0.51; p<0.00), tricipital (r^2=0.44; p<0.00), abdominal circumference (r^2=0.53; p<0.00), arm circumference (r^2=0.46; p<0.00), and thigh circumference (r^2=0.33; p<0.00). After multiple linear regression analysis, only abdominal circumference at the 16th week and BMI in the postpartum period remained associated with visceral adiposity. For subcutaneous adiposity, weight, HOMA-IR, and suprailiac skinfolds at the 16th week, and suprailiac skinfolds in the postpartum period, remained as associated factors. **Conclusions**: The frequency of MS was high in the immediate postpartum period, with pre-gestational BMI and HDL-c at the 16th week, and triglycerides in the postpartum period, associated with its presence. The main predictors of visceral adiposity were abdominal circumference at the 16th week and BMI in the postpartum period, while the predictors of subcutaneous adiposity were HOMA-IR and suprailiac skinfolds at the 16th week and suprailiac skinfolds in the postpartum period.

Keywords: Pregnancy; Postpartum period; Metabolic diseases; Adiposity; Subcutaneous fat; Abdominal obesity.

EATING AND PHYSICAL ACTIVITY PATTERN IN PREGNANCY AND THE RISK OFGESTATIONAL DIABETES MELLITUS – COHORT STUDY

GRACILIANO RAMOS ALENCAR DO NASCIMENTO

Advisor: João Guilherme Bezerra Alves
Defense date: 2017aug. 02

Introduction: Gestational diabetes mellitus (GDM) is defined as glucoses intolerance resulting in hyperglycemia, with onset or diagnosis during pregnancy. Physical inactivity and an inadequate dietary pattern have been considered major risk factors for GDM. However, studies evaluating the role of dietary intake and physical activity levels before pregnancy in preventing GDM remain scarce, and the specific contribution of these risk factors to GDM development is still unknown.**Objective**: To determine the frequency of GDM and identify whether dietary patterns and physical activity levels are risk factors for its development.**Method**: A prospective cohort study with 841 pregnant women, included between 15 and 20 weeks of gestation and followed until delivery. The study was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira, Brazil. GDM diagnosis was made according to the criteria established by the International Association of the Diabetes and Pregnancy Study Groups (IADPSG). Nutritional assessment was based on body mass index (BMI), using Atalah's curve. Physical activity levels were assessed using the Physical Activity Questionnaire for Pregnant Women (QAFG) and quantified by energy expenditure in METs (Metabolic Equivalent of Tasks). Dietary patterns were evaluated with a Food Frequency Questionnaire (FFQ). For statistical analysis of dietary patterns, the varimax rotation method and Velicer's minimum average partial (MAP) criteria were used. Due to mean values exceeding the median in factor scores, the Jonckheere-Terpstra test was applied. Poisson regression was also used, considering significant results at $P<0.05$. To assess physical activity levels, bivariate statistical analysis was conducted using the chi-square test, Fisher's exact test, and the chi-square test for linear trends to identify variables associated with GDM. Subsequently, a multivariate model with logistic regression was used to quantify adjusted effects of variables on GDM occurrence, with a 95% confidence interval. A significance level of $P<0.05$ was applied. **Results**: The mean age of the 841 participants was 26.2 years (SD = 5.8). All participants were from low-income families. Furthermore, 84.8% had an elementary education level, 43.8% had at least one child, 54.9% had a family history of diabetes, 27% were overweight, and 14.0% were obese. An association was observed between GDM and physical inactivity (Odds Ratio [OR] 1.8; 95% CI: 1.12–2.91). Overweight and obesity were also associated with GDM development (OR 3.1; 95% CI: 1.81–5.20; $P<0.001$). **Conclusion**: In this studied population, no association was found between dietary patterns and GDM development. However, physical inactivity and overweight or obesity increased the risk of GDM by 2 to 3 times. Further studies are needed to better elucidate the relationship between dietary patterns, physical activity during pregnancy, and the risk of developing GDM.

Keywords: gestational diabetes mellitus; healthy diet; sedentary lifestyle; obesity.

PREVALENCE AND FACTORS ASSOCIATED WITH INTRAFAMILY VIOLENCE AGAINSTCHILDREN AND ADOLESCENTS WITH COMMUNICATION DISORDERS, ASSISTEDIN SPEECH THERAPY SERVICES IN MACEIÓ/ALAGOAS: TYPE STUDYCROSS SECTION

LAURALICE COSTA RAPOSO

Advisor: Maria Arleide da Silva
Defense date:2017 aug. 25

Scenario: Communication disorders are common in childhood and can compromise the cognitive and socio-emotional development of children and adolescents. These disorders involve functional components of hearing, speech, and/or language and are associated with behavioral changes such as anxiety and depression, hindering interpersonal relationships and making affected individuals more vulnerable to intrafamilial violence. Despite being a public health problem, this type of violence is still poorly studied in this population.**Objective**: To estimate the prevalence and factors associated with intrafamilial violence in children and adolescents with communication disorders.**Methods**: A descriptive, observational, cross-sectional study was conducted with a non-probabilistic sample of 265 children and adolescents aged between five and 19 years, diagnosed with communication disorders and treated at public referral centers for Speech-Language Therapy in Maceió, Alagoas. A questionnaire with closed-ended questions, including variables of interest to the study, was used as an instrument, alongside the Parent-Child Conflict Tactics Scale and the Hospital Anxiety and Depression Scale. Data were entered into a database with double entry using the public domain software EXCEL and the STATA 12.0 program. The Chi-square and Fisher's Exact Tests were used for bivariate analysis to verify associations between exposure and outcome variables. The multivariate Logistic Regression BACKWARD LR model was applied, considering p-values < 0.20 for variable inclusion in the final model and a 95% Confidence Interval (CI=95%). The research project was approved by the CEP/IMIP-UNICISAL under protocol CAAE No. 46343115.6.0000.5011. **Results**: The study found a 94% prevalence of intrafamilial violence. Multivariate Logistic Regression analyses identified male children and adolescents as a factor associated with intrafamilial violence (OR: 4.65; CI=95%: 1.44–14.98). The adjusted model for Anxiety Symptoms showed that lack of access to basic sanitation (water and sewage) (OR^a = 2.17; CI=95%: 1.20–3.91), living in a violent neighborhood (OR^a = 1.80; CI=95%: 1.00–3.23), caregivers with a history of violence (OR^a = 1.81; CI=95%: 1.02–3.22), and intolerant behavior by caregivers (OR^a = 3.02; CI=95%: 1.68–5.42) were factors associated with anxiety symptoms. The Logistic Regression Model for Depression Symptoms identified variables such as age between five and nine years (OR^a = 0.47; CI=95%: 0.24–0.93) and social isolation (OR^a = 2.73; CI=95%: 1.22–6.10) as associated factors.**Conclusion**: The study revealed a high prevalence of intrafamilial violence, indicating that children and adolescents with communication disorders are almost always victims of such violence, with prevalence being higher among males. Poor housing conditions, living in violent neighborhoods, intolerant caregivers, being an adolescent, and family isolation from the community are factors associated with anxiety and depression symptoms in children and adolescents with communication disorders.

Keywords: violence; child; adolescent; communication disorders; anxiety; depression.

SUPPLEMENTATION WITH ORAL MAGNESIUM CITRATE IN PREGNANT WOMEN FORPREVENTION OF PREMATURITY: RANDOMIZED CLINICAL TRIAL

CARLA ADRIANE FONSECA LEAL DE ARAUJO

Advisor: João Guilherme Bezerra Alves
Defense date: 2017 nov. 21

Introduction: The World Health Organization (WHO) estimates that 15 million preterm children are born annually. Prematurity is responsible for high rates of childhood morbidity and mortality. Magnesium deficiency in pregnant women has been associated with adverse gestational and perinatal outcomes, such as hypertensive gestational syndromes, leg cramps, alterations in placental circulation, and preterm birth.**Objective**: To evaluate whether maternal oral supplementation with magnesium citrate, initiated by 20 weeks of gestation at the latest and continued until the end of pregnancy, reduces the occurrence of prematurity.**Methodology**: A randomized, controlled, double-blind clinical trial was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) in Recife, Pernambuco, Brazil, from November 2014 to January 2017. A total of 719 pregnant women were included, admitted by the 20th week of gestation and followed until delivery. Inclusion criteria: Single pregnancy, maternal age between 18 and 40 years, residency in the Metropolitan Region of Recife, and gestational age up to 20 weeks. Exclusion criteria: Neurological disease or mental and behavioral disorders, serum magnesium levels above 2.6 mg/dL, and serum creatinine levels above 1.11 mg/dL. After randomization, the intervention group comprised 354 participants who received daily oral supplementation with 300 mg of magnesium citrate, while the control group included 365 pregnant women who received a placebo. Blood samples were collected before the intervention to determine serum magnesium levels. Statistical analysis was performed on an intention-to-treat basis, with a significance level of 0.05. The study was approved by the IMIP Research Ethics Committee under protocol number 4033–14. **Results**: A total of 688 pregnant women were analyzed, with 13 losses (3.7%) in the intervention group and 11 losses (3.0%) in the control group due to continuation of prenatal care at another institution. Discontinuation due to symptoms related to the medication occurred in three women from the intervention group and four women from the control group. The groups were homogeneous regarding sociodemographic, behavioral, and biological characteristics. The frequency of prematurity was lower in the magnesium-supplemented group (25/329; 7.6%) compared to the placebo group (28/341; 8.2%), but this difference was not significant. Regarding secondary outcomes such as neonatal vitality (Apgar score at five minutes), low birth weight, or being small for gestational age, no benefit from magnesium supplementation was observed. However, for the secondary outcome of neonatal death, there was an association with magnesium citrate use: 2/329 (0.6%) in the supplemented group versus 10/341 (2.9%) in the placebo group (p=0.023). **Conclusion**: Oral magnesium citrate supplementation, initiated before the 21st week of gestation and maintained until delivery, does not provide protection against prematurity but is associated with a lower rate of neonatal death.

Keywords: pregnancy; preterm newborn; magnesium.

INFLUENCE OF THE KANGAROO METHOD ON SKILL PERFORMANCEMOTOR OF PRETERM CHILDREN

CRISTIANE MONTEIRO PEDRUZZI

Advisor: José Eulálio Cabral Filho
Defense date: 2018 jan. 12

Introduction: Preterm children are at risk of growth and developmental delays. Assessing the motor skills of these children during childhood promotes quality of life and facilitates planning interventions to minimize complications in follow-up outpatient care. **Objective**: To evaluate the influence of the kangaroo method on motor skill performance in preterm children aged 24 to 30 months. **Methods**: This exploratory and descriptive study included a sample of 138 children aged 24 to 30 months, of whom 71 were born at term and 67 were born preterm. Among the preterm group, 30 received care using the kangaroo method, and 37 did not. Using interviews with caregivers and the application of the Bayley-III Scale in their homes, the children's motor performance was analyzed through variance analysis and Simple and Multivariable Linear Regression Models to control for possible confounding variables. **Results**: Gestational age, birth weight, and age at the time of the test were lowest in the kangaroo preterm group compared to the other groups. Kangaroo preterm children had longer hospital stays, lower height-for-age, and less exposure to socialization environments. Regarding motor skills, kangaroo preterm children showed better fine motor skill performance than the other two groups (preterm without kangaroo care and term children). In composite motor skills, kangaroo preterm children performed better than term children. **Conclusions**: The kangaroo method improves medium-term fine motor behavior performance in preterm children, suggesting its influence on neuromotor behavior mechanisms.

Keywords: kangaroo method; preterm; motor activity; development.

ANALYSIS OF THE EFFECTS OF A HOME VISIT PROGRAM ON THEMATERNAL AND CHILD HEALTH INDICATORS IN RECIFE COMMUNITIES:AN INTERVENTION STUDY

PAULA FERDINANDA CONCEICAO DE MASCENA DINIZ MAIA

Advisor: João Guilherme Bezerra Alves
Defense date: 2018 apr. 17

Introduction: Despite the broad coverage of prenatal, perinatal, and postnatal health services offered by Brazil's Unified Health System (SUS), maternal and neonatal mortality rates remain high. This elevated mortality indicates deficiencies in the quality of care provided during pregnancy, childbirth, and the postpartum period, particularly involving primary care, the Family Health Strategy, and home visits conducted by community health workers (CHWs).**Objective:** To evaluate the effect of an Innovative Home Visit (IHV) program on maternal knowledge and health practices, as well as selected maternal and child health indicators, for pregnant women and mothers of children up to nine months of age.**Methods:** A randomized controlled intervention study was conducted with 16 family health teams from 11 health units in Recife, Pernambuco. Eight teams were randomly assigned to the intervention group, and eight to the control group. The IHV program was based on a guidance manual introduced through a four-day training for 31 CHWs from the intervention group teams. The intervention group CHWs performed IHVs for pregnant women and mothers of children up to nine months, while the control group CHWs maintained the standard home visit program. After nine months, maternal knowledge, practices, and selected maternal and child health indicators were assessed through a questionnaire comprising 96 questions covering prenatal, perinatal, postnatal, neonatal, and infant health periods. **Results:** Of 100 eligible pregnant women, 93 completed the questionnaire (44 in the control group and 49 in the intervention group). Among 114 eligible mothers of children, 102 completed the questionnaire (45 in the control group and 57 in the intervention group). The results showed significant differences favoring the intervention group, including improved prenatal care indicators ($p = 0.005$), greater knowledge of the intrauterine device (IUD) as a contraceptive method ($p < 0.0001$), and better exclusive breastfeeding and appropriate complementary feeding indicators ($p < 0.0001$).**Conclusion:** Although results were partial, the study demonstrated that innovative tools for implementing an IHV program can help improve maternal and child health indicators. Efforts to enhance the guide's effectiveness and overcome barriers to CHW performance should be considered to support better maternal and child health outcomes, especially in underserved communities.

Keywords: home visit; guide; maternal and child health; community health Workers.

ANALYSIS OF SERUM LEVELS OF SCD40L, SCD40 AND SCD62P IN CHILDREN ANDADOLESCENTS WITH SICKLE CELL ANEMIA AND CHANGES IN THE EXAMTRANSCRANIAL DOPPLER

CINTHYA PEREIRA LEITE COSTA DE ARAUJO

Advisor: Leuridan Cavalcante Torres
Defense date: 2018 May 28

Introduction: Sickle cell anemia (SCA) is the most prevalent hereditary hemoglobinopathy in Brazil, characterized by homozygosity for hemoglobin "S," resulting from a mutation in the beta-globin gene. Stroke is a severe and catastrophic complication of SCA and one of the leading causes of morbidity and mortality in children and young adults. Patients with SCA at high risk for stroke are monitored through transcranial Doppler (TCD), a method used to predict stroke risk. Platelets can promote vaso-occlusive events and regulate immune responses via inflammatory mediators. Activated platelets express high levels of CD40 ligand (CD40L) and CD62P (P-selectin). These molecules have been considered markers of platelet activation in SCA, but their potential as predictive biomarkers for stroke risk in pediatric SCA patients has not been well-established. **Objective:** To evaluate serum levels of sCD40L, sCD40, and sCD62P in children and adolescents with sickle cell anemia and abnormal TCD findings. **Methods:** This translational, cross-sectional study with an internal comparison group was conducted at the Translational Research Laboratory of the Institute of Integral Medicine Prof. Fernando Figueira (IMIP). The study included 48 SCA patients aged 2 to 16 years, monitored at the Hematology and Hemotherapy Center of Alagoas (HEMOAL, Brazil). The control group consisted of 26 healthy children and adolescents (aged 2 to 13 years) hospitalized for minor elective surgeries at the University Hospital Professor Alberto Antunes of the Federal University of Alagoas (UFAL, Brazil). Patients were divided into three groups based on clinical characteristics of the disease: Group 1 (G1): SCA with normal TCD and no stroke (n=24); Group 2 (G2): SCA with abnormal TCD and no stroke (n=16); Group 3 (G3): SCA with stroke (n=8). Plasma levels of sCD40 and free sCD40L were measured using enzyme immunosorbent assay (ELISA), while sCD62P was analyzed by flow cytometry. Differences between groups were tested using t-tests and Mann-Whitney tests for means and medians, respectively, and Spearman's correlation coefficient was used to evaluate variable correlations. A significance level of $p<0.05$ was adopted. Statistical analysis was performed using GraphPad Prism v6.0. **Results:** Levels of sCD40L were significantly higher in G1, G2, and G3 compared to controls ($p=0.0001$; $p<0.0002$; $p=0.008$, respectively). Among SCA patients, G3 exhibited higher sCD40L levels (median = 1,330 pg/ml; range = 872-2550) compared to G2 (median = 1,003 pg/ml; $p=0.03$). No significant differences in sCD40 levels were observed between the four groups. For sCD62P, G3 patients exhibited elevated levels compared to G1 ($p=0.0001$), G2 ($p=0.03$), and controls ($p=0.01$), while G2 showed higher levels than G1 ($p=0.04$). G1 patients had a higher sCD40L/sCD62P ratio compared to G2 ($p=0.003$) and controls ($p<0.0001$). Ratios of sCD40L/sCD40 were 7.1, 6.1, and 7.7 times

higher in G1, G2, and G3 patients, respectively, compared to controls (p<0.0001, p<0.008, and p=0.002, respectively), but no significant differences were found among G1, G2, and G3. No correlations were identified between sCD40L vs. sCD62P, sCD40 vs. sCD40L, or sCD40 vs. sCD62P.**Conclusion:** The combination of abnormal TCD findings with increased sCD40L and sCD62P levels or a reduced sCD40L/sCD62P ratio may contribute to better stroke risk assessment in pediatric and adolescent SCA patients.

Keywords: sickle cell anemia; stroke; platelets; CD40 antigen; inflammation.

EVALUATION OF MICROCIRCULATION THROUGH LASER FLOWMETRYDOPPLER IN PATIENTS UNDERGOING KIDNEY TRANSPLANT: A STUDY OFCOHORT

PAULO SERGIO GOMES NOGUEIRA BORGES

Advisor: João Guilherme Bezerra Alves,
Defense date: 2018 aug. 08

Introduction: Patients with chronic kidney disease (CKD) have an increased risk of cardiovascular morbidity and premature death. This is partly due to a high prevalence of comorbidities and possibly to the inflammation and oxidative stress observed in these patients. Furthermore, studies have explored the association between cardiovascular disease, endothelial dysfunction (ED), and uremic autonomic dysfunction (UAD). The effect of kidney transplantation on these parameters remains controversial. Endothelial function can be assessed using various techniques, including the measurement of endothelium-dependent regulation of vascular tone in specific circulatory sites, such as the cutaneous microcirculation, evaluated through Laser Doppler Flowmetry (LDF). UAD is traditionally assessed using cardiovascular tests that evaluate heart rate variability; however, this autonomic component regulating microcirculation can also be tested using LDF. **Objective**: To evaluate microcirculation behavior using LDF in patients with and without CKD, as well as the effect of kidney transplantation on microcirculation. **Methods**: This prospective, longitudinal cohort study involved 80 patients (40 with CKD who underwent kidney transplantation and 40 controls). Postoperative outcomes (acute rejection, early anemia), laboratory tests (estimated creatinine clearance rate and serum hemoglobin), and microcirculation behavior were assessed using LDF. Parameters analyzed included: Post-Occlusive Reactive Hyperemia (PORH) [Resting Flow (RL), Maximum Flow (ML), Ratio of Maximum Flow to Resting Flow (ML/RL), Hyperemia Area (HA), and PORH curve area ratio (PORHindex)] and vasoconstrictor response to deep inspiration and breath-holding (IBH) [Inspiratory Mean/MeanIns]. **Results**: Intergroup microcirculation evaluation in the week of transplantation and three months post-transplant showed no significant differences in most microcirculation outcomes, specifically PORH. However, the vasoconstrictor response to deep inspiration and breath-holding (IBH) [Inspiratory Mean/MeanIns] was lower in the CKD group at one week (p = 0.0001) and three months post-transplantation (p = 0.0001). MeanIns values were significantly lower in patients with early anemia (57.91 ± 35.31 vs. 93.68 ± 66.55), estimated creatinine clearance rate (eCCr) above 60 ml/min (60.94 ± 7.54 vs. 94.65 ± 6.54), and those on azathioprine, cyclosporine, and prednisone protocol (50.90 ± 8.35 vs. 78.89 ± 10.88). **Conclusion**: Microcirculation evaluation using LDF, particularly the autonomic component, was reduced in transplanted patients and remained so three months post-transplant. This response was lower in patients with early anemia, eCCr above 60 ml/min, and those on azathioprine, cyclosporine, and prednisone protocols.

Keywords: laser Doppler flowmetry; microcirculation; endothelial dysfunction; chronic kidney disease; kidney transplantation.

EVALUATION OF THE IMMUNE RESPONSE OF PATIENTS WITH GAUCHER'S DISEASETYPE I

MARINA CADENA DA MATTA

Advisor: Leuridan Cavalcante Torres
Defense date: 2018 mar. 19

Introduction: Gaucher disease (GD) is an autosomal recessive disorder caused by mutations in the gene encoding the enzyme beta-glucocerebrosidase. Deficiency of this enzyme leads to the accumulation of the substrate glucocerebroside in lysosomes. GD is a chronic and progressive disease, and among lysosomal storage disorders, it presents the most notable immune system alterations, which may manifest clinically as autoimmune disorders and cancer. Enzyme replacement therapy (ERT) for GD is well established; however, the immunological mechanisms of the disease remain poorly understood. **Objective:** To evaluate the immune response in patients with type I Gaucher disease. **Methods:** An exploratory, translational study was conducted at the Treatment Center for Inborn Errors of Metabolism (CETREIM) and the Translational Research Laboratory of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). Seventeen patients diagnosed with type I GD through enzymatic dosage and clinical evaluation, aged between 16 and 62 years, were included. These patients receive enzyme replacement therapy every 14 days at CETREIM. Immunophenotyping of leukocyte populations in peripheral blood and the measurement of cytokines and chemokines in serum using Cytometric Bead Array (CBA) kits were performed through flow cytometry. Statistical analyses between groups were performed using chi-square tests, t-tests, and Mann-Whitney tests. **Results:** First study**:** A case report of a 36-year-old patient with type I GD and lupus nephritis. The patient exhibited decreased T and NK cells, inversion of the CD4+/CD8+ ratio, reduced absolute values of B lymphocytes, and low IgM levels compared to reference values for the Brazilian population. Regulatory T cells (CD4+/CD25high/Foxp3+) were absent, while elevated levels of NKT, total iNKT, and iNKTCD8+ cells were observed compared to healthy controls and a patient with type I GD without autoimmune disease.Second study: Comparison of cytokines (IL-6, TNF-α, IFN-γ) and chemokines (IL-8, IP-10, MCP-1) between two groups of type I GD patients treated at CETREIM (Group 1) and a Gaucher disease treatment center in Rio Grande do Sul (Group 2). Group 1 received longer and higher-dose ERT than Group 2 (p=0.0078; p=0.0002). Group 1 also showed reduced levels of IL-6 (p=0.0006), TNF-α (p<0.0001), IFN-γ (p<0.0001), IL-8 (p=0.0083), IP-10 (p<0.0001), and MCP-1 (p<0.0001) compared to Group 2.Third study: Analysis of absolute and relative values of T, B, NK, and regulatory T cells in 14 type I GD patients compared to 13 healthy controls. No significant differences were found in total T lymphocyte, CD4+ T, and CD8+ T values between groups. However, reduced relative values of naïve CD4+ T (p=0.02) and CD8+ T (p=0.03) lymphocytes and increased memory CD4+ T (p=0.02) and CD8+ T (p=0.02) lymphocytes were observed in patients compared to controls. Patients had lower absolute B lymphocyte (p=0.02) and NK cell (p=0.01) counts than controls.

No significant differences in regulatory T cells or type I and II NKT cells were observed between groups. **Conclusion:** Patients with type I GD exhibit alterations in immune responses involving key lymphocyte populations in peripheral blood. These changes may be related to clinical manifestations of the disease and the development of autoimmune conditions. Additionally, ERT dose and duration may influence peripheral tolerance and cytokine and chemokine production, suggesting that enzyme replacement therapy impacts immune responses.

Keywords: gaucher disease; immune system; enzyme replacement therapy; cytokines; chemokines; T lymphocytes; natural killer cells; invariant natural killer T cells; regulatory T cells.

DESCRIPTIVE AND ANALYTICAL EVALUATION OF EXCLUSIVE BREASTFEEDINGIN POPULATIONS ASSISTED BY THE FAMILY HEALTH STRATEGY INMACEIÓ/AL: A COHORT STUDY

MICHELLE CAROLINA GARCIA DA ROCHA

Advisor: Malaquias Batista Filho
Defense date: 2018 jan. 29

Introduction: Despite the World Health Organization's (WHO) recommendations on exclusive breastfeeding (EBF), its duration still falls short of the established consensus practices. Furthermore, few longitudinal studies aim to portray breastfeeding practices in detail. **Objective**: To describe the practice of EBF among children attended by the Family Health Strategy (ESF) in the 2nd Health District (DSS) of Maceió, Alagoas, emphasizing its occurrence, duration, and the factors involved in early weaning. **Methods**: This prospective cohort study was conducted from September 2014 to June 2016 in the 2nd DSS of Maceió/AL, which includes five communities with an estimated population of 25,000 residents covered by the ESF. One community was excluded due to safety concerns for researchers in light of local violence. All mother-child pairs identified by Community Health Agents (CHAs) during family visits or via user demands were included. Mothers who agreed to participate after being informed and signing a Free and Informed Consent Term (FICT) received biweekly visits from researchers. During the first and last visits, distinct questionnaires were administered to collect data, which were analyzed until the outcome (interruption of EBF) or until children continued exclusive breastfeeding up to the reference point of 180 days. Data were entered in duplicate into Microsoft Excel spreadsheets, validated using Epi Info 3.5.2, and analyzed with Stata 12.1. Cox regression was used to analyze risk factors for EBF interruption, estimating crude and adjusted hazard ratios (HR), 95% confidence intervals, and significant levels. Variables with a p-value < 0.20 in univariate analysis were included in the multivariate Cox model. Kaplan-Meier survival analysis was used to generate curves for EBF duration, pacifier and bottle use, and EBF encouragement. The Log-rank test was employed to compare EBF duration curves based on pacifier use, bottle use, and EBF encouragement. A p-value < 0.05 was considered statistically significant. The study was approved by the Ethics Committee of UNCISAL (CAAE 30574614.7.0000.5011). **Results**: Of the 259 registered live births, 225 mothers participated in the study (90% of the live births). Descriptive analysis revealed that 31.1% of mothers were adolescents, and 48.4% were aged 20–29 years. Approximately 25% of mothers had paid jobs, 77% lived with a partner, 24.9% had a median monthly family income of R$895.00 (classified in the lower D and E socioeconomic classes per the Brazilian Association of Research Companies [ABEP] in 2014), and 37% of homes relied on the public water supply.Almost all mothers (99%) underwent prenatal care, but only 21% received maternity leave during pregnancy and childbirth. The median duration of EBF was 31 days, with an interquartile range (P25–P75) of 15–72 days. Only 4.3% of children achieved the WHO goal of exclusive breastfeeding for six months. Analytical results highlighted three factors in the final model associated with EBF interruption: pacifier use (p = 0.007), bottle use (p <

0.001), and lack of EBF encouragement (p = 0.031). **Conclusions**: In the communities of Maceió/AL, despite the availability of basic health services provided by the ESF, EBF practices fall significantly short of WHO recommendations for exclusive breastfeeding until six months of age. The findings suggest that substantial effort is needed from professionals and institutions across different sectors to promote breastfeeding as a priority public and private health action. As the gateway to the public health system, ESF plays a critical role in addressing this challenge. Responses from the 225 mothers in the cohort indicate that while the healthcare sector and local community resources perform satisfactorily within their scope, the low EBF duration and prevalence of exclusive breastfeeding at six months may be due to the precise cohort method employed, which involved biweekly follow-ups and measured weaning incidence in days. Cohort studies, which provide incidence data, are inherently more precise than cross-sectional prevalence studies. This highlights the epidemiological advantage of cohort methodology in assessing EBF duration.

Keywords: breastfeeding; primary health care; longitudinal studies.

INFLAMMATORY CYTOKINES AND CHEMOKINES IN PREGNANT WOMEN WITH THEDISEASESICKLE CELL

MANUELA FREIRE HAZIN COSTA

Advisor: Ariani Impieri de Souza
Defense date: 2018 fev. 23

Introduction: SCD, a hereditary blood disorder, is highly prevalent, especially in Africa and Afro-descendant populations due to colonization. It causes the formation of abnormal hemoglobin, leading to chronic hemolysis and vaso-occlusion, often worsened by low oxygen levels. These changes create a chronic inflammatory state in patients. Pregnant women with SCD face increased risks of complications like pre-eclampsia, premature birth, and worsening SCD symptoms. However, there have been no studies investigating biomarkers in pregnant women with SCD. **Objective**: The study aimed to analyze the inflammatory cytokines and chemokines in pregnant women with SCD and compare them with control groups. **Method**: A cross-sectional, exploratory study was conducted using blood samples from four groups: 20 pregnant women with SCD, 24 non-pregnant women with SCD, 16 healthy pregnant women, and 17 non-pregnant healthy women. The researchers measured various chemokines (RANTES, IP-10, MCP-1, MIP) using flow cytometry and cytokines (IL-8, TNF-α, IFN-ɣ, IL-6) via ELISA. **Results**: MCP-1 levels did not differ significantly across the groups. Pregnant women with SCD had higher IP-10 levels compared to the other groups. Serum RANTES levels were higher in healthy pregnant women, while MIG levels were higher in pregnant women with SCD. IL-8 levels were elevated in SCD patients. IL-6 was higher in pregnant women with SCD than in healthy pregnant women. No IFN-ɣ or TNF-α levels were detected. **Conclusion**: Biomarkers such as IL-6 and IP-10 may serve as indicators of inflammation in pregnant women with SCD. Additionally, chemokines IL-8 and MIG are linked to the inflammatory activity in SCD. This pioneering study lays the foundation for future research into predictive markers for inflammatory activity in pregnant women with SCD.

Keywords: Sickle cell anemia; Pregnancy; Biomarkers; Chemokines.

VITAMIN A DEFICIENCY IN PREGNANCY: CRITICAL REVIEW AND AEVALUATION OF USERS OF A MATERNAL AND CHILD REFERENCE CENTERFROM BRAZIL

SABINA BASTOS MAIA

Advisor: Malaquias Batista Filho
Defense date: 2018 jul. 24

Context: Vitamin A is essential for maternal-fetal health, playing a crucial role in morphological and functional development, as well as in ocular integrity. Additionally, it affects several organs and the fetal skeleton, becoming even more necessary during pregnancy. Vitamin A deficiency (VAD) is the leading cause of preventable blindness worldwide and represents a public health issue in many developing countries, including Brazil. However, the available data on the prevalence and severity of VAD during pregnancy are insufficient in Brazil, both at national and regional levels. **Objective**: To analyze the vitamin A nutritional status of pregnant women attended at a maternal-infant reference center in Northeastern Brazil. **Method**: This is a cross-sectional study based on primary data from a survey titled "Nutritional Status of Pregnant Women: Methodological, Epidemiological Aspects, and Implications for Prenatal Care," with a sample of 676 pregnant women. Serum retinol was assessed using High-Performance Liquid Chromatography (HPLC), and subclinical infection was determined by C-reactive protein (CRP). The prevalence of deficient/low and acceptable serum retinol levels, as well as CRP data, were analyzed using relative frequencies and 95% confidence intervals (CI). The relationship between serum retinol levels and CRP was analyzed using the Chi-square test or Fisher's Exact Test (when necessary), with a significance level of $p < 0.05$. Poisson regression models were used to study the prevalence of VAD in relation to various exploratory variables. Variables with $p < 0.20$ in univariate analysis were included in multivariate analysis, and those with $p < 0.05$ remained in the final model. **Results**: The prevalence of VAD (defined as retinol levels < 0.70 µmol/L) was 6.2% (95% CI 4.5;8.3). Statistically significant variables associated with VAD included: less than 12 years of schooling, third trimester of pregnancy, and anemia. In the final multivariate model, two factors remained as significant risks: the third trimester of pregnancy (Prevalence Ratio [PR] 2.85, 95% CI 1.52;5.36) and the occurrence of anemia (PR 2.04, 95% CI 1.14;3.64). **Conclusion**: VAD is a mild public health problem among pregnant women assessed at a reference center in Northeastern Brazil. The deficiency is associated with the third trimester of pregnancy and maternal anemia.

Keywords: vitamin A deficiency; pregnancy; prevalence; risk factors.

SEXUAL DYSFUNCTION IN THE PUERPERAL PREGNANCY CYCLE

JULIANNA DE AZEVEDO GUENDLER

Advisor: Leila Katz
Defense date:2018 sep. 09

INTRODUCTION: During the pregnancy-puerperal period, women may report issues related to sexual function. The prevalence of data on sexual dysfunction during this period is scarce. Assessing sexual health and dysfunction can be challenging for healthcare professionals, especially due to the lack of appropriate tools. A new questionnaire was developed to assess sexual dysfunction in the Brazilian population during pregnancy, but no validated questionnaires have been identified for the postpartum population. **STUDY 1** - **objectives**: To analyze the measurement properties (internal consistency, test-retest reliability, and criterion validity) of the Female Sexual Function Index 6-item version (FSFI-6) for the Brazilian postpartum population. **Methods**: A measurement property study was conducted by applying questionnaires to 100 sexually active postpartum women. The Cronbach's Alpha coefficient was used to evaluate internal consistency. Test-retest reliability was analyzed using the Kappa coefficient for each item of the questionnaire and the parametric Wilcoxon test, comparing total scores from each assessment. To evaluate criterion validity, the Female Sexual Function Index (FSFI) was used as the gold standard, and a ROC curve was constructed. Statistical analyses were performed using SPSS software, version 21.0. **Results**: The internal consistency of the FSFI-6 was considerably high (0.839). The test-retest reliability results were satisfactory. The FSFI-6 showed excellent discriminative validity (AUC = 0.926). Sexual dysfunction is considered present if the total FSFI-6 score is <21, with a sensitivity of 85.5%, specificity of 82.2%, positive likelihood ratio of 4.81, and negative likelihood ratio of 0.18. **Conclusion**: The Brazilian Portuguese version of the FSFI-6 was found to be valid for use in postpartum women. **STUDY 2** - **objectives**: To determine the prevalence of sexual dysfunction during pregnancy and to examine the association of dysfunction with variables such as age, gestational age, marital status, education, religion, occupation, number of children, smoking, alcohol use, drug use, and pregnancy planning. **Methods**: A descriptive, cross-sectional study was conducted with 262 pregnant women aged 18 or older, with gestational ages between 10 and 35 weeks, excluding women with urinary tract infections and high-risk pregnancy conditions. The Pregnancy Sexual Response Inventory (PSRI) questionnaire was used, and Stata 12.1 was employed for statistical analysis. Comparisons of the mean values of sexual function domains were assessed using the t-Student test. Chi-square association tests were used to determine the relationship between independent variables and sexual satisfaction. Prevalence ratios with 95% confidence intervals (CI) were estimated, and multivariate analysis was conducted. A significance level of 0.05 was used. **Results**: A decrease in sexual activity frequency during pregnancy was observed in about 64.9% of women. Just over half of the women (50.8%) were satisfied during pregnancy. Excitement was reported as excellent/good by 30.5% during pregnancy. The frequency of sexual difficulties/dysfunctions increased with pregnancy (from 5.7% to 58.8%). Dyspareunia

was reported by 45.8% of women during pregnancy. Higher education reduced the chance of sexual dissatisfaction by 50%. The total PSRI score showed a significant decrease from the pre-pregnancy period (mean score = 89.8 "excellent") to pregnancy (mean score = 59.2 "good"). **Conclusion**: The average sexual function score during pregnancy was classified as good, although most pregnant women reported at least one type of alteration in the sexual function domains, and sexual dissatisfaction was more frequent among women with lower education levels.

Keywords: pregnancy; postpartum period; surveys and questionnaires; sexuality.

EFFECT OF THE KANGAROO POSITION ON ELECTROMYGRAPHIC ACTIVITY ANDMICROCIRCULATION OF PRETERM NEWBORN

RAFAEL MOURA MIRANDA

Advisor: José Eulálio Cabral Filho
Defense date: 2018 dec. 10

Introduction: The Kangaroo Method (KM) is a model of care for preterm newborns (PTNB) with significant clinical benefits. Its main feature is the Kangaroo Position. Many of the effects promoted by KM have been attributed to the skin-to-skin contact provided by the Kangaroo Position. **Objective**: To evaluate the effect of the Kangaroo Position on the electromyographic activity and microcirculation of PTNB. Methods: A randomized controlled clinical trial was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), Brazil, with PTNB randomly assigned to two groups: Kangaroo Group and Control Group. Electromyographic activity and microcirculatory parameters (blood flow, tissue oxygen saturation (SO2), and temperature) were evaluated in the biceps brachii and hamstring muscles at two time points: before the submission to the Kangaroo Position (T0) and 24 hours after the first evaluation (T1). The electromyographic signal was transformed into Root Mean Square (RMS) (microvolts) and normalized (%). A paired t-test was used to compare the mean of the variables between the two evaluations within the same group. **Results**: There was a difference in electromyographic activity ($p<0.05$), blood flow, and temperature ($p<0.05$) between the evaluation times in the Kangaroo Group; SO2 in the Kangaroo Group for the biceps brachii muscle remained constant, while in the Control Group, there was a reduction ($p = 0.009$). **Conclusions**: The Kangaroo Position in PTNB led to an increase in electromyographic activity, blood flow, and tissue temperature. SO2 in the Kangaroo Group for the biceps brachii muscle remained constant, while in the Control Group, there was a reduction.

Keywords: kangaroo method; preterm newborn; electromyography; microcirculation.

EFFECTS OF AN EDUCATIONAL INTERVENTION ON KNOWLEDGE,ATTITUDES AND PRACTICES OF COMMUNITY HEALTH AGENTS IN HEALTHMATERNAL AND CHILDREN

TEREZA REBECCA DE MELO E LIMA

Advisor: João Guilherme Bezerra Alves
Defense date: 2018 apr. 17

Introduction: The role of Community Health Agents (CHAs) in improving health indicators in low- and middle-income countries has received growing international attention. In Brazil, the CHA is a key part of the Primary Health Care model, with evidence, though of limited quality, suggesting that their work has brought benefits to the health of the Brazilian population, including reductions in mortality and morbidity rates, and improvements in health actions, particularly in maternal and child health. Ensuring the potential of CHAs involves recognizing their role and defining their responsibilities, especially home visits, as well as ensuring appropriate strategies for selection, training, support, and supervision. However, further studies are still needed to identify and evaluate the effectiveness of these workers and approaches to improve their performance, motivation, and productivity. **Objectives**: To evaluate the effects of an educational intervention guided by actions for home visits to pregnant women, mothers, and children, on the knowledge, attitudes, and practices of community health agents. **Methods**: A randomized, controlled educational intervention study was conducted at Family Health Units (USF) in 3 health districts in the city of Recife, Pernambuco, Brazil, from October 2015 to December 2016. The study included CHAs from USF co-managed by the Municipality of Recife and the Community Extension Program of the Instituto de Medicina Integral Prof. Fernando Figueira (PEC-IMIP). Participating teams were randomly assigned to two groups (intervention and control). The CHAs in the intervention group participated in a 4-day, 32-hour training course based on active learning methodologies, with a guide for conducting home visits focused on pregnant women, mothers, and children. CHAs in both groups (intervention and control) were followed for one year after the intervention, and their knowledge, attitudes, and practices were assessed before the intervention (pre-intervention) and up to one year after the intervention (post-intervention) through a questionnaire.The primary outcome was the increase in the overall knowledge, attitudes, and practices (KAP score) of the intervention group at the one-year follow-up compared to baseline and the control group. Secondary outcomes included the increase in the overall score and the percentage of correct responses in each section (knowledge, attitudes, and practices), as well as the percentage of CHAs who improved their score in each section after the training. The data were analyzed using SPSS 13.0 (Statistical Package for the Social Sciences). All tests were applied with 95% confidence. Chi-square tests and Fisher's Exact Test were used to verify associations between categorical variables. For quantitative variables, the Kolmogorov-Smirnov Normality Test was used. The Student's t-

test and Mann-Whitney test were used for comparisons between two groups. For paired group tests, the paired Student's t-test and Wilcoxon test were used. The study was approved by the IMIP Research Ethics Committee (opinion nº 970.358 - 10/02/2015) and had the endorsement of the Recife Health Secretariat. **Results**: Fifty-nine CHAs completed all questionnaires (31 from the intervention group and 28 from the control group). The socio-demographic and work characteristics were similar in both groups. One year after the training, the intervention group had a higher KAP score (120.65 vs. 108.19, p<0.001) compared to the control group, as well as higher scores in knowledge (47.45 vs. 40.54, p<0.001), practices (53.45 vs. 49.11, p<0.001), and attitudes (19.74 vs. 18.81, p=0.047). The intervention group also maintained a significant increase in the overall KAP score compared to their baseline score (120.65 vs. 106.55, p<0.001), as well as in knowledge (45.45 vs. 42.13, p<0.001) and practices (53.45 vs. 45.29, p<0.001). In the control group, the KAP score (106.59 vs. 108.19, p=0.345), as well as the separate scores for knowledge, attitudes, and practices, remained unchanged. **Conclusion**: A 32-hour course, based on active learning methodologies and with a guide for conducting home visits focused on pregnant women, mothers, and children, produced sustained improvements in the knowledge, attitudes, and practices of CHAs. This model can ensure the retention of acquired competencies.

Keywords: community health agentes; maternal and child health; home visits; primary health care; on-the-job training; continuing education.

FACTORS ASSOCIATED WITH FETAL AND NEONATAL ADIPOSITY:COHORT STUDY

ALINE SILVA SANTOS SENA

Advisor: Melânia Maria Ramos de Amorim
Defense date: 2018 aug. 13

Introduction: Among the factors related to metabolic changes, fetal adiposity, and adiposity at birth, maternal nutritional status, metabolic profile, and gestational weight gain stand out. The assessment of fetal and neonatal adiposity through ultrasonography can become a promising method to help map a metabolic risk profile, as well as to begin the prevention of chronic diseases during the intrauterine period. Objective: To determine the factors associated with fetal and neonatal adiposity. **Methods**: A secondary data analysis was conducted on a cohort of 187 pairs of pregnant women and fetuses, evaluated at the 16th, 28th, and 36th weeks of gestational age, and neonates assessed within the first ten days after birth, at the Institute for Research Professor Joaquim Amorim Neto (IPESq). Pregnant women were recruited from health units in the municipality of Campina Grande/PB, Brazil, with a gestational age of 16 weeks or less, and were assessed through ultrasonography for fetal biometrics, visceral and subcutaneous adiposity of the mother, fetus, and neonate. Maternal and neonatal anthropometric and metabolic measurements were assessed, including glucose, insulin, glycated hemoglobin, insulin resistance (IR), triglycerides, total cholesterol, and fractions. Statistical analysis was performed using the software Epi-Info v.7.2.2.6 and Medcalc v. 18.6. The Pearson correlation coefficient was used to determine the association of independent variables with dependent variables (fetal adiposity at the 28th and 36th weeks and neonatal adiposity), considering a significant level of 5%. A stepwise multiple linear regression analysis was performed, initially including variables associated with the outcome at a significance level of 20% in the bivariate analysis and remaining in the final model those that were associated with the outcome at a significance level of 5%. The study is in compliance with Resolution 466/12 of the National Health Council and was approved by the Research Ethics Committee of the University Hospital of the Federal University of Campina Grande/PB (CAAE: 7055.9817.2.0000.5182). **Results**: The average fetal visceral adiposity presented at the 28th week was 4.4±0.5 millimeters (mm) and at the 36th week, 6.1±0.6 mm. A high frequency of pregnant women with overweight/obesity was observed (38.1%). After multiple linear regression analysis, the following factors remained associated with fetal visceral adiposity at the 28th week: thigh area (p<0.0001), fetal abdominal circumference (p<0.0001), thigh circumference (p<0.0001), and head circumference at the 36th week (p=0.01). At the 36th week, the fetal abdominal circumference at the 28th week (p=0.02) and at the 36th week (p<0.0001) remained associated with fetal visceral adiposity. In neonates, subcutaneous adiposity remained associated after multivariate analysis with visceral

adiposity (p=0.00) and maternal weight (p=0.00) at the 16th week, as well as with fetal variables: fetal thigh circumference at the 28th week (p=0.03), femur length at the 36th week (p=0.02), and neonatal visceral adiposity (p<0.0001). Neonatal visceral adiposity remained associated with maternal subcutaneous adiposity at the 16th week (p=0.00) and neonatal variables: abdominal circumference (p=0.04), subcutaneous adiposity (p<0.0001), and IR (p=0.03). **Conclusion**: A significant association was found between fetal visceral adiposity and abdominal circumference, a measurement of central adiposity distribution. Neonatal visceral adiposity remained associated with abdominal circumference, subcutaneous adiposity, and insulin resistance at birth, factors related to metabolic health. The real role of maternal factors, such as nutritional status and gestational weight gain, modifiable and potentially preventable risk factors, remains to be elucidated in future studies.

Keywords: pregnancy; adiposity; weight gain; abdominal obesity; birth weight; fetal ultrasonography

FACTORS ASSOCIATED WITH ADVERSE MATERNAL AND PERINATAL OUTCOME INA HIGH-RISK SCHOOL MATERNITY IN NORTHEAST BRAZIL

TELMO HENRIQUE BARBOSA DE LIMA

Advisor: Leila Katz
Defense date: 2018 fev. 05

Scenario: Maternal mortality, maternal near miss, fetal death, early and late neonatal mortality, and neonatal near miss constitute serious public health problems due to their severe consequences and should be a permanent focus of government policies aimed at improving maternal and child health care. Objective: To identify the factors associated with maternal adverse outcomes (maternal near miss) and perinatal outcomes (neonatal near miss) and their health indicators, in a population of pregnant women, puerperae, and neonates admitted to a high-risk maternity hospital in northeastern Brazil, between June 2015 and May 2016. **Methods**: An analytical study of the prospective cohort type was conducted. All pregnant women admitted to the Maternidade Escola Santa Mônica, located in the municipality of Maceió, Alagoas (Brazil), between June 2015 and May 2016, were included. Their sociodemographic and obstetric characteristics, healthcare delays, maternal near miss, and neonatal near miss were analyzed through interviews and medical records. Pregnant women who had not been discharged by the end of the study period or those who could not be contacted after the 42nd day postpartum were excluded from the data collection for maternal and neonatal near miss control. Statistical analysis was performed using Epi-Info 7, with Chi-square and Fisher's exact tests, considering a 5% significance level. Bivariate analysis was conducted to verify differences between groups, and all variables evaluated in the bivariate analysis were subsequently included in the multivariate analysis using stepwise multiple logistic regression, based on a hierarchized theoretical model with the adverse outcomes of maternal and neonatal near miss as response variables. **Ethical Aspects**: The research complied with the resolutions of the Helsinki Declaration and Resolution 466/2012 of the National Health Council. There were no ethical conflicts in conducting the study. The study was approved by the Research Ethics Committee involving human subjects at UNCISAL, under number CAAE 37977014.0.0000.5011. All puerperae who were included voluntarily agreed to participate and signed an Informed Consent Form. **Results**: A total of 1,094 pregnant women were studied, of which 682 (62.4%) had no maternal adverse outcomes (SDAM) and 412 (37.6%) had maternal adverse outcomes (CDAM), with 352 (85.4%) presenting potentially life-threatening conditions (CPAV), 55 (13.4%) cases of maternal near miss, and five (1.2%) maternal deaths. During this period, 1,002 live births occurred in the maternity hospital, resulting in a maternal near miss rate of 54.8/1,000 live births. There were 1,051 births in total, of which 723 (68.8%) had no perinatal adverse outcomes (SDAP) and 328 (31.2%) had perinatal adverse outcomes (CDAP), including 221 (67.4%) neonatal near miss (NMN) cases, 49 (14.9%) fetal deaths, 44 (13.4%) early neonatal deaths, and 14 (4.3%) late neonatal deaths. The neonatal near miss rate was 220/1,000 live

births. After multivariate analysis, factors that remained significantly associated with an increased risk for neonatal near miss were fewer than six prenatal visits (OR: 3.57; 95% CI: 2.57-4.94) and malformations (OR: 8.74; 95% CI: 3.69-20.90), while maternal age over 35 years (OR: 0.43; 95% CI: 0.23-0.83) and a previous cesarean section (OR: 0.45; 95% CI: 0.29-0.68) were identified as protective factors for neonatal near miss. Factors associated with maternal near miss were fewer than six prenatal consultations (OR: 3.13; 95% CI: 1.73-5.64) and cesarean section in the current pregnancy (OR: 2.91; 95% CI: 1.45-5.82). **Conclusions**: Maternal and neonatal near miss seem to be preventable precursors of maternal and neonatal mortality. It is suggested that audits should be carried out for all cases of near miss. Inadequate prenatal care and the presence of malformations increased the risk of neonatal near miss, while older maternal age and previous cesarean sections were protective factors. The factors associated with maternal near miss included fewer than six prenatal visits and cesarean section in the current pregnancy. There is a need to improve the quality and quantity of prenatal visits and identify innovative, viable models of care that value normal childbirth and reduce unnecessary cesarean section rates.

Keywords: maternal mortality; severe maternal morbidity; maternal near miss; neonatal mortality; neonatal near miss; fetal death.

MISOPROSTOL 12.5µg SUBLINGUAL VERSUS MISOPROSTOL 25µg VAGINAL FORINDUCTION OF LABOR AT TERM: RANDOMIZED CLINICAL TRIAL

DANIELE SOFIA DE MORAES BARROS GATTAS

Advisor: Alex Sandro Rolland de Souza
Defense date: 2018 jun. 25

Introduction: There are several methods of labor induction available. However, the most effective method with the lowest frequency of adverse effects is still unknown. Misoprostol, administered vaginally, has been routinely used for this purpose. However, other routes of administration, such as sublingual tablets, are being proposed. There are no studies comparing the effectiveness and safety of sublingual misoprostol (12.5 µg) versus vaginal misoprostol (25 µg) for labor induction. **Objective**: To compare the frequency of tachysystole between sublingual misoprostol 12.5 µg and vaginal misoprostol 25 µg for labor induction in term, live fetuses. **Methods**: A randomized, placebo-controlled, triple-masked, multicenter clinical trial was conducted at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) and Maternidade-Escola Assis Chateaubriand at the Universidade Federal do Ceará (UFC). A total of 198 patients with an indication for labor induction at term, live fetuses, and a Bishop score of six or less were randomized into two groups. One group received a 12.5 µg sublingual misoprostol tablet and vaginal placebo, and the other group received a placebo sublingual tablet and 25 µg vaginal misoprostol. The primary outcome was the frequency of tachysystole. Statistical analysis included the Student's t-test, Chi-square test, and Fisher's exact test when appropriate. The risk ratio and 95% confidence interval were calculated. The study was approved by the Ethics Committees of IMIP (2137-11) and MEAC-UFC (59-11). **Results**: The frequency of tachysystole was lower in the group that used sublingual misoprostol 12.5 µg compared to the group that used vaginal misoprostol 25 µg (RR 0.15; 95% CI 0.02-0.97; p=0.002). The rate of vaginal delivery at 12 (RR 0.92; 95% CI 0.56-1.51; p=0.76) and 24 hours (RR 1.14; 95% CI 0.83-1.57; p=0.41) was similar between the two groups. Maternal preference for the route of induction was higher for sublingual administration (RR 1.31; 95% CI 0.96-1.78; p=0.08). **Conclusion**: The effectiveness of inducing labor with low-dose sublingual misoprostol was similar to vaginal administration, but the rate of tachysystole was lower in the sublingual group, suggesting it may be a safer alternative.

Keywords: labor induction; multicenter study; clinical trial; sublingual misoprostol administration.

HEARING HEALTH CARE POLICY: EVALUATIVE STUDY IN CENTERSREHABILITATION SPECIALISTS IN MACEIÓ

NAYYARA GLICIA CALHEIROS FLORES

Advisor: Suely Arruda Vidal
Defense date: 2018 jul. 11

Introduction: In order to provide assistance to people with disabilities, the Ministry of Health established the Network of Care for People with Disabilities within the Unified Health System (SUS), creating the National Policy for Hearing Health Care (PNASA). The policy led to the creation of Specialized Rehabilitation Centers aimed at diagnosing, treating, and rehabilitating individuals with hearing impairments.**Objective**: To analyze the implementation of the hearing health policy in the specialized hearing rehabilitation centers in Maceió, considering the organizational context in terms of the degree of implementation and to assess the responsiveness from the clients' perspective.**Methods**: The study was conducted in two stages. In the first stage, evaluative research on the implementation process was carried out, investigating the influence of contextual determinants on the degree of implementation, using a normative evaluation of the dimensions of structure and process. A logical model and indicator matrix were developed, and structured questionnaires and checklists were applied to the coordinators and health teams of the four evaluated centers, as well as to representatives from municipal and state management, hearing health coordinators, and center coordinators. Data was collected from January to April 2016, and the degree of implementation was classified as "satisfactory implementation," "partial implementation," and "incipient implementation." The influence of the context was analyzed using Matus' categorization of government projects, government capacity, and governability. Based on these categories, the organizational context was classified as "favorable," "favorable with fragility," and "unfavorable."In the second stage, the study of responsiveness addressed the dimensions of "client expectations and perceptions," grouped into "respect for people" and "customer orientation." A descriptive, quantitative study was conducted using a questionnaire based on the World Health Organization's Multi-Country Survey Study instrument. It was applied to 117 users in Unit A, 65 in Unit B, 79 in Unit C, and 98 in Unit D. A Likert scale was used, with responses ranging from one to four points. The study was approved by the Ethics Committee in Research of the State University of Health Sciences of Alagoas (CAAE 48417315.1.0000.5011). **Results**: The results are presented in the form of two articles. The first article showed that the implementation was completed in three units (A, B, and C), and partially implemented in Unit D. Regarding the context, the government project was found to be intermediate, government capacity was advanced in Units A, B, and C, and incipient in Unit D. Governability was advanced in Units A, B, and C and intermediate in Unit D. Units A, B, and C showed an advanced context and full implementation. The second article demonstrated positive evaluations regarding issues related to dignity. In the "Emergency care/agility" and "autonomy" dimensions, negative aspects were the waiting time for otolaryngological consultations and the right to choose the professional. The waiting time for hearing aids

ranged from 3 to 6 months in Units A, B, and C, and 6 to 9 months in Unit D. Regarding "basic services," most rated cleanliness as good and ventilation as poor. Units A, B, and C were rated very good for ease of location, signage, and access to the right to complain, while Unit D was rated poor. It was found that the domain with the best expectations was "reliability," while the worst-rated was "professional choice." **Conclusions**: The results showed the positive influence of organizational contexts in Units A, B, and C on the degree of implementation, and the repercussions in Unit D, which had a lower degree of implementation, mainly due to the components of Management and Health Education. Most of the domains evaluated in terms of responsiveness received a positive evaluation.

Keywords: health evaluation, hearing loss, hearing aids, rehabilitation, health services, responsiveness.

PREEMPTIVE ANALGESIA WITH AMITRIPTYLINE IN ABDOMINAL HYSTERECTOMYRANDOMIZED CLINICAL TRIAL

ANTONIO HENRIQUES DE FRANCA NETO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2019 jun. 25

Introduction: Postoperative pain is a significant morbidity factor in patients undergoing surgery, and several studies have been conducted over time to discover new methods of prevention and treatment for this condition. The concept of preemptive analgesia, although an old one, had been set aside but has been revisited in recent years. The use of drugs in the preoperative period that could prevent the occurrence of postoperative pain has been the subject of recent research. Amitriptyline, a tricyclic antidepressant used to treat chronic pain conditions, acts on pain transmission pathways, making it theoretically suitable for use as a preventive agent for postoperative pain. **Objective**: To evaluate the effectiveness of amitriptyline in preventing postoperative pain in patients undergoing total abdominal hysterectomy. **Methods**: A double-blind, randomized clinical trial was conducted with 145 patients, who received 25 mg of amitriptyline (n=72) or a placebo (n=73) before surgery. The patients were evaluated for pain at 6, 12, 24, and 48 hours after the procedure. Pain was assessed using scores obtained from the Visual Analog Scale (VAS) and the pressure pain threshold measured by an algometer. Additional aspects, such as patient satisfaction (measured using the revised face scale), side effects, and surgery duration, were also analyzed. The Chi-square test was used to compare categorical variables, and Fisher's exact test was used when appropriate. For continuous numerical variables with a normal distribution, the Student's t-test was used. Non-normally distributed numerical variables and ordinal variables were compared using the Mann-Whitney test. A significance level of 5% was adopted for all analyses, with two-tailed p-values. **Results**: No statistically significant differences were found in the pain scores by VAS or in pain measurement by the algometer between the two groups at any of the evaluation times. There were also no differences in patient satisfaction between the groups. **Conclusion**: Amitriptyline at a dose of 25 mg is not effective in preventing postoperative pain in patients undergoing abdominal hysterectomy.

Keywords: analgesia; amitriptyline; hysterectomy.

EVALUATION OF THE EFFECTIVENESS OF COMPREHENSIVE CARE INTERVENTION IN ORAL HEALTH FOR PREGNANT WOMEN IN A MUNICIPALITY IN NORTHEAST BRAZIL

JULIANA RIBEIRO FRANCELINO SAMPAIO

Advisor: José Eulálio Cabral Filho
Defense date: 2019 nov. 14

Introduction: Oral health practice in primary care requires a new model of approach, focused on comprehensive care for the user, especially pregnant women. During pregnancy, natural organic changes occur, including changes in the oral cavity, which requires health professionals to have shared knowledge for a differentiated approach in prenatal care. **Objective**: To evaluate the effectiveness of an integrated oral health care intervention for pregnant women in primary care in a municipality in northeastern Brazil. **Methods**: An evaluative study was conducted using the modified Delphi technique for validating the model of integrated care intervention and the indicators matrix. Eleven specialists in primary care and/or maternal and child health formed a group of experts who evaluated the relevance and pertinence of the content through numerical and nominal responses in three rounds. Consensus was defined if the total of maximum scores reached more than 50% of the total and relevance was categorized as "indispensable" or "dispensable." A cluster-randomized community clinical trial was carried out to evaluate the effectiveness of the consensual intervention, which consisted of joint prenatal care with a dentist and biweekly health education meetings in conversation circles. Random allocation of clusters and random sampling without replacement for the selection of health units was conducted using BioEstat version 5.3. The sample size used was 198, but the final analysis was based on 146 pregnant women. The intervention group (GI = 58 women) was allocated in cluster A and the control group (CG = 88 women) in cluster B, with routine prenatal care. The study took place from June 2017 to January 2019. Outcome measures included pregnancy complications, fetal health, and maternal oral health. Content Validity Coefficient (CVC) tests were applied to quantitatively evaluate consensus and regression analysis (univariate and multivariate) was used to assess effectiveness, calculating the Odds Ratio (OR) with a 95% confidence interval (CI) and generalized estimating equations, all with a significance level of $p < 0.05$. **Results**: The post-consensus intervention model consisted of three dimensions: assistance, promotion, and surveillance, with educational activities distributed by each trimester of pregnancy. The evaluation indicators matrix initially contained 20 indicators, 17 of which had a CVC > 0.8, and it was finalized with 26 indicators based on expert suggestions. The clinical trial analysis, using univariate logistic regression, showed that the odds ratio for low birth weight was 4.42 times higher in the control group compared to the intervention group (p = 0.05) and 3.64 times higher in women with intermediate oral health risk (p = 0.038). Factors increasing the risk of preterm birth included high initial and final oral health risk, pre-eclampsia (p < 0.05), hypertension (p < 0.001), and gestational diabetes (p = 0.05). In multivariate regression, variables such as the intervention group and maternal age between 20 and 35 years remained

significant as protective factors for low birth weight and maternal complications, predictors for prematurity ($p < 0.05$). In generalized estimating equations analysis, no statistically significant differences were found in relation to oral health risk over time between the groups (initial/final), although the high oral health risk in the intervention group decreased from 29.3% to 12.1%, and in the control group from 36.4% to 21.5% ($p = 0.81$). **Conclusions**: The construction and validation process through the modified Delphi technique of the theoretical model and indicator matrix for integrated oral health care intervention for pregnant women in primary care was a fundamental step for robust evaluation indicators. It reflected consensus on maternal and childcare and provided legitimacy due to its collective production, with expert participation. The tested intervention showed effectiveness in gestational outcomes and maternal oral health. Belonging to the intervention group was a protective factor for low birth weight. In terms of oral health risk, there was improvement in the oral condition of both groups. The multidisciplinary approach during prenatal care in primary care with comprehensive care positively contributed to self-care in oral and general health for pregnant women, leading to benefits for future generations and the quality of life of women.

Keywords: validation studies; health evaluation; consensus conferences; oral health; prenatal care; clinical trial; comprehensive health care.

EVALUATION OF THE EXPRESSION OF FAS, FASL, CD44 AND OX40 MOLECULES INPERIPHERAL BLOOD FROM INFERTILE WOMEN WITH ENDOMETRIOSIS

ALTINA CASTELO BRANCO ALMEIDA BARROS

Advisor: Leuridan Cavalcante Torres
Defense date: 2019 apr. 30

Introduction: Endometriosis is a benign gynecological disease characterized by the presence of endometrial tissue outside the uterus. In endometriosis, the implantation of endometrial cells occurs due to a favorable hormonal environment associated with immune system dysregulation, which leads to the exacerbation of the inflammatory response. There are mediators synthesized during the inflammatory process that are present in inflammatory diseases, autoimmune disorders, and cancer, but their roles are still not well understood. **Objectives**: To evaluate the expression of the molecules FAS, FASL, CD44, and OX40 in the blood of women with mild and severe endometriosis. **Methods**: This was a translational and exploratory study involving 40 women with endometriosis diagnosed by laparoscopy and confirmed by biopsy. Of these, 25 were diagnosed with endometriosis stages I/II (mild; median age 36.0 years, interquartile range – IQR: 32-39), and 15 with stages III/IV (severe; median age 34.0 years, IQR: 32-37), according to the American Fertility Society criteria. The analyses of CD44, FAS, and OX40 on the surface of lymphocytes and subpopulations were performed by flow cytometry. The analysis of sFASL and sCD44 was conducted by Enzyme-Linked Immunosorbent Assay (ELISA). Statistical analyses were performed using GraphPadPrism6 (Graphpad SoftwareInc., USA), and the non-parametric Mann-Whitney test was used for data comparison. A p-value <0.05 was considered significant. **Results**: The relative values of total lymphocytes and T lymphocytes expressing FAS+ in stages III/IV were higher compared to stages I/II of endometriosis (p=0.01). The relative values of total lymphocytes expressing CD44high were higher in stages I/II compared to stages III/IV (p=0.002). No difference was observed in the levels of sFASL and sCD44 between the two groups (stage I/II and III/IV). Elevated percentages of TCD8+ lymphocytes were found in patients in stages III/IV compared to those in stages I/II of the disease (p=0.009). No significant differences were observed between the groups in the percentages of total lymphocytes, TCD3+, and TCD4+. Elevated relative values of total lymphocytes/OX40+, TCD3+/OX40+, and TCD4+/OX40+ were observed in the group in stages III/IV compared to the group in stages I/II of endometriosis (p=0.01, p=0.008, and p=0.005, respectively). No significant difference was found in the levels of TCD8+/OX40+ between the groups. **Conclusion**: The alterations found in the expression of the molecules FAS and OX40 in circulating lymphocytes in women with endometriosis are associated with advanced stages of the disease. While higher levels of CD44high in total lymphocytes were observed in the milder stage of the disease, this may be explained by its role in adhesion and cell migration, facilitating the implantation of ectopic endometriotic tissue, which is more present in the early phase of the disease. Therefore, these molecules could be potential biomarkers, with the first two showing a direct proportional relationship with disease severity and CD44high showing an inverse proportional relationship. Further studies with a larger number of patients are needed to confirm this hypothesis.

Keywords: endometriosis; CD44; sCD44; FAZ; sFASL; OX40; lymphocytes.

FUNCTIONAL ASSESSMENT OF THE PELVIC FLOOR IN FIRMS AFTER BIRTH VAGINAL WITH AND WITHOUT EPISIOTOMY

LORENA CARNEIRO DE MACEDO

Advisor: Melania Maria Ramos de Amorim
Defense date: 2019 apr. 29

Introduction: Despite recommendations from several guidelines, including the World Health Organization (WHO), against the routine use of episiotomy, this procedure remains one of the most commonly performed in obstetric practice worldwide. Most studies on the pelvic floor in the postpartum period do not differentiate between women who underwent episiotomy and those who did not, and there are few studies that have assessed the electrophysiological behavior of pelvic floor muscles (PFM) in postpartum women. **Objective**: To evaluate the functionality of the pelvic floor muscles in primiparous women after vaginal delivery with and without episiotomy. **Methods**: A cross-sectional study was conducted, approved by the Research Ethics Committee of IMIP (CAAE 48639015.9.0000.5201), at the Paraibano Institute of Research Prof. Joaquim Amorim Neto (IPESQ), including 62 women: primiparous postpartum women with episiotomy (n=20), without episiotomy (n=19), and nulliparous women (n=23). Biological, sociodemographic, obstetric, neonatal characteristics, and functional characteristics of the pelvic floor were assessed. The primiparous women were evaluated three to six months after delivery. A functional evaluation of the pelvic floor was performed through surface electromyography and digital palpation with the Functional Pelvic Floor Assessment Scale (EAFAP), developed for this study, addressing parameters such as reflex, response, tone, pain, mechanism, intensity, symmetry, relaxation, and coordination. Electromyographic activity was recorded using a vaginal probe (MAPINT) and a surface electrode placed externally on the superficial perineal muscles (MAPEXT). Before recording the electrical activity, biofeedback electromyographic training was performed to teach the participant to isolate contractions of the pelvic floor muscles. Then, three maximal, voluntary, successive contractions of the pelvic floor muscles were requested, with a duration of five seconds and a ten-second rest between them. The data were analyzed using the SPSS statistical software package version 20.0, with the Shapiro-Wilk test used to check the normality of the data distribution. To compare the differences between groups, Levene's test, one-way Analysis of Variance (ANOVA), and Tukey's post-hoc test were used. For non-parametric intergroup comparisons, the Kruskal-Wallis test and Dunn's post-hoc test were applied. A significant level of 5% was considered. **Results**: The mean electromyographic activity of the MAPINT in the group of women with episiotomy was 6.63 ± 2.52 µV, in primiparous women without episiotomy it was 15.59 ± 3.61 µV, and in nulliparous women it was 27.45 ± 4.5 µV, a difference that was statistically significant between the groups ($p<0.001$). The Functional Pelvic Floor Assessment Scale showed internal validity (Cronbach's alpha = 0.786). The EAFAP results showed a median of 10 points (IQR = 9–12) for nulliparous women, six points (IQR = 2–8) for primiparous women without episiotomy, and five points (IQR = 2–9) for primiparous women with episiotomy, a difference that was also statistically significant between the groups ($p<0.001$). **Conclusion**: The pelvic floor muscles of nulliparous women have better muscle function than those of primiparous women after normal delivery. Primiparous women without episiotomy have better muscle function of the pelvic floor muscles compared to primiparous women with episiotomy.

Keywords: pelvic floor; electromyography; episiotomy; postpartum period.

DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF COURSE SPECIALIZATION IN ONCOLOGY MANAGEMENT FOR HEALTHCARE PROFESSIONALS IN THE HYBRID TEACHING MODE (BLENDED LEARNING)

RAPHAELLA AMANDA MARIA LEITE FERNANDES

Advisor: Flavia Augusta de Orange Lins da Fonseca e Silva
Defense date: 2019 dec. 05

Introduction: Identifying effective methods to ensure that the healthcare system operates efficiently has a substantial impact on the creation of a competent healthcare institution. Thus, healthcare has implemented Quality Management as an essential strategy in patient care. This approach addresses key points such as protocols and guidelines for decision-making, process and treatment flow evaluation, data and health indicator analysis, and the interaction of various healthcare professionals. However, one barrier to the implementation of a well-structured management system is qualifying healthcare professionals to carry out such functions. **Objective**: To develop and evaluate a specialization course in Oncology Management in a blended learning format for healthcare professionals. **Methodology**: This is a Methodological Development study in Education involving an educational intervention that consisted of a blended learning Oncology Management course. The study was conducted at Professor Fernando Figueira Integral Medicine Institute (IMIP) between July 2017 and April 2019. The population consisted of healthcare professionals from the state of Pernambuco and master's students in Education. For the planning, development, implementation, and evaluation of the course, the ADDIE Instructional Design model was used, which involves five phases: Analysis, Design, Development, Implementation, and Evaluation. The evaluation data were collected two months after the course ended, following Kirkpatrick's model, assessing the first three levels. For this analysis, a Likert-type questionnaire with 27 questions and 5 response options ranging from "strongly agree - category 5" to "strongly disagree - category 1" was used. The research was approved by the Research Ethics Committee (CEP) of the institution under CAAE: 94020518.9.0000.5201. **Results**: The course was developed in a modular format, presenting 10 sequential modules. The modules were developed in in-person meetings held once a month, with 12 hours of class per meeting, totaling 120 hours in-person, and distance education through a Virtual Learning Environment (VLE) with 240 hours. Two months after the training, 41 participants, out of the 45 who completed the course, responded to the online Likert-type questionnaire containing questions about their satisfaction, learning, and behavioral changes, the first three levels of Kirkpatrick's evaluation model. In the analysis of the first level of Kirkpatrick's model, all questions had over 90% of responses in categories 4 and 5, showing high satisfaction among the students with the educational intervention. In the analysis of learners' progress, the second level of Kirkpatrick's model, all questions received more than 87% of responses in categories 4 or 5, indicating high learning rates. Finally, in the third level analysis, the mode of the responses to all questions was 4 or 5, indicating a satisfactory change in the routine and behavior of the professionals

after the intervention. **Conclusion**: An Oncology Management course was developed in a blended learning format for healthcare professionals using the ADDIE Instructional Design model. The educational intervention was satisfactory when evaluated at the first three levels of Kirkpatrick's Evaluation Model, showing that blended learning as a pedagogical approach in continuing education for postgraduate studies can be used, demonstrating excellent levels of student satisfaction. Furthermore, active methodologies can be used in postgraduate education with high satisfaction levels.

Keywords: continuing education; professional practice management; healthcare management; health education; distance education.

EFFECTIVENESS AND SAFETY OF ANTIRETROVIRAL THERAPY CONTAINING LOPINAVIR/RITONAVIR, ATAZANAVIR/RITONAVIR, EFAVIRENZ OR DOLUTEGRAVIR AS FIRST LINE OF TREATMENT IN ADULTS LIVING WITH HIV

MARINA GABRIELLA PEREIRA DE ANDRADA MAGALHAES

Advisor: Luiz Claudio Arraes de Alencar
Defense date: 2019 dec. 10

Introduction: The main goal of antiretroviral therapy (ART) is to achieve and sustain viral suppression, as well as to prevent progression to AIDS. However, HIV can develop resistance to antiretrovirals (ARVs), and these drugs may also have toxicity profiles that affect the risk and/or control of comorbidities and adherence to treatment, necessitating constant monitoring of these changes. This thesis presents two studies. **Objective**: To evaluate the effectiveness and safety of ART containing lopinavir/ritonavir, atazanavir/ritonavir, efavirenz, or dolutegravir as first-line treatment in adults with HIV infection, followed up in a reference service in Pernambuco from 1996 to 2018. **Method**: Two retrospective observational studies were conducted through the analysis of medical records and laboratory information systems of adult individuals living with HIV-1, followed up in a specialized healthcare service in Recife, Pernambuco, Brazil. **Results of the first study**: A total of 264 patients who started ART between 1996 and 2018 were evaluated. The regimens containing LPV/r, ATV/r, EFV, and DTG were effective in viral suppression (87.3%) and in increasing CD4+ T lymphocytes (CD4+ LT) to over 500 cells/mm^3 in 63.0% of the patients. Regarding adverse effects, at least one adverse reaction related to ART occurred in 38.0% of patients, and it was found that patients using regimens containing DTG had a lower risk of adverse effects compared to other ARVs (RR 0.11, 95% CI [0.04–0.29], p < 0.001). **Resultsof the second study**: A total of 1,359 individuals were evaluated over a period of 15 years (2000 to 2015), and a prevalence of 32.8% of virological failure was observed. ARV regimens containing protease inhibitors had a failure rate between 30% and 40%, while regimens containing non-nucleoside reverse transcriptase inhibitors failed 18% to 45% of the time. Most of the genotyped patients showed resistance to nevirapine (72.7%), EFV (68.2%), and lamivudine (65.2%). In contrast, only 4.6% of patients showed resistance to LPV/r and 9.1% to ATV/r. Among patients who experienced virological failure, only 20.9% underwent genotyping. **Conclusion**: The ARVs studied showed similar therapeutic effectiveness; however, DTG demonstrated superior tolerability compared to the ARVs previously recommended in Brazilian guidelines. Nonetheless, both studies showed that adherence to ART was an independent protective factor for treatment effectiveness.

Keywords: HIV infections; antiretrovirals; side effects, and drug-related adverse reactions.

THE PRACTICE OF BREASTFEEDING AND ITS INFLUENCE ON HOSPITALIZATIONS CHILDREN RESIDENT IN A SUBNORMAL URBAN CLASS IN RECIFE-PE

THAYSA THATYANA ARAGAO GUERRA MOTA

Advisor: Malaquias Batista Filho
Defense date: 2020 May 28

Introduction: The health effects of breastfeeding are well recognized. It is known that breast milk improves child survival and development, saves women's lives, and contributes to the development of human capital. From this perspective, understanding that recommendations for ideal breastfeeding practices are still far from being achieved highlights the need to protect children's health, with breast milk playing a crucial role in preventing hospitalizations and their consequences. **Objectives**: To evaluate the influence of breastfeeding on hospitalizations of children under three years old, identifying the main diseases and factors associated with these hospitalizations in a population living in extreme poverty in Recife, Pernambuco. **Methods**: A population-based, observational study was conducted using secondary data from the survey "Health, Nutrition, and Social Services in a Slum Population of Recife." The study was censal, collecting data from all 310 children aged 0 to 36 months in that locality. Interviews were conducted with their mothers and/or caregivers between July and October 2015. An ad hoc file was created from the original records, and the variables of interest were studied. Data were analyzed using Stata version 12.1. The analysis of associations between the frequency and number of hospitalizations based on breastfeeding characteristics was conducted using Fisher's exact test and regression analysis with the Wald Test. The crude and adjusted prevalence ratios were estimated with 95% confidence intervals, and statistical significance was considered at a p-value < 5%. The study was approved by the CEP/IMIP under approval number 3.387.279 and CAAE 14559019.5.0000.5201. **Results**: Breastfeeding was a key determinant in reducing the number of hospitalizations among children living in slums. Comparing the percentages of hospitalized children, those who were breastfed for ≥4 months accounted for 18.4% of the sample, those weaned early 28.7%, and those who were never breastfed 41.7%. Regarding disease causes, specifically pneumonia, the proportion of hospitalized children who were exclusively breastfed was four times lower (2.4%) compared to those weaned early (4.2%) and eight times lower than those never breastfed (16.7%). In terms of hospitalization frequency, children who were exclusively breastfed had the lowest percentage of no events and the lowest occurrence of a single event compared to the other categories. Of the 21 variables studied to find associations with hospitalizations among children under three years old, the final model showed statistical significance for premature birth (p=0.040), maternal employment (p=0.005), and water for drinking (p=0.012). **Conclusions**: Both the type and duration of breastfeeding are determining factors in reducing hospitalizations among children living in slums. Variables associated with the outcome were prematurity, maternal employment, and water for drinking. This study suggests that actions aimed at promoting, protecting, and supporting breastfeeding should be reinforced to minimize infant morbidity and mortality, especially in areas of extreme poverty.

Keywords: breastfeeding; hospitalization; poverty; Brazil.

CLINICAL, MUNOLOGICAL AND MOLECULAR EVALUATION OF PATIENTS WITH ADVERSE EVENT TO BCG VACCINE

PAULA TEIXEIRA LYRA

Advisor: Luiz Claudio Arraes de Alencar
Defense date: 2020 jul. 07

Introduction: The health benefits of breastfeeding are widely acknowledged. Breast milk has been shown to enhance child survival and development, save women's lives, and contribute to the development of human capital. Given that recommended breastfeeding practices are still not fully achieved, there is a need to protect children's health, with breast milk playing a critical role in preventing hospitalizations and their associated consequences. **Objectives**: To evaluate the impact of breastfeeding on hospitalizations of children under three years old, identifying the primary diseases and factors associated with these hospitalizations in a population living in extreme poverty in Recife, Pernambuco. **Methods**: This population-based, observational study utilized secondary data from the "Health, Nutrition, and Social Services in a Slum Population of Recife" survey. The study was censal, gathering data from all 310 children aged 0 to 36 months in the area. Interviews were conducted with their mothers and/or caregivers between July and October 2015. Data were analyzed using Stata version 12.1. Fisher's exact test and regression analysis with the Wald Test were used to analyze the associations between breastfeeding characteristics and hospitalization frequency. The crude and adjusted prevalence ratios with 95% confidence intervals were estimated, considering a p-value < 5% as statistically significant. The study was approved by CEP/IMIP under approval number 3.387.279 and CAAE 14559019.5.0000.5201. **Results**: Breastfeeding significantly reduced the number of hospitalizations among children in slums. Of the hospitalized children, 18.4% had been breastfed for ≥4 months, 28.7% had been weaned early, and 41.7% had never been breastfed. When looking at specific diseases, particularly pneumonia, the proportion of hospitalized children who were exclusively breastfed was four times lower (2.4%) than those weaned early (4.2%) and eight times lower than those who were never breastfed (16.7%). Children who were exclusively breastfed had the lowest frequency of hospitalization events, with fewer children experiencing no events or only one event. In the analysis of 21 variables, significant associations with hospitalization included premature birth (p=0.040), maternal employment (p=0.005), and access to clean drinking water (p=0.012). **Conclusions**: Both the type and duration of breastfeeding are crucial factors in reducing hospitalizations among children living in slums. Key factors associated with hospitalization were prematurity, maternal employment, and access to clean drinking water. The study underscores the importance of reinforcing efforts to promote, protect, and support breastfeeding to reduce infant morbidity and mortality, particularly in impoverished communities.

Keywords: breastfeeding; hospitalization; poverty; Brazil.

EVALUATION OF REGULATORY MECHANISMS OF THE INNATE IMMUNE RESPONSE: EXPRESSION OF INFLAMMATORY MEDIATORS OF PLATELETS (sCD62P) AND VASCULAR ENDOTHELIUM (sCD40) IN MENINGOCOCCAL SEPSIS IN CHILDREN AND ADOLESCENTS

THAYSA MARIA GAMA ALBUQUERQUE LEÃO DE MENEZES

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2020 dec. 14

Introduction: Severe bacterial sepsis remains a public health challenge due to its high morbidity and mortality rates. Sepsis is a heterogeneous and potentially fatal syndrome caused by immune system dysregulation. Meningococcal sepsis progresses rapidly, and death may occur within hours of symptom onset. Despite advances in understanding the pathophysiology of meningococcal septic shock, studies on the mechanisms triggering the onset of the fulminant course of meningococcal sepsis are limited. Various proteins, in the form of membrane receptors or soluble plasma molecules, have been investigated in sepsis patients. Some of these proteins regulate the immune system and are part of immune checkpoint molecules. Among these, CD40, its ligand CD40L, and P-selectin (CD62P) play roles in the innate immune response. **Objective:** To evaluate the regulatory mechanisms of the innate immune response through the expression of inflammatory mediators related to platelets (sCD62P) and vascular endothelium (sCD40) in children with meningococcal sepsis. **Methods:** This was a cross-sectional translational study with a comparison group of healthy children and adolescents. The study included children and adolescents (aged six months to 14 years) diagnosed with meningococcal sepsis (MS) and non-meningococcal sepsis (NMS) admitted to Correia Picanço Hospital. The comparison group comprised healthy children (HC) without a recent history of infection or hospitalization within the last 30 days, recruited from the pediatric surgery outpatient clinic at Maria Lucinda Hospital for minor elective surgeries. Biological, clinical, and laboratory variables were evaluated. sCD62P and sCD40 levels were measured using Enzyme-Linked Immunosorbent Assay (ELISA). Descriptive analysis included frequency distribution tables and measures of central tendency and dispersion. The chi-square and Fisher's exact tests were used for categorical variables, while Kruskal-Wallis and Mann-Whitney tests were applied for numerical variables comparing three and two groups, respectively, due to non-normal distribution. Spearman's nonparametric test was used to analyze correlations between two variables. Statistical significance was set at $p < 0.05$. Data analysis was performed using GraphPad Prism v8.2 (GraphPad Software, San Diego, CA). This study was approved by the Ethics Committee for Human Research at IMIP under CAAE 29385614.1.0000.5201. **Results:** High levels of sCD40 were observed in MS patients compared to the NMS and HC groups ($p < 0.001$). Elevated sCD62P levels were found in both MS and NMS groups compared to the HC group ($p = 0.010$ and $p = 0.002$, respectively).

In MS patients, sCD62P and sCD40 levels were significantly higher in those with thrombocytopenia compared to those with normal platelet counts ($p < 0.048$). A moderate correlation was observed between sCD62P and sCD40 levels in MS patients ($r = 0.556$, $p = 0.007$). Mortality rates were 25% in both MS and NMS groups. **Conclusion:** Patients with MS exhibit innate immunity dysregulation, characterized by the activation of platelet mediators (sCD62P) and vascular endothelial markers (sCD40).

Keywords: sepsis; innate immunity; P-selectin; CD40 antigen; meningococcal infections

VACCINE COVERAGE IN CHILDREN: PREVALENCE, TREND AND CONDITIONINGS IN 25 YEARS IN THE STATE OF PERNAMBUCO 1991 A 2015/2016

ANA AMÉLIA CORRÊA DE ARAÚJO VERAS

Advisor: Malaquias Batista Filho
Defense date: 2020 jan. 22

Introduction: Vaccination coverage is an indicator that estimates the level of protection of the child population against vaccine-preventable diseases. The percentage of vaccination with the third dose of the diphtheria, tetanus, and pertussis vaccine (DTP3) is considered a proxy for the complete basic schedule recommended by the National Immunization Program (PNI) for children under one year old, which showed a decline in Brazil from 2016 to 2018. Factors that may influence vaccination coverage rates include socioeconomic conditions, vaccine distribution logistics, parental knowledge and attitudes regarding preventable diseases, vaccine hesitancy and refusal, and other factors related to healthcare professionals and services. **Objectives**: To determine the prevalence, trends, and determinants of DTP3 vaccination coverage in surveys conducted in the state of Pernambuco over 25 years and to identify factors associated with adherence to the vaccination schedule in a substandard urban cluster in Recife. **Methods**: This study used a cross-sectional and temporal follow-up design, utilizing ad hoc datasets from four State Health and Nutrition Surveys and the study "Child development in a substandard urban cluster of Recife, PE." Children aged 12 to 23 months in the surveys and 0 to 36 months in the urban cluster, with documented doses on their vaccination cards, were included. Descriptive statistical analysis of socioeconomic, maternal, and child variables was performed for both studies. Vaccination coverage for each survey year was calculated, and trends were analyzed. Associations were tested using Pearson's chi-square test. Prevalence ratios and 95% confidence intervals were estimated, and results from the first and last surveys were compared. In the urban cluster, Poisson regression was conducted to identify factors associated with adherence to the vaccination schedule, with prevalence ratios (PR) and 95% confidence intervals (CI). Statistical significance was set at p < 0.05. **Results**: Vaccination coverage in 1991, 1997, 2006, and 2015/2016 was 77.6%, 82.7%, 89.7%, and 72.9%, respectively, showing an upward trend from 1991 to 2006 (p < 0.001) and a decline between 2006 and 2015/2016 (p < 0.0001). Determinants in 1991 included unfavorable socioeconomic conditions, difficulties accessing healthcare services, nutritional deficits, and diarrhea (p < 0.05). By 2015/2016, socioeconomic conditions and diarrhea persisted as determinants, with additional factors not previously studied, such as black race and the mother's negative self-perception of happiness (p < 0.05). In the substandard urban cluster, 52% of children adhered to the vaccination schedule, with age (12 to 36 months) and incomplete maternal high school education associated with non-adherence. **Conclusions**: DTP3 prevalence and adherence to the vaccination schedule fell below the target set by the PNI. The determinants of this decline are complex, multifactorial, and dependent on socioeconomic, political, healthcare, and

subjective factors such as hesitancy, fears, beliefs, and even maternal perceptions of happiness. These results raise an alert that should be considered in light of the unfavorable trends identified. Thus, it is urgent to find ways to reduce distrust regarding the safety and efficacy of immunization, strengthen discussions among Family Health Strategy teams and the population about the value and benefits of vaccines, and emphasize the risks of non-vaccination.

Keywords: vaccination coverage/dtp3; child health; epidemiological surveys; immunization schedule; family health strategy.

CLINICAL TRIAL OF THE IMPACT OF EXERGAME ON MICROCIRCULATION AND ASSOCIATION OF CARDIOMETABOLIC RISK FACTORS IN DYSFUNCTION ENDOTHELIAL OF LARGE VESSELS IN OVERWEIGHT AND OVERWEIGHT TEENAGER OBESITY

THACIRA DANTAS ALMEIDA RAMOS

Advisor: João Guilherme Bezerra Alves
Defense date: 2020 aug. 12

Introduction: Endothelial dysfunction, a precursor of atherosclerotic disease, can begin in childhood and adolescence. Changes in cardiometabolic risk factors in this age group may indicate detectable endothelial dysfunction in large vessels. Early changes in risk factors, such as overweight and obesity, can alter the natural course of the disease, preventing future cardiovascular diseases. In this context, physical exercise is one of the proposed therapies within lifestyle modification. The Light Amplification Stimulated Emission of Radiation (Laser) test evaluates the microvascular profile of endothelial dysfunction and can detect dynamic changes in blood flow. Carotid ultrasound allows early assessment of endothelial changes in large vessels by measuring the intima-media thickness of the artery, which is considered a marker of subclinical atherosclerosis. **Objective**: To assess the impact of physical exercise, performed using an exergame, on microcirculation endothelial dysfunction, blood pressure, and C-reactive protein levels in adolescents with overweight and obesity, and to evaluate the association of cardiometabolic risk factors with large-vessel endothelial dysfunction in the carotid arteries of these adolescents. **Methods**: A clinical trial conducted in two public schools in Campina Grande, Paraíba, Brazil, between February and June 2018, involving 61 individuals aged 10 to 16 years. All students diagnosed with overweight or obesity during the current year, assessed by the federal government's School Health Program, were invited to participate. Exclusion criteria included motor, cognitive, pulmonary limitations, genetic syndromes preventing participation in physical exercise; metabolic disorders requiring specific medications or treatments that could alter lipid or glucose metabolism; ongoing pregnancy; or being on medication for weight management. One school was selected for the intervention group, with exergame sessions conducted three times per week for eight weeks, involving 30 adolescents. The other school served as the control group, without physical exercise, involving 31 students. Dependent variables were assessed at the beginning and end of the intervention to evaluate the exergame's impact on both groups. Variables included resting blood flow, maximum blood flow, occlusion area, hyperemia area, and post-occlusive reactive hyperemia measured by Laser Doppler flowmetry, as well as body mass index (BMI), systemic blood pressure, and C-reactive protein levels. Cardiometabolic risk factors included laboratory assessments of triglycerides, total cholesterol and fractions, fasting glucose, and glycated hemoglobin collected before the intervention. Carotid ultrasound was performed at baseline to assess the correlation of large-vessel endothelial dysfunction, measured by carotid intima-media thickness, with cardiometabolic risk factors. The analysis considered a single group of overweight and obese adolescents, with sample size calculations for post hoc

cross-sectional analyses. Mann-Whitney or Student's t-tests were used to compare dependent variables between groups, and paired Student's t-tests or Wilcoxon tests compared intra-group values at baseline and the end of the study. Non-parametric tests assessed the intervention's effect on microcirculation. The Shapiro-Wilk test determined variable distributions to guide test selection. Chi-square and Pearson or Spearman correlation tests analyzed carotid thickening associations with cardiometabolic variables. Multiple linear regression identified independent factors associated with carotid intima-media thickness. The study adhered to Resolution 466/2012 and was approved by the Research Ethics Committee (CAAE: 88034318.4.0000.5175) under opinion number 2.385.662 on November 1, 2017. **Results**: Resting and maximum microcirculation blood flow increased in the intervention group (p = 0.038 and p = 0.024, respectively) compared to the control group. Adolescents in the intervention group showed a reduction in systolic blood pressure (p = 0.041). BMI decreased in both groups: intervention (p = 0.002) and control (p = 0.031). Within-group analysis revealed an increase in C-reactive protein in the control group (p = 0.004). A cross-sectional analysis of the group before the trial demonstrated that carotid thickening positively correlated with BMI z-score (r = 0.256, p = 0.016), fasting glucose (r = 0.236, p = 0.027), and male sex (r = -0.237; p = 0.026). However, after regression, only the BMI z-score was independently associated with carotid thickening. **Conclusions**: Physical exercise performed via exergame improves microcirculation parameters, particularly resting and maximum blood flow, and enhances systolic blood pressure indices. BMI, assessed through the z-score, is associated with carotid thickening in overweight and obese adolescents.

Keywords: atherosclerosi; exercise therapy; overweight; obesity; microcirculation; adolescente; vascular endothelium.

MATERNAL DEATH: SOCIAL COST, CHARACTERISTICS AND CONTRIBUTION OF SURVEILLANCE IN THE QUALIFICATION OF CAUSES

PATRICIA ISMAEL DE CARVALHO

Advisor: Suely Arruda Vidal
Defense date: 2020 nov. 18

Introduction: Maternal death is an almost entirely preventable event and remains a serious public health issue in many countries, particularly in low- and middle-income nations. It disproportionately affects women with greater social and healthcare vulnerabilities.**Objectives**: To estimate the costs of maternal deaths from the societal perspective, characterize these women, and evaluate the contribution of death surveillance to the qualification of the underlying causes of maternal deaths.**Methods**: The first observational, descriptive, population-based study characterized women who died from maternal causes between 2006 and 2017 in Recife, using data from the Mortality Information System (SIM) and investigation tools from the Ministry of Health (MS). The second study, with the same design, analyzed the underlying causes of death before and after the maternal death surveillance process in Recife from 2010 to 2017, measuring the percentage variation by cause groups. Lastly, a partial economic cost evaluation study from the societal perspective was conducted on maternal deaths occurring in 2017 among women residing in the 1st Macroregion of Pernambuco.The macrocosting technique was applied to estimate hospital expenses using data from the Hospital Information System of the Unified Health System (SIH/SUS). Home interviews were conducted to estimate family costs. The indirect costs of deceased women were calculated using the human capital method, based on the calculation of potential years of life lost (PYLL). Monetary values were presented in US dollars. The research was approved by the IMIP Research Ethics Committee (approval no. 2.457.335). **Results**: A total of 171 maternal deaths were identified in Recife between 2006 and 2017, including 35 during pregnancy, three during childbirth, and 133 in the postpartum period. Key sociodemographic and care-related characteristics were: aged 20–39 years (84.2%), Black women (68.4%), without a partner (60.2%), with education up to high school (34.5%), had prenatal consultations (20.5%), with prenatal complications (73.1%) of whom only 46.4% received care; 92.7% of deliveries or abortions occurred in hospitals, and 82.6% were performed by obstetricians. Between 2010 and 2017, Recife's maternal death surveillance identified an additional 33 (40.7%) maternal deaths, including three from direct causes, 16 from indirect causes, and 14 late deaths, which saw the greatest increase (233.3%). The medical-hospital costs of maternal deaths in 2017 in the 1st Macroregion of Pernambuco during pregnancies ending in death amounted to USD 1,330.42. The median public expenditure for women who died in the immediate/late and remote postpartum periods was USD 504.14 and USD 366.37, respectively, with diagnostic procedures predominating. Direct medical-hospital costs for families were higher for deaths in the remote postpartum period, with a median of USD 1,398.85, along with non-medical-hospital costs, mainly funeral

expenses (80%). A total of 2,336 potential years of life were lost, amounting to an indirect cost of USD 15,842,022.60. **Conclusions**: Deaths in the postpartum period and among Black women predominated, and care deficiencies were frequent. Maternal death surveillance was essential for identifying deaths, their causes, and preventability. The highest SUS expenditures were related to deaths during pregnancy and in the immediate/late postpartum period, while for families, funeral expenses were the most significant regardless of the timing of death. Indirect costs highlight the significant loss of potential years of life for women and, consequently, productivity. The findings underscore the need for improved healthcare, further investigations to evaluate services and address social and healthcare inequities, raising awareness on the issue, and continuing studies on tangible and intangible costs from various perspectives.

Keywords: maternal mortality; vital statistics; cost and cost analysis; health expenditures; health evaluation; potential years of life lost.

SEROPREVALENCE IN PREGNANT WOMEN DURING THE ZIKA VIRUS EPIDEMIC IN REEF ANDSPECTRUM OF NEURODEVELOPMENT AND NEUROIMAGING IN CHILDREN WITHCONGENITAL ZIKA VIRUS SYNDROME

LUCAS VICTOR ALVES

Advisor: João Guilherme Bezerra Alves
Defense date: 2020 nov. 24

Introduction: A severe epidemic of Zika virus (ZIKV) infection associated with congenital microcephaly recently occurred in Brazil. These children, in addition to microcephaly with severe central nervous system (CNS) impairment, exhibited involvement of other organs, which was termed congenital Zika syndrome. The Ministry of Health declared a national public health emergency in November 2015, and in February 2016, the World Health Organization declared Zika virus infection a public health emergency of international concern. The outbreak ended in Brazil in 2017 without effective public health measures being implemented for its control. Understanding the immunological status of ZIKV is important not only to predict future outbreaks but also to answer unresolved questions about the virus. Cases of postnatal cerebral and macular involvement have been reported in children born without microcephaly whose mothers had ZIKV infection during pregnancy, raising the hypothesis of CNS involvement in these children. Similarly, little is known about the evolution of neuroimaging abnormalities in children born with microcephaly associated with congenital Zika virus infection. **Objective**: To assess the seroprevalence, clinical, neurological, and developmental examination of children born to mothers with ZIKV infection who were born without microcephaly. To determine the spectrum of brain abnormalities during the first years of life in children with congenital microcephaly associated with ZIKV infection through neuroimaging studies. **Method**: Two distinct studies were conducted at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP). The first study, a case series, included 132 children whose mothers had prenatal ZIKV infection but were born without microcephaly. The database of pregnant women who participated in a randomized clinical trial at IMIP during the ZIKV epidemic in Recife was used. ZIKV infection in these mothers was determined by the presence of anti-Zika IgG ELISA (Euroimmun kit) in maternal serum. Neurological and developmental evaluations, including the Denver II questionnaire, were conducted for these children. The second study was a case series of 62 children born with microcephaly associated with ZIKV from August 2015 to March 2017, who were already under follow-up at IMIP. These children underwent cranial computed tomography (CT) in the first months of life. Among them, 35 underwent cranial magnetic resonance imaging (MRI) between the first and third years of life. Statistical differences in imaging abnormalities between CT and MRI were determined using McNemar's test, with $p < 0.05$ considered significant. Both studies were approved by the IMIP Ethics and Research Committee. **Results**: Among the 132 participants, 61.3% had positive ZIKV IgG and presented with more fever and rash compared to negative mothers (27/81 vs. 6/51, $p = 0.005$; and 27.2% vs. 7.8%, $p = 0.016$, respectively). In the second

study, 35 children met the inclusion criteria. All exhibited severe neurodevelopmental impairments. MRIs revealed the same abnormalities as the initial CT scans: intracranial calcification (71.4%), though with reduced intensity and size compared to prior CT scans; ventriculomegaly (91.4%); and cerebellar hypoplasia (68.5%). However, 11/31 (35%) of the patients showed increased ventriculomegaly, and two required ventriculoperitoneal shunting. **Conclusion**: A high seroprevalence of ZIKV IgG in pregnant women was identified during the epidemic. Severe brain abnormalities observed on CT scans continued to be detected on MRI performed around three years of age, with increased ventriculomegaly in approximately one-third of the children.

Keywords: zika; microcephaly; neuroimaging.

ADHERENCE TO CONTRACEPTIVE METHODS AMONG WOMEN WITH THE DISEASE SICKLE CELL: A COHORT STUDY

EVELYNE NASCIMENTO PEDROSA

Advisor: Ariani Impieri de Souza
Defense date: 2021 mar. 31

Introduction: Sickle cell disease is a significant global health concern, with Pernambuco being one of the Brazilian states with the highest prevalence. During pregnancy, the disease is associated with a substantial increase in morbidity and mortality, emphasizing the need for contraceptive counseling as a strategy to mitigate these risks. Such counseling must be individualized to allow for autonomy in decision-making and improve adherence to chosen methods. **Objective**: To analyze the choice and adherence to contraceptive methods among women with sickle cell disease receiving care at a tertiary healthcare facility. **Method**: An exploratory cohort study was conducted involving women of reproductive age with sickle cell disease who were followed up at a specialized outpatient clinic for women with the condition at the Women's Care Center of the Professor Fernando Figueira Institute of Integral Medicine (IMIP) from January 2018 to August 2020. Exclusions were applied to women who were unable to comprehend the questionnaire, did not desire contraception, had clinical complications preventing method selection, or did not meet the World Health Organization's eligibility criteria for contraceptive use. At the study's outset, sociodemographic, clinical, and reproductive data were collected from 54 women referred to and attended in the outpatient clinic. Contraceptive counseling was provided during the first consultation, after which participants chose and received either progesterone-only or other contraceptive methods. Follow-up evaluations were scheduled at 1, 3, 6, and 12 months, with non-returning participants contacted via phone. Data were entered into Excel and analyzed using STATA 12.1. Sociodemographic and clinical characteristics were summarized in frequency distribution tables, and adherence was assessed using Kaplan-Meier survival analysis, comparing groups using progesterone-only methods versus other contraceptives. The project was approved by the IMIP Ethics Committee for Research Involving Humans (CAE: 70666317.8.00005201). **Results**: Ten women did not attend follow-up consultations, leaving 44 women for evaluation in the first year. Among the genotypes, HbSS was predominant (79.5%), and the most self-reported racial category was mixed race/Black (75.0%). All participants had a history of vaso-occlusive crises (1–2 crises annually), and 38 (86.4%) reported requiring blood transfusion. Progesterone-only methods, administered via various routes (oral, injectable, and intrauterine systems), were chosen by 28 women (63.6%) after counseling. After 12 months, adherence to progesterone-only methods across all administration routes was 60.7% (95% CI: 40.4–76.0), while adherence to other methods (combined hormonal and non-hormonal) was 68.7% (95% CI: 40.5–85.6). The overall adherence rate to contraceptive methods was 68.2% (95% CI: 53.4–80.0), with no statistically significant difference between groups (log-rank test: p = 0.641). Five women discontinued their contraceptive method to attempt pregnancy, with two achieving pregnancies, resulting in a pregnancy rate of 4.5% (95% CI: 0.6–15.5). **Conclusion**: Progesterone-only contraceptive methods were the most commonly chosen by women with sickle cell disease. However, adherence to contraceptive methods was not associated with the type of method used.

Keywords: sickle cell disease; sickle cell anemia; contraception; patient adherence; medication adherence.

ANALYSIS OF PEDAGOGICAL INTERVENTIONS OF MEDICINE TUTORS IN PROBLEM-BASED LEARNING TUTORIAL GROUPS

RAFAEL BATISTA DE OLIVEIRA

Advisor: José Eulálio Cabral Filho
Defense date: 2021 aug. 09

Introduction: Problem-Based Learning (PBL) stands out for promoting meaningful learning through the active, constructive, and collaborative participation of students who discuss a topic in small groups, facilitated by a tutor. In the PBL process, the tutor provides pedagogical interventions during group discussions to enhance collaborative learning, idea development, and active knowledge construction by the students. **Objective**: To analyze and understand the pedagogical interventions of medical tutors in PBL tutorial groups. **Methods**: A qualitative study was conducted involving four tutors and 35 fourth-year medical students from a Brazilian medical school. Data collection included indirect observation through video recordings of tutorial sessions, semi-structured interviews with tutors, and focus group interviews with students. The tutorial session recordings were analyzed by a panel of external analysts. Data from tutor and student interviews were subjected to thematic content analysis. Comprehensive analysis of all data was ensured through triangulation of data sources, methodological techniques, participants, and researchers, grounded in the principles of PBL and Habermas's perspective on communicative rationality, emphasizing interactive, comprehensive, and consensus-driven processes. The study adhered fully to the guidelines of the National Health Council and was approved by the Research Ethics Committee, with approval number 3.033.549 and Ethical Appreciation Certificate number 02818918.5.0000.5569. **Results**: A total of 1,407 tutor interventions were observed in 16 recorded tutorial sessions and analyzed by the external analyst panel. Most tutor interventions were explanatory and confirmatory, carried out verbally and spontaneously by the tutor, without any prior conflict of ideas among students. The thematic content analysis of interviews revealed 11 categories related to the perceptions of tutors and students regarding the characteristics, purposes, and meanings of tutor interventions in tutorial groups. **Conclusion**: The study showed that tutors, students, and external analysts shared similar perceptions of tutor interventions, with minor opinion differences diminishing after tutor self-observation in the videos. The findings revealed that tutors primarily intervened through confirmations and explanations, aiming to provide direction and reassurance to students while they spoke, as well as to complement their ideas. Notably, there was a lack of assertive tutor interventions during moments of idea conflict and limited awareness among tutors regarding the pedagogical influence and outcomes of interventions within the dynamic tutorial.

Keywords: medical education; problem-based learning; tutoring.

EVALUATION OF MOTIVATIONAL FACTORS FOR CHOOSING THE PROGRAM MEDICAL RESIDENCE AND PRCEPTORY EXERCISE IN A HOSPITAL TEACHING

KARINE FERREIRA AGRA

Advisor: João Guilherme Bezerra Alves
Defense date: 2021 sep. 21

Introduction: medical residency is a postgraduate program considered the gold standard for medical specialization. this model originated in the United States in 1889 and arrived in Brazil in 1945, first in the states of SãoPaulo and Rio de Janeiro. in Pernambuco, the first medical residency programs were established in the 1960s at the Hospital das Clínicas of UFPE, which operated at the PedroII hospital. The pediatrics program started in 1966 at the current Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), which is now a reference center for training in various health residency areas. The preceptor plays a significant role in residency programs, directly influencing the quality of the residents' training. Thus, it is important to understand the profile of preceptors and the factors that influence their motivation to perform their role in residency programs. **Objectives**: to evaluate the motivational factors for young doctors' choice of medical residency programs and for the exercise of the preceptorship role at a reference hospital for medical residency education in northeastern Brazil. **Methods**: two cross-sectional studies with an analytical component were conducted between july 2020 and august 2021. Study 1 evaluated the reasons why residents choose residency programs and described their expectations regarding the programs. Study 2 explored the intrinsic and extrinsic motivational factors for performing the preceptorship role. Study 1 included 165 medical residents. sociodemographic characteristics, medical training, preparation for the residency exam, expectations about the program, and reasons for choosing the service were analyzed. Study 2 included preceptors from the basic areas of pediatrics, gynecology and obstetrics, internal medicine, and general surgery. in this study, an electronic questionnaire was used, covering the sociodemographic, academic, and professional profiles of the preceptors, as well as motivational factors related to their role as preceptors. Both studies were approved by the IMIP research ethics committee. Descriptive statistical analysis was conducted using absolute and relative frequency distributions in both studies, along with the mean ranking of responses to classify agreement in study 2. **Results**: most residents started their residency programs 2 to 3 years after graduating from medical school. the majority (78.8%) took preparation courses for residency. the main expectations that led residents to choose the service were the complexity of cases (81.2%), the number of patients (79.4%), the technical quality of the preceptors (76.4%), the prestige of the institution (75.1%), and the motivation of the preceptors (57.6%). regarding preceptors, 76 (82.6%) participated in the study. intrinsic motivational factors had a mean ranking of 3.9 (±0.4), and extrinsic factors had a mean ranking of 3.7 (±0.5). the motivational factors for performing the preceptorship that stood out were identification with the preceptor role, organizational culture, establishing interpersonal relationships with

residents, the sense of personal gratification, and free access to medical literature databases. Additionally, the study pointed out areas that need attention, such as remuneration for the preceptorship role. **Conclusions**: medical residents enter residency programs based on the expectations of practical scenarios that enable adequate training, including the quality of preceptorship. At the same time, certain factors are determinants for delivering quality preceptorship. The results of these studies are relevant for informing the planning and management of residency programs and institutions, contributing to their improvement.

Keywords: medical education; internship and residency; postgraduate education in medicine; preceptorship; motivation.

EVALUATION OF LEUKOCYTE PARAMETERS AND SUBPOPULATIONS OF T, B AND NK CELLS IN THE BLOOD OF HEALTHY ELDERLY PEOPLE IN DIFFERENT RANGE AGE AND IN THOSE WITH TYPE 2 DIABETES MELLITUS

EDUARDO JORGE ABRANTES DA FONTE

Advisor: Leuridan Cavalcante Torres
Defense date: 2021 dec. 03

Introduction: The aging of an individual is, in itself, a risk factor for the development of chronic diseases, and changes in the immune system – immunosenescence – are linked to a higher frequency of these diseases. The main changes resulting from immunosenescence include a decrease in defense against new infections and the onset of malignant neoplasms, a reduction in the immune tolerance mechanism leading to higher autoimmunity, a decrease in vaccine response, and an increase in pro-inflammatory cytokines, known as inflamm-aging. Regarding the main cellular alterations, there is a reduction in naive T and B lymphocytes and an increase in their memory subtypes, along with a lower cytotoxicity of NK cells. These changes occur more intensely in elderly individuals with chronic diseases, such as cardiovascular diseases and type 2 diabetes mellitus (DM2). **Objectives**: To evaluate leukocyte parameters and the subpopulations of T, B, and NK cells in the blood of healthy elderly individuals from different age groups and those with Type 2 Diabetes Mellitus. **Methods**: A cross-sectional, translational, and analytical study conducted at the geriatric's outpatient clinic linked to the Oncogeriatrics Service and the Translational Research Laboratory at IMIP. For Article 1, two groups of elderly individuals were included: Group 1 with ages ≥60 and <70 years, and Group 2 with 70 years or older. For Article 2, one group consisted of elderly individuals with DM2, and the other included healthy elderly individuals. T, B, and NK cell values, and their subtypes were quantified in peripheral blood using flow cytometry. For statistical analysis, the non-parametric Mann-Whitney test was used for non-normally distributed samples, and the student's t-test was used for normally distributed samples, conducted using GraphPad Prism v6.0 software. P values <0.05 were considered significant. The study was approved by the IMIP Human Research Ethics Committee (CEP), under CAAE number: 88979018.1.0000.5201. **Results**: Article 1 – Elderly individuals in Group 1 had higher values of total lymphocytes, T lymphocytes, TCD4+, TCD4+CD28+, memory TCD4+, and naive TCD8+, compared to Group 2. Women in Group 2 had higher values of NKdim and NKbright compared to those in Group 1. In both groups, women had higher values of total B lymphocytes, naive B cells, memory B cells, total T lymphocytes, TCD4+, TCD8+, and TCD4+CD28+ when compared to men. Article 2 – Elderly individuals with DM2 had higher values of memory TCD4+ lymphocytes, total B lymphocytes, naive B cells, and memory B cells, along with a reduction in naive TCD4+ lymphocytes. **Conclusion**: There are differences in the values of lymphocytes and their subtypes based on sex and age in the elderly. These differences justify the use of reference values in clinical practice for this population. The increase in B lymphocytes and the changes in T lymphocytes in elderly individuals with DM2 may be associated with the promotion of insulin resistance in this population.

Keywords: immunosenescence; reference values; naive lymphocytes; memory lymphocytes; chronic diseases.

UMBILICAL CORD CLAMPING AFTER STOPPING PULSE VS. WITH ONE TO THREE MINUTES AND MATERNAL AND NEONATAL OUTCOMES: RANDOMIZED CLINICAL TRIAL

KELLIDA MOREIRA ALVES FEITOSA

Advisor: Leila Katz
Date of defense: 2021 aug. 10

Introduction: Delayed umbilical cord clamping performed between one and three minutes after delivery is a practice based on current recommendations. However, the ideal timing for this procedure remains controversial. Evidence suggests benefits of clamping after pulsations cease, allowing for greater neonatal blood transfer, which is considered a safe technique without adverse obstetric or neonatal effects. However, further studies are needed to support this practice. **Objective**: To determine the effects of umbilical cord clamping after pulsations stop versus clamping at one to three minutes on maternal and neonatal outcomes. **Methods**: An open randomized clinical trial was conducted, comparing newborns subjected to umbilical cord clamping after pulsations ceased (intervention group) versus clamping at one to three minutes (control group). The study was carried out in Recife, Pernambuco, Northeast Brazil, between April and November 2019, involving women with low-risk, term pregnancies, carrying a single fetus delivered via vaginal birth, excluding forceps deliveries and cases requiring neonatal resuscitation. The primary outcome was hemoglobin levels at birth. Statistical analysis included the student's t-test for normally distributed continuous variables, the Mann-Whitney test for non-normally distributed variables, and chi-square or Fisher's exact tests as appropriate. All p-values were two-tailed. Relative Risk was calculated with a 95% confidence interval and a 5% significance level. Analysis was based on the intention-to-treat principle to test the intervention against the control. The study complied with the provisions of Resolution 466/12 of the Brazilian National Health Council and was initiated after approval by the Ethics Committee of the Instituto de Medicina Integral Prof. Fernando Figueira (CAAE: 04088218.0.0000.5201, opinion No.: 3.095.831, 2018). **Results**: A total of 560 women were randomized, 278 to the intervention group and 282 to the control group. The mean time for umbilical cord clamping was 8 minutes in the intervention group and 3 minutes in the control group (p<0.001). No statistically significant difference was observed in hemoglobin levels at birth between groups (15.7 vs. 15.9; p=0.46). The duration of early skin-to-skin contact (15.1 vs. 6.0 minutes; p<0.001) and breastfeeding within the first hour (73.0% vs. 46.1%; p<0.001; NNT=3.7) were significantly higher in the intervention group. No significant differences were observed between groups for hemoglobin levels at 24-48 hours (p=0.38), polycythemia (p=0.75), residual placental volume (p=0.13), birth weight (p=0.48), NICU admission (p=0.50), total bilirubin at 24-48 hours (p=0.50), hyperbilirubinemia (p=1.00), phototherapy requirement (p=0.46), or frequency of early skin-to-skin contact (p=0.06). There were no cases of Apgar scores <7 at the fifth minute in either group. Exclusive breastfeeding until hospital discharge (p=0.23) and hospitalization duration (p=0.91) were similar between groups. Regarding maternal outcomes, the need for uterine curettage was

significantly lower in the intervention group (p<0.001; NNT=10.6). No significant differences were found between groups for placental delivery time (p=0.10), postpartum blood loss (p=0.23), placental delivery time >30 minutes (p=0.20), uterine curettage (p=0.61), residual placental volume (p=0.13), treatment for postpartum hemorrhage (p=0.27), blood transfusion (p=0.49), postpartum hemoglobin levels (p=0.89), postpartum hemoglobin <8 mg/dL (p=0.24), or maternal satisfaction (p=0.13). **Conclusion**: Umbilical cord clamping after pulsations cease is a viable alternative from a neonatal perspective, associated with increased duration of early skin-to-skin contact and initiation of breastfeeding within the first hour of life, without any increase in adverse neonatal health outcomes. Additionally, it showed an advantage in obstetric care by reducing the need for immediate postpartum uterine curettage, with no association with postpartum hemorrhage, blood loss, or prolonged placental delivery time.

Keywords: umbilical cord; postpartum hemorrhage; third stage of labor; pregnancy; vaginal delivery; newborn.

CONTRACEPTION AND PAIN CRISIS IN WOMEN WITH SICKLE CELL DISEASE TREATED IN TERTIARY HEALTHCARE SERVICES: AN OPEN CLINICAL TRIAL

FLAVIA ANCHIELLE CARVALHO DA SILVA

Advisor: Ariani Impieri de Souza
Defense date: 2021 dec. 15

Introduction: Sickle Cell Disease (SCD) affects approximately 30 million individuals worldwide, representing a significant public health issue due to its associated high morbidity and mortality. In Brazil, SCD holds epidemiological importance due to its high prevalence. During pregnancy, there is a significant increase in morbidity and mortality associated with SCD, making the choice of an appropriate contraceptive method (CM) extremely important for this population. Studies with small groups have suggested that the use of progestin-only contraception is associated with a reduced frequency of vaso-occlusive crises (VOC), necessitating confirmation through clinical trials with larger participant samples. **Objectives**: To evaluate the influence of contraceptive use on the occurrence of pain crises and clinical complications in women with SCD treated at a tertiary healthcare facility in Recife, Northeast Brazil. **Method**: An open, controlled clinical trial was conducted with 54 women with SCD, enrolled between December 2017 and August 2019. After contraceptive counseling based on the World Health Organization's eligibility criteria, women received their chosen CM and were followed for one year, with evaluations at 3, 6, and 12 months. These assessments investigated the presence of VOC, clinical complications, pregnancy, and adverse events. For statistical analysis, the Spearman Correlation Coefficient was used to relate the duration of previous CM use to the frequency of VOC and headaches in the year prior to the study. Comparisons of VOC and headache frequencies between the three contraceptive methods and over the study period were performed using a logistic regression model for repeated binary outcomes, with robust variance and Generalized Estimating Equations. A p-value <0.05 was considered statistically significant. The study was approved by the Human Research Ethics Committee under number DAAE: 70666317.8.0000.5201 and registered in the Brazilian Clinical Trials Registry (Rebec), with UTN number: U1111-1204-6008. **Results**: The most prevalent genotype was HbSS (96.3%). Regarding clinical history, all participants had experienced VOC episodes. Over the follow-up period, no difference was observed between groups regarding VOC episodes, and the progestin-only group showed a lower frequency of headaches compared to the combined hormonal contraceptive (CHC) group throughout the study period. **Conclusion**: Progestin-only contraception was not associated with the frequency of VOC and was linked to a reduction in headache frequency over time compared to CHC.

Keywords: sickle cell disease; sickle cell anemia; hormonal contraception; pain; headache.

TEACHING-LEARNING EXPERIENCE IN HEALTH COMMUNICATION

FERNANDA PATRICIA SOARES SOUTO NOVAES

Advisor: João Guilherme Bezerra Alves
Date of defense: 2021 sep. 30

Introduction: Communication is one of the cornerstones of healthcare delivery and professional best practices. However, the loss of subjectivity and the growing detachment in human interactions have impacted healthcare services. In this context, national and international consensus and curriculum guidelines emphasize the importance of teaching communication in medical schools as a fundamental component in the education of healthcare professionals. Medical educators are being challenged to develop effective teaching and learning strategies to address this need. In response, the course Health Communication (HC) is offered as an elective and interdisciplinary option, welcoming students from Physical Education, Nursing, Pharmacy, Medicine, and Psychology programs at the Federal University of Vale do São Francisco. The course combines the use of the online platform DocCom.Brasil with Playful-Reflective Seminars (a methodology created by the author) that integrate games, interactive dynamics, art, and other strategies, incorporating active learning methods into traditionally structured curricula. Given the innovative nature of the HC course, it became essential to understand its impact on participants' personal, academic, and professional lives. **Objective**: To explore the teaching-learning experience in the HC course. **Methods**: This qualitative research was guided by Gadamer's Philosophical Hermeneutics. Gadamerian concepts such as the fusion of horizons, dialogue, history, and the researcher's role in relation to the research object provided the framework for understanding the experience. The study's corpus included documents (audiovisual, artistic, and academic works), the professor/researcher's field diary, and online focus groups (FGs). FG analysis was based on Bardin's Content Analysis methodology, complemented by a sociodemographic questionnaire completed by participants who attended in-person classes from 2015 to 2019, before the COVID-19 pandemic in 2020. Out of 368 former students invited, 40 agreed to participate. These included a pilot FG (n=4), with 6 unable to attend, and 30 participants divided into three groups based on their roles: (i) Monitors (n=8), (ii) Undergraduates (n=13), and (iii) Healthcare Professionals (n=9). Each session lasted 60–90 minutes and was conducted via the National Network for Education and Research's virtual platform. Co-supervisors facilitated the FGs, while the professor/researcher acted as an observer. After transcribing the interviews into Word documents, the data underwent floating reading, synthetic categorical analysis, and vertical group-by-group analysis, complemented by narratives to contextualize and enhance the synthesis. **Results**: The findings were presented in articles that integrate the data sources with Gadamerian thought: Field Diary (Historicity): Article 1. "The Journey and Collective Construction of the Health Communication Course: The Experience at Univasf - Petrolina Campus - PE." Documents (Language and Art): Article 2. "Health Communication and Audiovisual Documentation of the Educational Experience: Art and Dialogue Through a Gadamerian Lens." Online FGs (Dialogue

and Fusion of Horizons): Article 3. "The Teaching-Learning Experience in the Health Communication Course: From Education to Professional Practice." **Conclusion**: The experience was profoundly shaped by the power of dialogue, art, playfulness, and interpersonal connections, transforming communication and relationships. The reflective processes within the online FGs emerged as an unanticipated outcome of the research. Combining Philosophical Hermeneutics with systematic research represents a rare and innovative approach. The teaching-learning experience in the HC course became a means of expressing subjectivity within the academic environment, fostering mutual understanding, interaction, and playfulness. It contributed to enhancing personal life, academic well-being, professional identity, and healthcare practices.

Keywords: health communication; medical education; interprofessional teaching; learning; focus groups; hermeneutics; innovation diffusion.

IMPACT OF EXERGAME ON PHYSICAL FITNESS AND LUNG FUNCTION OF OVERWEIGHT ADOLESCENTS: A CONTROLLED TRIAL

TATIANNE MOURA ESTRELA GUSMÃO

Advisor: João Guilherme Bezerra Alves
Defense date: 2021 sep. 13

Introduction: Childhood overweight is a high-risk nutritional condition that requires interventions aimed at fostering motivation and engagement. Exergames combine digital entertainment with aerobic physical exercise, offering various benefits for children's bodies. **Objective**: To determine the effectiveness of aerobic physical exercise through gamified exergames on physical fitness and pulmonary function in overweight adolescents. **Methods**: This was a non-randomized controlled clinical trial conducted in two public schools in Campina Grande, Paraíba, Brazil, from July to October 2018, involving adolescents aged 10 to 16 years. Students with overweight or obesity were included, while those who were pregnant, breastfeeding, or had motor, cognitive, pulmonary limitations, or genetic syndromes that prevented participation in the proposed physical exercise intervention were excluded. One school was randomly selected for the intervention, where participants engaged in exergames (independent variable) three times per week for eight weeks. The other school served as the control group, continuing with their regular physical education classes. Health-related physical fitness was assessed using a series of field tests following the PROESP-BR (2016) protocol. Pulmonary function was evaluated through spirometry, and respiratory muscle strength was measured using manovacuometry. Statistical analyses were performed using SPSS version 22.0 and presented with a 95% confidence interval. To compare continuous variables, unpaired Student's t-test (for symmetric data) or the Mann-Whitney U test (for asymmetric data) was used. Normality was assessed with the Shapiro-Wilk test. For intragroup evaluation of the intervention effect on dependent variables, paired Student's t-test or Wilcoxon test was employed. The Harrel-Davis test was used to estimate the median differences for the intervention effect, with significance levels calculated using the Percentile Bootstrap method. **Results**: Two analyses were conducted: one focusing on health-related physical fitness and the other on pulmonary function and cardiorespiratory fitness. The sample for the first analysis included 36 adolescents from the intervention school and 26 from the control school, while the second analysis involved 36 and 27 participants, respectively. In the intervention group, the health-related physical fitness analysis showed a reduction in body mass index (BMI z-score) ($p < 0.001$) and an increase in cardiorespiratory fitness as measured by VO_2max ($p = 0.011$). In the control group, BMI decreased ($p < 0.001$), but flexibility declined ($p = 0.046$) when comparing baseline and post-study data. In the pulmonary function and cardiorespiratory fitness evaluation, the intervention group demonstrated higher FEV1/FVC ratio values (% and %predicted) than the control group, though with lower absolute and predicted FVC (L) and FEV1 (L) values. Pre- and post-intervention comparisons within the intervention group showed an increase in FEV1 (L) ($p =$

0.041), PEFmax (cmH$_2$O) (p = 0.009), a reduction in BMI (p < 0.001), and improvement in VO$_2$max (p = 0.007). In the control group, BMI decreased (p < 0.001), while increases were observed in FEV1 (L) (p = 0.021), FVC (L) (p = 0.014), and FEV1/FVC ratio (%) (p = 0.033). **Conclusion**: The use of exergames by overweight adolescent students appears to be an effective strategy for improving health-related physical fitness and pulmonary function.

Keywords: adolescent; overweight; pediatric obesity; physical fitness; respiratory function tests.

MISOPROSTOL FOR CERVICAL PREPARATION PRIOR TO SURGICAL HYSTEROSCOPY: QUADRUPLELY MASKED RANDOMIZED CLINICAL TRIAL COMPARING 200 µg AND 800 µg

MARIA DA CONCEIÇÃO FARIAS SOUTO MAIOR

Advisor: Aurélio Antônio Ribeiro da Costa
Date of defense: 2021 aug. 16

Introduction: Hysteroscopy is a minimally invasive procedure that has gained prominence in the treatment of cervical canal and uterine cavity disorders. However, challenges related to introducing the equipment through the cervix are common. While several studies suggest advantages to cervical preparation with misoprostol, systematic reviews highlight the need for clarification regarding the optimal dosage. **Objective**: To compare the effectiveness of vaginal misoprostol at doses of 200 µg and 800 µg for cervical ripening prior to surgical hysteroscopy. **Methods**: A quadruple-blinded randomized clinical trial was conducted between November 2019 and September 2020, involving 76 patients undergoing cervical dilation before surgical hysteroscopy at teaching hospitals in Pernambuco, Brazil. Participants received either 200 µg or 800 µg of vaginal misoprostol 10–12 hours prior to the procedure. The primary outcome was the initial cervical canal diameter. Secondary outcomes included adverse effects, progression of pain complaints, surgical findings such as cervical length, procedural characteristics (duration, ease, failure, and complications), and patient acceptability of the medication. Statistical analysis included chi-square tests, Fisher's exact test, and the Mann-Whitney test, with a significance threshold of $p < 0.05$. **Results**: No significant difference was observed between groups in the mean initial cervical canal diameter (800 µg: 6.5 ± 1.6 mm vs. 200 µg: 5.8 ± 1.8 mm; $p = 0.055$), patient satisfaction, or surgical findings, except for the duration of cervical dilation, which was shorter in the 800 µg group (28.1 ± 28.5 s vs. 41.9 ± 31.0 s; $p = 0.03$). Among side effects, diarrhea was significantly more frequent in the 800 µg group (100% vs. 0%; $p = 0.01$). **Conclusion**: For cervical ripening prior to surgical hysteroscopy, 200 µg of misoprostol is as effective as 800 µg, with fewer adverse effects.

Keywords: surgical hysteroscopy; misoprostol; randomized clinical trial; cervical preparation.

DEATH PREDICTIVE MODELS FOR COVID-19 PATIENTS

GABRIELLE RIBEIRO SENA

Advisor: Maria Julia Goncalves de Mello
Defense date: 2021 sep. 01

Introduction: The increase in the amount of data generated by healthcare services and the need to enhance care quality have encouraged the use of various techniques to build predictive models, particularly during the SARS-CoV-2 pandemic. Predictive data analysis is essential for interpreting information and optimizing actions to address critical situations. **Objective**: To develop predictive models for COVID-19 mortality across different population groups using logistic regression and machine learning (ML). **Method**: Cross-sectional studies involving patients with confirmed COVID-19, diagnosed with reverse transcription polymerase chain reaction (RT-PCR) for SARS-CoV-2, and reported in databases of the Pernambuco State Health Department. Four studies were conducted, covering different populations and periods of the pandemic, employing specific predictive analyses: three articles used logistic regression, and one used ML. **Results**: Article 1 developed a predictive model to analyze factors associated with mortality in 682 pediatric patients from February 13 to June 19, 2020. It highlighted high fatality rates and vulnerability among neonates (11.5%) and children under 12 months old (9.5%) with severe conditions requiring hospitalization. Article 2, involving 68 female cancer patients with COVID-19 from March 12 to June 19, 2020, showed a fatality rate of 72.1%. Multivariate logistic regression, adjusted for age and comorbidities, identified peripheral oxygen saturation < 95% as the only independent factor associated with mortality. Article 3 focused on building a predictive mortality analysis model using ML. The sample included 7,486 elderly patients reported between February 13 and June 19, 2020. The Random Forest (RF) algorithm identified the most important variables associated with mortality (advanced age, cardiovascular disease, and peripheral oxygen saturation < 95%), accurately predicting clinical outcomes with an AUC of 0.839. Article 4 performed a predictive analysis on 756 adults with cancer and severe acute respiratory syndrome (SARS), observing high fatality rates (75.8%), particularly among those aged 80 and older (84.8%). Advanced age and pre-existing chronic lung disease were associated with mortality, while overweight and cough were considered protective factors. **Conclusion**: Investing in the development of predictive models is essential for obtaining actionable information to support clinical decision-making and resource management in healthcare services. Understanding the relationship between these data and their predictive capacity for mortality in COVID-19 patients enhances prognostic estimates, contributing to better care management. It is proposed to reorganize healthcare networks, emphasizing the most vulnerable groups to COVID-19 mortality (patients at extreme ages and those with cancer) to reduce risks and implement proportionate protective measures in various contexts and care settings.

Keywords: coronavirus; sars-cov-2 infection; child; elderly; cancer.

SYMBOLIC EXPERIENCE OF ADULTS WITH PSORIASIS

CAMILA MARTINS VIEIRA

Advisor: José Eulálio Cabral Filho
Defense date: 2021 feb. 26

Introduction: Psoriasis is a systemic, inflammatory, chronic dermatological disease affecting the skin and nails. It is immune-mediated and has a recurrent course. Several factors are associated with the onset and worsening of lesions, including emotional aspects. However, much of the treatment is focused exclusively on dermatological care, highlighting the need for a broader understanding of the experience beyond the physical and biological aspects of the disease. **Objective**: To understand and interpret the symbolic experience of adult patients with psoriasis from the perspective of Analytical Psychology. **Methods**: A qualitative study on psoriasis referenced in Analytical Psychology. A systematic literature review was conducted, including qualitative articles, dissertations, and theses on psoriasis published between 2007 and 2017 in PubMed, BVS, and CAPES. Studies were selected based on descriptors, titles, abstracts, and then full-text reading. Five articles were eligible for metasynthesis, guided by meta-ethnography. A second descriptive-interpretive study was conducted between July and October 2019 with 16 psoriasis patients treated at the dermatology outpatient clinic of a hospital in Recife, PE. Open interviews and thematic content analysis were used. The study was approved by the IMIP Research Ethics Committee (CAAE: 84897318.9.0000.5201). **Results**: During the seven steps of meta-ethnography, the category "psyche and body" and the subcategories "feelings and thoughts," "sensations," and "self-image" were established, along with the category "health and disease" and its subcategories "conflict" and "conciliation." The interpretation of metaphors derived from the first- and second-order constructs of the selected articles led to third-order constructs: "symptoms," "self-image," and "attitudes." The interrelation among these reflects the integration of the conscious and unconscious dimensions of the psyche with the body as an organism, and their manifestations help in understanding the individual. In the second study, the categories were delineated as follows: "Psoriasis as a symbol: emergence, crises, and remission" discussed psoriasis's emergence as a symbol and the intense emotions expressed on the skin. "Treatment routine: from the skin's boundary to the inner world" addressed self-care practices and perceptions of treatment. "Self: pathways of closeness and distancing" explored exposure, changes, and self-awareness. **Conclusions**: Impacts on self-image, interpersonal relationships, and symptom persistence indicate the need to understand patients from a holistic perspective. Their experiences with psoriasis were linked to skin and emotional changes, which influenced the individuation process through the relationship between the individual's conscious and unconscious dimensions. Mental health, as a critical component of interdisciplinary treatment, underscores the importance of dialogue among professionals and the need for qualitative research to expand this topic.

Keywords: psoriasis; chronic disease; qualitative research; emotions; jungian theory.

REPRESENTATIVE SPEECH SAMPLE OF COMPENSATORY ARTICULATIONS IN BRAZILIAN PORTUGUESE SPEAKERS WITH CLEFT LIP AND PALATE FROM THE STATE OF PERNAMBUCO

MICHELINE COELHO RAMALHO VASCONCELOS

Advisor: José Eulálio Cabral Filho
Defense date: 2022 dec. 28

Introduction: Speech is one of the primary outcomes of primary palate surgeries (palatoplasty) in individuals with cleft lip and palate (CLP). The goal of palatoplasty is to establish proper velopharyngeal function, promoting a balance of oronasal resonance and generating intraoral pressure necessary for speech production, particularly oral sounds. Perceptual-auditory judgment is considered the gold standard for evaluating speech characteristics, including identifying compensatory articulations (CAs) and resonance. However, this process can be influenced by factors such as the type of sample, speech stimuli used to identify CAs, procedures for data collection, analysis methods, and the evaluator's experience. **Objective**: To develop a database of speech samples representative of compensatory articulations in Brazilian Portuguese speakers from Pernambuco with CLP who underwent surgery at a craniofacial anomaly treatment center in the North/Northeast region. Additionally, to compare perceptual-auditory judgments of articulatory placement (typical and atypical) regarding the presence or absence of CAs of the glottal stop (GS) and pharyngeal fricative (PF) types, both with and without access to reference samples, among speech therapists from two treatment centers. **Methods**: This cross-sectional observational analytical study was conducted at the Prof. Fernando Figueira Institute of Integral Medicine (IMIP) in Recife, PE, within the Speech Therapy service of CADEFI, a reference center for managing CLP, from January to November 2021. The study consisted of two phases: Phase I and Phase II. Phase I was subdivided into IA and IB: Phase IA included the selection, editing, and organization of existing speech recordings from the specialized center's archive. These recordings were identified and organized based on the presence of appropriate articulatory production and the use of GS and PF articulatory placements. Phase IB involved two experienced speech therapists specializing in CLP management who jointly judged 444 recordings, identifying, by consensus, appropriate articulatory production and the use of GS and PF during the production of sounds (/p/, /t/, /k/, /b/, /d/, /g/), (/f/, /s/, /ʃ/, /v/, /z/, and /ʒ/). A Recording Database was created from these recordings, establishing two types of samples: the Experimental Sample (ES) and the Reference Sample (RS). Phase II involved perceptual-auditory judgments of the experimental and reference speech samples by six speech therapists, three from CADEFI-PE (Center 1) and three from the Hospital for Rehabilitation and Craniofacial Anomalies (HRAC-SP, Center 2). These judgments were conducted online via the "Google Forms" platform at two distinct times: without access to the Reference Sample and, after one month, with access to the Reference Sample. Statistical analysis evaluated the accuracy of articulatory production identification and intra- and inter-rater agreement indices. **Results**: Intra-rater perceptual-auditory judgments at both centers showed statistically

470

significant results when analyzing the 113 experimental samples with access to the reference samples. However, when analyzing inter-center agreement, access to the reference samples did not influence the judgment of experimental samples. Among the child population aged 5 to 11 years, reference samples positively influenced both intra-rater and inter-center agreement indices in perceptual-auditory judgments.

Keywords: cleft lip and palate; speech; compensatory articulation; auditory perception; speech therapy.

EVALUATION THROUGH TELECONSULTATION OF SELF-REPORTED SEQUELAE OF POST-COVID-19 SYNDROME AFTER THREE MONTHS OF HOSPITAL DISCHARGE IN A REFERENCE SERVICE IN NORTHEAST BRAZIL: A CROSS-SECTIONAL STUDY

BARBARA RENATHA AFONSO FERREIRA DE BARROS LEITE

Advisor: Lívia Barboza de Andrade
Defense date: 2022 may 11

Introduction: The Coronavirus Disease 2019 (COVID-19) pandemic has caused health impairments both during the acute phase of the disease and in the chronic period through Post-COVID-19 Syndrome. To ensure the continuity and safety of healthcare services, remote consultations (teleconsultations) emerged as a global strategy to mitigate the impact of the disease. However, these actions require more in-depth analysis. **Objective**: To evaluate self-reported sequelae of Post-COVID-19 Syndrome three months after hospital discharge using teleconsultations at a referral service in northeastern Brazil. **Methods**: This was a cross-sectional observational study conducted with patients hospitalized for COVID-19 between April and July 2020, discharged from the Provisional Hospital of Recife-2 (HPR-2-Coelhos). The study included volunteers aged 18 years or older, of any sex, with a confirmed COVID-19 diagnosis and a hospitalization duration of seven days or more. Each participant was contacted by phone and invited to answer a questionnaire with twelve questions about Post-COVID-19 Syndrome sequelae: muscle/joint pain, shortness of breath at rest or during exertion, coughing or choking, weight loss >5kg, weakness or fatigue, difficulty with movement in daily activities, balance issues or fear of falling, difficulty walking, difficulty changing positions, sensory changes, anxiety/sadness/mood alterations, and memory or comprehension changes. Participants also rated the impact of COVID-19 hospitalization on their daily lives on a scale from 0 to 10. Teleconsultation outcomes were also assessed. Statistical analysis and data description were conducted using Epi Info 7.2. Data were presented in frequency distribution tables with measures of mean and standard deviation, considering p<0.05. **Results**: Of the 218 eligible patients, 89 participants were included in the sample, with a mean age of 63.5 ± 14 years and an average hospital stay of 18 ± 16 days. The main findings revealed four predominant sequelae: weight loss >5kg (60.7%), fatigue/muscle weakness (53.9%), muscle/joint pain (43.8%), and anxiety/sadness (46.1%). Regarding the impact of COVID-19 on daily activities, 34.8% of participants reported no impact (score 0), while 21.3% reported maximum impact (score 10). Teleconsultation outcomes showed that 1.96% of patients died after hospital discharge; 53.2% could not be contacted by phone, and 56.2% were referred for a follow-up teleconsultation. **Conclusion**: In adults three months after hospital discharge for COVID-19, teleconsultations enabled the evaluation of the main self-reported sequelae of Post-COVID-19 Syndrome, with the most frequent being weight loss >5kg, fatigue/muscle weakness, muscle/joint pain, and anxiety/sadness. The impact of these sequelae on daily life showed two predominant extremes: patients who reported no impact and those who reported maximum impact. Finally, the teleconsultation outcomes were assessed, aiming to improve remote care services.

Keywords: COVID-19; post-acute COVID-19 syndrome; teleconsultation; hospitalization; rehabilitation.

EVALUATION OF PLATELET INFLAMMATORY MEDIATORS AND THE EFFECT OF KETAMINE ON PLATELET ACTIVATION MECHANISMS IN PATIENTS UNDERSTANDING MYOCARDIAL BYPASS SURGERY

REBECA GONELLI ALBANEZ DA CUNHA ANDRADE

Advisor: Leuridan Cavalcante Torres
Defense date: 2022 may 06

Introduction: Atherosclerosis and arterial thrombosis are the underlying pathophysiology of myocardial infarction, representing one of the leading causes of death worldwide. Platelets are important structures in the pathogenesis of cardiovascular diseases (CVD), and platelet-monocyte aggregates are considered the link between atherosclerosis and inflammation. Although ketamine has anti-inflammatory effects, its role in platelet activation mechanisms is still unknown. **Objective**: To evaluate the role of inflammatory mediators of platelets and the effect of ketamine on platelet activation mechanisms in patients undergoing coronary artery bypass grafting (CABG). **Methods**: A longitudinal study with a seven-day follow-up was conducted with patients undergoing CABG with cardiopulmonary bypass (CPB) at the Instituto de Medicina Integral Prof Fernando Figueira (IMIP) between 2016 and 2018. For Article 1, 22 patients were included and evaluated at two different times: pre-operatively and seven days post-CABG. For Article 2, after creating a numerical table using Random Software Allocation, 44 patients were divided into two comparison groups. Although the anesthesia techniques were similar, one group received ketamine at a dose of 0.5 mg/kg (CABG + ketamine) and the other received saline solution (CABG + saline) intravenously administered during anesthesia induction. In both articles, a healthy control group consisting of 20 healthy, voluntary individuals without CVD was included. This study was approved by the IMIP Human Ethics Committee (CAAE 52525516.9.0000.5201). Platelet analysis was performed using flow cytometry. The concentration of sCD62P and sCD40L was determined by enzyme-linked immunosorbent assay. **Results**: In Article 1, elevated levels of CD41aneg cells were observed pre-operatively compared to post-CABG (7th day; P <0.05). In paired analyses, the mean difference of CD41aneg cells was 1.947% lower between post- and pre-surgery (P=0.03). Elevated levels of CD40L+CD41a+ cells were observed post-CABG in comparison with pre-surgery patients and healthy controls (P<0.001 and P<0.0001, respectively). In paired analyses, the mean difference in CD40L+CD41aneg levels was 5.427% lower between post- and pre-surgery (P=0.01). Elevated levels of sCD40L were found in the blood of pre-CABG patients compared to healthy controls (P<0.01). In paired analyses, the mean difference in sCD40L levels was 14.13 pg/mL lower between post- and pre-surgery (P=0.01). A significant correlation between absolute platelet count (APC) and CD40L+CD41a+ cells (r=-0.3706; P=0.02), and APC versus sCD62P (r = -0.3015; P=0.04) was observed. In Article 2, elevated relative levels of platelet-monocyte aggregates and CD40+ monocytes were observed pre-operatively compared to healthy controls (P<0.0001 and P<0.05, respectively). Platelet-monocyte aggregates were significantly elevated in the CRM + saline and CRM + ketamine groups compared to healthy controls (P<0.001 and P<0.05, respectively). In paired analysis,

there was a mean difference in CD40L+ monocyte levels of 5.981% lower in the ketamine group between post- and pre-CABG (P=0.01). In the CRM + saline group, a moderate positive correlation of platelet-monocyte aggregate levels between pre- and post-CABG was observed (r=0.5231; P=0.01). **Conclusion**: Changes in CD40L+CD41a+ and sCD40L levels were observed in patients undergoing CABG. CD41aneg cells (microparticles) should be further studied in cardiovascular diseases due to their potential as prognostic biomarkers. The levels of circulating platelet-monocyte aggregates are promising biomarkers to evaluate platelet activation in CVD patients before and after CABG. Ketamine demonstrated anti-inflammatory effects by modulating circulating levels of platelet-monocyte aggregates and CD40+ monocyte expression on the membrane following CABG.

Keywords: myocardial revascularization; CD62P; CD40 ligand; ketamine; platelet-monocyte aggregate.

EVALUATION OF SOLUBLE MEDIATORS CD40, CD40L, CD62P, TIM-3 AND GALECTIN 9 IN YOUNG ADULTS WITH ACUTE BACTERIAL AND VIRAL MENINGITIS

MOACIR BATISTA JUCA

Advisor: Leuridan Cavalcante Torres
Defense date: 2022 jun. 02

Introduction: The central nervous system (CNS) is an immunologically specialized tissue protected by a blood-brain barrier and meninges, which provide additional protection and house a diverse range of immune cells, forming an interface with the periphery. CNS infections present many diagnostic and therapeutic challenges and can have a severe and prolonged course, causing significant morbidity and mortality. **Objective**: To evaluate the soluble mediators CD40, CD40L, CD62P, TIM-3, and galectin-9 in young adults with acute bacterial and viral meningitis. **Methods**: A translational, longitudinal study with a 30-day follow-up was conducted between 2018 and 2020 on adult patients aged 18 to 50 years, of both sexes, admitted to the Hospital Correia Picanço with a diagnosis of acute CNS infection. Patients were divided into two groups: a) patients with bacterial meningitis (BM, n=20) and b) patients with viral meningitis (VM, n=10). Patients were evaluated during their hospitalization and underwent follow-up laboratory evaluations on the third, fifteenth, and thirtieth days of disease progression. Serum levels of sCD62P, sCD40L, sCD40, sTIM-3, and sGAL9 were measured, along with TIM-3 and GAL9 levels in cerebrospinal fluid (CSF). All measurements were performed by enzyme-linked immunosorbent assay (ELISA). Descriptive analysis included frequency distribution tables and central tendency and dispersion measures. Fisher's Exact Test was used to check for associations between categorical variables. For numerical variables, the Shapiro-Wilk normality test was applied. Continuous variables were presented as means and standard deviations. For comparison between two groups, unpaired and paired t-tests were used. For comparisons between three groups, Bonferroni's multiple comparisons test was applied. Correlation levels were classified according to Pearson's coefficient (r). Data analysis was performed using GraphPad Prism v9.0 software. A p-value <0.05 was considered statistically significant. This study was approved by the IMIP Human Ethics Committee under CAAE No 95221418.0.0000.5201. **Results**: Elevated levels of sCD62P and sCD40L were observed in patients with BM compared to those with VM (p <0.05). No significant differences were found in the median serum levels of sCD62P, sCD40L, and sCD40 at T0, T3, T15, and T30 in both patient groups. In BM, a moderate negative correlation (r=-0.54, p=0.02) between sCD40 and sCD62P was found, and a very high positive correlation (r=0.90, p<0.0001) between sCD40L and sCD40 was observed. In VM, a very high positive correlation (r=0.92, p=0.0001) between sCD40L and sCD40 was also found. In the analysis of the serum mediator sCD62P, a ROC curve analysis established a cutoff value of 2.978 pg/mL for the differential diagnosis between BM and VM, with a sensitivity of 85% and specificity of 72.7%. Elevated levels of sTIM-3 and sGAL9 were observed in patients with BM compared to VM (p<0.05). Significant differences were noted in the median serum levels of sTIM-3 and

sGAL9 at T0 and T30 between the BM and VM groups. In BM, a moderate positive correlation (r=0.57, p=0.006) between sGAL-9 and sTIM-3 was found, while in VM, a moderate positive correlation (r=0.68, p=0.01) between sGAL-9 and sTIM-3 was observed. Regarding CSF, TIM-3 and GAL9 concentrations were significantly higher in the BM group compared to the VM group (p<0.05). The sTIM-3 concentration of 864.7 pg/mL showed an ideal cutoff for the differential diagnosis between BM and VM, with high sensitivity (100%) and specificity (90.9%) (p<0.0001). **Conclusions**: Acute CNS infection is associated with immune response dysregulation, as reflected by changes in the molecules sCD62P, sCD40, sCD40L, TIM-3, and GAL9. This study showed that the expression profile of these molecules differs between VM and BM, highlighting the accuracy of sCD62P and TIM-3 as potential markers for the differential diagnosis of BM and VM.

Keywords: CD40; CD40L; CD62P; TIM-3; GAL9; meningitis; platelets; cellular immunity.

PREOPERATIVE VOICE EVALUATION IN ADULTS: A NEW PREDICTOR OF DIFFICULT AIRWAY

CLISTENES CRISTIAN DE CARVALHO

Advisor: Lívia Barboza De Andrade
Defense date: 04/06/2022 apr. 06

Scenario: Difficult airway (DA) is one of the main causes of anesthesia-related complications. It is defined as the clinical situation in which a well-trained physician in airway management faces difficulty in performing tracheal intubation or ensuring pulmonary ventilation through the use of a face mask or supraglottic devices. This situation can arise due to various factors related to the patient, clinical scenario, technique used, and the skill of healthcare professionals. In an attempt to optimize patient care, much effort has been invested in identifying a factor capable of predicting the occurrence of DA. Several predictors have been reported by various authors over the years; however, none have shown sufficient predictive performance for a safe prediction of DA. The voice, in turn, presents acoustic parameters intrinsically related to the anatomy of the upper airway – notably the formants – and represents a new possibility for the early identification of issues during airway management. **Objectives**: To evaluate the association between voice parameters and difficult airway in adult patients undergoing general anesthesia for elective surgical procedures. **Methods**: An observational, prospective study was conducted among patients indicated for general anesthesia for elective surgical procedures at the Hospital das Clínicas, University of Pernambuco. After approval of the research protocol by the ethics committee of the Center for Health Sciences at the University of Pernambuco, patients who agreed to participate and signed the consent or assent forms, as appropriate, were included. The exclusion criteria were patients younger than 15 years old, those undergoing awake airway manipulation, and those unable to pronounce the requested sounds. Study variables: Age, sex, weight, height, body mass index, physical status according to the American Society of Anesthesiologists, mouth opening, mento-sternal distance, Mallampati test, first five formants (F1, F2, F3, F4, and F5) for the phonemes /a/, /ɛ/, /i/, /ɔ/, and /u/, difficulty in mask ventilation, difficulty in direct laryngoscopy, and difficulty in orotracheal intubation. Descriptive analyses were performed, and statistical significance tests were applied according to the qualitative or quantitative nature of the variables and their distribution pattern. Logistic regression analyses were conducted to construct predictive models for difficult airways. **Results**: 453 patients were included in the study. Difficult laryngoscopy was observed in 29 patients (6.4%) and was associated with three formants: eF2 ($p = 0.00$), eF3 ($p = 0.00$), and iF2 ($p = 0.01$). The area under the ROC curve for the regression model involving both the Mallampati test and the formants (AUC = 0.918) was higher than the area under the curve for the model containing only the Mallampati test (AUC = 0.874) and the model containing only the formants (AUC = 0.761). For the analysis related to difficulty in mask ventilation, 431 patients were included in the analysis. Of these, 19 (4.4%) had difficult mask ventilation (DMV). Two formants were associated with DMV: iF5 ($p = 0.03$) and oF5 ($p = 0.03$). The logistic regression model containing only the two significant formants in the bivariate analysis showed an ROC curve area of 0.74. **Conclusion**: Voice formants are associated with the occurrence of difficult airway and increase the predictive value of the Mallampati test (already a recognized predictor of DA). Therefore, they can be used as an additional tool in preoperative airway evaluation.

Keywords: voice; airway management; laryngoscopy; intratracheal intubation.

CLINICAL, VENTILATORY, FUNCTIONAL AND IMMUNOLOGICAL CHARACTERISTICS RELATED TO SEVERITY AND MORTALITY IN ADULTS WITH COVID-19 IN NORTHEAST BRAZIL: LONGITUDUNAL STUDY

LIDIER ROBERTA MORAES NOGUEIRA

Advisor: Lívia Barboza De Andrade
Defense date: 2022 aug. 24

Introduction: The pandemic and the global state of emergency resulting from the spread of SARS-CoV-2 highlight the urgent need for studies to elucidate the main characteristics of patients infected with the coronavirus (COVID-19). Depending on viral load, inflammatory response, and predisposing factors, the clinical picture, severity, and intervention may vary. Both the innate and adaptive immune responses play a crucial role in pathogen recognition and elimination, but when the infection is caused by SARS-CoV-2, the mechanisms that may suppress the host's innate immune responses are still not well understood. **Objectives**: To compare the clinical, functional characteristics, and ventilatory support in adult survivors and non-survivors of COVID-19 and analyze the expression of soluble biomarkers as independent prognostic factors. **Methods**: Two studies were conducted, one observational longitudinal study according to the STROBE initiative guidelines (study 01) and one translational longitudinal study (study 02), at the COVID-19 Reference Hospital in Recife, Brazil, between April 2020 and July 2022. Adult patients of both sexes with RT-PCR positive for COVID-19 who were admitted to the intensive care unit (ICU) or medical wards were included, and those who died within 24 hours of admission or had incomplete data without recovery possibility were excluded. Clinical data were collected, including smoking and alcohol habits, mechanical ventilation (MV) and adjusted parameters, ICU and hospital length of stay, functional status at admission and discharge, and laboratory data. For the translational study, concentrations of B cell activating factor (BAFF) and the proliferation-inducing ligand (APRIL) in venous blood were also analyzed using the ELISA technique following the manufacturer's instructions. Mortality was the primary outcome. Logistic regression determined mortality predictors and protectors, and Kaplan-Meier was used for survival analysis. Odds Ratio (OR) was used as a risk measure with 95% confidence intervals (CI). **Results**: In study 01, 183 patients participated, with a mean age of 65.1 ± 14.5 years. In the comparison between survivors and non-survivors, differences were observed in the use of invasive MV, prone position, and functionality. Smoking habits, longer ICU stay, invasive MV, and failure of non-invasive MV increased the chance of death. Protective factors included prone positioning, functional level at discharge, positive end-expiratory pressure (PEEP) lower than 10 cmH2O, and driving pressure lower than 15 cmH2O. In study 02, 43 septic patients were included and divided into two groups (severe and critical). The critical group had higher levels of sBAFF and sAPRIL compared to the severe group ($p < 0.05$). In the critical group, higher levels of BAFF and lower survival rates were observed compared to non-survivors ($p = 0.0206$ and $p = 0.0096$, respectively). **Conclusion**: Compared to survivors of COVID-19, non-survivors were exposed to invasive MV

with high adjusted pressure parameters. Patients who were positioned prone, used pulmonary protective strategies, and had higher functional levels survived longer, making these factors protective. In the evaluation of inflammatory cytokines, soluble BAFF and APRIL levels were associated with severity and mortality in critical patients.

Keywords: mortality; acute respiratory distress syndrome; mechanical ventilation; B Cells; B cell Activating Factor (BAFF); SARS-CoV-2.

EFFECTIVENESS OF KINESIOTHERAPY INVOLVING PELVIC BIOMECHANICS WITH THE USE OF BIRTH BALLS IN MATERNAL AND NEONATAL OUTCOMES

ALEXANDRE MAGNO DELGADO

Advisor: Leila Katz
Defense date: 2022 May 06

Introduction: Birth balls are widely used resources in childbirth assistance as they facilitate upright positions and exercises involving pelvic biomechanics, with or without the use of pharmacological analgesia. SWISS BALL STUDY **Objective**: To evaluate the effectiveness of kinesitherapy involving pelvic biomechanics with the use of a Swiss Ball compared to standard care on maternal and neonatal outcomes. **Methods**: A pragmatic, randomized clinical trial with concealed allocation and blinded outcome evaluator was conducted in four maternity hospitals in the state of Pernambuco, Brazil. The study included low-risk pregnant women in the first stage of labor, with a term singleton pregnancy in cephalic presentation. Exclusion criteria were fetal death, psychiatric disorders, use of psychoactive drugs, and those receiving epidural analgesia or oxytocin. A total of 200 participants were randomly assigned, with 100 pregnant women in each group.The primary outcome was the duration of the first stage of labor, while secondary outcomes included pain intensity, duration of the second stage, delivery mode, episiotomy, perineal laceration, uterine or vulvar edema, use of analgesia or oxytocin, maternal fatigue, anxiety, maternal satisfaction, companion satisfaction, Apgar scores at 5 minutes, neonatal resuscitation, and neonatal ICU admission. Additionally, the duration of ball use and maternal satisfaction with the protocol were assessed. The intervention group used the Swiss Ball with kinesitherapy involving pelvic biomechanics, while the control group received routine care. Continuous variables were compared using mean differences with 95% confidence intervals (CI) and Student's t-test. Dichotomous variables were analyzed using chi-square tests, and risk ratios (RR) with 95% CI and the number needed to treat (NNT) were calculated. **Results**: The protocol reduced the duration of the first stage of labor by 179.19 minutes (95% CI 195.72 to 212.66, p < 0.001) and the second stage by 18 minutes (95% CI 12.54 to 25.22, p < 0.001). Pain scores decreased by 2.66, 2.10, and 1.96 points at 30, 60, and 90 minutes, respectively. The protocol increased the likelihood of vaginal delivery by 19% (RR 1.19; 95% CI 1.04 to 1.36, NNT = 7, p = 0.019) and reduced cesarean risk by 54% (RR 0.46; 95% CI 0.25 to 0.86, NNT = 7, p = 0.019) and vulvar edema risk by 79% (RR 0.21; 95% CI 0.06 to 0.72, NNT = 99, p = 0.011). Fatigue decreased by 18.30 points and anxiety by 9.13 points in favor of the protocol. No differences were observed in other maternal or neonatal outcomes. **Conclusion**: Kinesitherapy involving pelvic biomechanics using the Swiss Ball reduces the duration of the first and second stages of labor, increases the likelihood of vaginal delivery, reduces cesarean risk and vulvar edema, and decreases maternal pain, fatigue, and anxiety. No differences were observed in other maternal and neonatal outcomes. PEANUT BALL STUDY. **Objective**: To evaluate, using the highest level of evidence, the potential benefits and harms of using the Peanut Ball in women

receiving epidural analgesia during labor, focusing on maternal and neonatal outcomes. **Methods**: A systematic review with meta-analysis was conducted. Searches were performed in databases such as MEDLINE/PubMed, Embase, LILACS, CINAHL, CENTRAL, PEDro, Web of Science, and SCOPUS without period or language restrictions. The terms "labor" and "peanut ball" were used. Randomized and quasi-randomized clinical trials comparing groups using the ball versus standard care were included. Evidence quality was assessed using the GRADE system, and quantitative analysis was performed through meta-analysis where applicable. **Results**: This updated review included four studies totaling 818 laboring women who received pharmacological analgesia. Evidence quality ranged from high to low, as per the GRADE approach. Overall, studies included varied in their risk of bias, with most presenting some concerns about bias. **Conclusion**: High-quality evidence indicates that the use of the Peanut Ball after epidural analgesia reduces the first stage of labor duration by 87 minutes. Moderate evidence suggests an 11% increase in the likelihood of vaginal delivery. However, no evidence of effects on other maternal or neonatal outcomes was observed.

Keywords: labor; first stage of labor; physiotherapy modalities.

FACTORS ASSOCIATED WITH SEVERE ACUTE RESPIRATORY SYNDROME IN PREGNANT AND PUERPERAL WOMEN AFFECTED BY COVID-19 TREATED IN REFERENCE CENTERS IN NORTHEAST BRAZIL

CAROLINA MARIA PIRES CUNHA

Advisor: Leila Katz
Date of defense: 2022 nov. 14

Introduction: The gestational period represents a high-risk time for COVID-19 and its complications, particularly Severe Acute Respiratory Syndrome (SARS), due to the physiological changes that occur during pregnancy. However, understanding the clinical course remains limited. **Objective**: To describe the clinical profile of pregnant and postpartum women affected by COVID-19 who required respiratory support and to analyze factors associated with Severe Acute Respiratory Syndrome (SARS) in these women treated at referral centers in northeastern Brazil. **Methods**: This ambidirectional cohort study included pregnant and postpartum women with a positive PCR test for COVID-19 who were treated at eight referral centers located in northeastern Brazil between April 2020 and December 2021. Medical records that were not located or were incomplete were excluded. The study was approved by the Ethics Committee of all participating institutions; the CAAE for this analysis is 58466822.0.0000.5201. Statistical analysis was conducted using Epi-Info 7.2.5 and MedCalc version 20.112. Numerical variables were described using measures of central tendency and dispersion, while categorical variables were presented in frequency distribution tables. Associations between independent variables (clinical and epidemiological characteristics) and dependent variables (SARS) were examined using contingency tables, chi-square tests, and Fisher's exact tests. **Results** – Article 1: The study included 208 patients who required ventilatory strategies. The average age was 28.9 ± 7.1 years. Most participants identified as mixed race (52.8%); 31.3% had low educational attainment, and 39% reported having their own income. Forty-eight (23.1%) were married, but civil status data were missing for 77 cases (37%). The majority of pregnant women were referred from other hospitals (50.9%). Among the patients, 46 (36.8%) were obese or overweight, and 69 (36.9%) had hypertensive disorders. The main signs and symptoms reported were headache (80.7%), dyspnea (78.8%), fever (65.8%), and dry cough (63.5%). SARS criteria were met by 168 (80.7%) patients. Abnormalities on chest X-rays and CT scans were observed in 70 (80.5%) and 32 (69.6%) patients, respectively. A total of 151 (74.7%) patients received corticosteroid therapy, and 150 (76.1%) were admitted to maternal ICUs. **Results** – Article 2: This study included 611 patients with RT-PCR-confirmed COVID-19, of which 489 were pregnant and 113 were postpartum women. SARS criteria were met by 215 patients (35.2%). Factors associated with SARS included: Overweight/obesity (RR = 1.95; 95% CI = 1.21–3.12; p = 0.0054). Having two or more previous deliveries (RR = 1.72; 95% CI = 1.21–2.45; p = 0.0025). Gestational age <34 weeks (RR = 3.54; 95% CI = 2.47–5.07; p < 0.0001). Symptom duration >7 days (RR = 1.97; 95% CI = 1.35–2.89; p = 0.0004). The presence of SARS in COVID-19 cases significantly increased

the likelihood of: Oxygen therapy (RR = 8.80; 95% CI = 6.25–12.40; p = 0.0000). Mechanical ventilation (RR = 8.15; 95% CI = 4.67–14.21; p = 0.0000). ICU admission (RR = 6.54; 95% CI = 4.70–9.11; p = 0.0000). Maternal near miss (RR = 10.82; 95% CI = 1.20–22.47; p = 0.0000). Mortality (RR = 8.12; 95% CI = 3.11–21.09; p = 0.0000). **Conclusions**: The most common characteristics of pregnant women with COVID-19 requiring respiratory support were being of mixed race, being in the third trimester of pregnancy, and being referred from another hospital. Obstetric outcomes were severe, including high cesarean rates, SARS criteria, and maternal near miss or death from COVID-19. Among patients with COVID-19, parity ≥2, overweight or obesity, gestational age <34 weeks, and symptom duration >7 days were associated with an increased risk of SARS. Cesarean rates, oxygen therapy, and mechanical ventilation were also higher in patients with SARS.

Keywords: COVID-19; SARS-CoV-2; severe acute respiratory syndrome; pregnancy; artificial respiration.

MAIS MÉDICOS PROGRAM: DEVELOPMENT AND VALIDATION OF INSTRUMENT TO ASSESS THE QUALITY OF PRIMARY CARE

MOZART JULIO TABOSA SALES

Advisor: Suely Arruda Vidal
Defense date: 2022 jul. 01

Introduction: The World Health Organization recognizes that the low number of medical professionals in rural and remote areas creates difficulties in accessing adequate and equitable healthcare. In Brazil, there are significant disparities in the distribution of doctors, with the North and Northeast regions being the most affected. As a countermeasure, the Ministry of Health created the "Programa Mais Médicos" (PMM) through Law No. 12,871 on October 22, 2013, with the objectives of reducing the shortage of doctors and regional health inequalities. By July 2014, the PMM had allocated 14,462 doctors to 3,785 municipalities in vulnerable areas. **Objectives**: To develop and validate instruments based on Starfield's attributes and Donabedian's pillars of quality to measure the quality and strengthening of primary healthcare, and to evaluate the quality and characterize healthcare based on the type of medical professional employed in the PMM using these instruments. **Methods**:Study 1: A mixed sequential qualitative-quantitative methodological study for the development and validation of the Q-FAB instrument. Responses were measured on a Likert scale ranging from 1 to 5, targeting medical professionals and users through consensus techniques and analytical tests. Study 2: A cross-sectional study with an analytical component to evaluate and characterize healthcare using the developed instrument. A stratified probabilistic sample of primary health units was selected based on the population size of municipalities in Pernambuco. Inclusion Criteria: Professionals: Working in the unit for at least six months. Users: Aged 18 or older, having had at least two consultations with the professional, and present at the unit on the interview day. Data were collected from 149 doctors and 795 users in 23 municipalities across Pernambuco's four health macro-regions. Descriptive and analytical statistical techniques were employed, with a significant level of 5%. Psychometric measures of the instrument were assessed using Cronbach's alpha coefficient, item-total correlation, intraclass correlation coefficient, and reproducibility. Exploratory Factor Analysis (EFA) was used to test multidimensionality and reduce the instrument's length. Construct validity was determined using the Kaiser-Meyer-Olkin index, and Bland-Altman analysis tested correlations between the full and reduced versions. Bivariate and multivariate analyses were conducted to evaluate associations between primary healthcare characterization and sociodemographic, educational, and professional provision factors. The study was approved by the Ethics Committee (CAAE No. 698495517.3.0000.5201). **Results**: Study 1: After consensus meetings, the final professional instrument included 59 items, and the user instrument had 36 items. Reliability analysis showed an 88% reproducibility rate. Fourteen items were removed from the professionals' instrument due to item-total correlation indices < 0.20, reducing it to 45 items. Three items were removed from the users' instrument for having negative item-total correlation indices, leaving 33 items. Cronbach's alpha was 0.943 for

professionals and 0.860 for users. Exploratory Factor Analysis identified 13 factors in the professionals' instrument, with all 45 items exceeding the 0.300 factor loading threshold. In the users' instrument, all 33 items also surpassed the threshold. A reduced 29-item version for professionals was validated across all tests. Study 2: The evaluated attributes generated average scores based on professionals' and users' responses, related to subgroups of provision by professional type. Cuban doctors consistently had higher average scores across all attributes, with the largest difference observed in the "family and community orientation" attribute (score: 7.19), followed by Brazilian doctors (score: 4.74). The smallest difference was in the "longitudinality" attribute, with Cuban doctors scoring 8.43 compared to 7.74 for Brazilian doctors. Female gender (OR 2.25, CI 1.03-4.94), specialization (OR 5.38, CI 1.34-21.53), and provision by Cuban doctors (OR 3.91, CI 1.53-10.00) were all statistically significant ($p > 0.05$). **Conclusions**: The Q-FAB instruments for professionals and users demonstrated validity, as evidenced by their internal structure, even after adjustments to the number of items in the complete and reduced versions for professionals and the complete version for users. This highlights the need for adequately prepared human resources to transform primary healthcare and improve its quality. This study contributes to the pursuit of better healthcare access and reinforces the role of the state in ensuring citizenship with less structural violence, using appropriate metrics to measure healthcare provision through primary care.

Keywords: primary healthcare; evaluation studies; validation studies; programa mais médicos; healthcare quality.

NEUROIMAGING FOLLOW-UP IN CHILDREN WITH CONGENITAL SYNDROME ASSOCIATED WITH ZIKA VIRUS INFECTION: SERIES OF CASES

NATACHA CALHEIROS DE LIMA PETRIBU

Advisor: Maria do Carmo Menezes Bezerra Duarte
Defense date: 2022 oct. 20

Introduction: In 2015, Brazil experienced an unprecedented outbreak of congenital microcephaly associated with the Zika virus. Since then, knowledge has been acquired about the disease's epidemiology and pathophysiology. Health professionals are now dealing with a population of children with congenital Zika syndrome (CZS), which presents a wide spectrum of clinical and radiological findings and an as-yet-unknown clinical course. The primary findings on cranial computed tomography (CT) scans of newborns with CZS have been widely reported. These include brain calcifications, particularly at the cortico-subcortical junction (CSJ), reduced brain volume with cortical development malformations, ventriculomegaly (primarily colpocephaly), cerebellar hypoplasia, and protuberance of the occipital bone. The pathophysiology of hydrocephalus in CZS remains unknown. Due to the risk of hydrocephalus, many children underwent follow-up CT scans. Recent recommendations suggest that children with CZS between 10 and 12 months of age undergo neuroimaging re-evaluation. Since no longitudinal studies have been published describing the progression of neuroimaging abnormalities in these infants, it was considered timely and relevant to compare the initial brain scans with follow-up scans of the first 37 children with CZS referred for CT evaluation. **Objective**: To compare initial cranial CT neuroimaging findings (shortly after birth) with follow-up scans (around one year of life), focusing on calcifications, in children with CZS. **Methods**: This was a descriptive case series study involving children with probable or confirmed CZS, as defined by Brazil's Ministry of Health. All children underwent non-contrast cranial CT scans shortly after birth and at one-year follow-up in Recife, Pernambuco, between August 2015 and January 2017. Children with other concomitant congenital STORCH infections (syphilis, toxoplasmosis, rubella, cytomegalovirus, and herpes) were excluded. Biological variables, birth-related data, medical history, and CT findings were evaluated. Statistical analysis was performed using SPSS version 21.0. The McNemar test was used to compare findings between the two sets of CT scans. Fisher's exact test analyzed associations between variables. Additional analyses included residual analysis to examine associations between variable categories in contingency tables. **Results**: Thirty-seven children were evaluated. All had brain calcifications on their initial scans, predominantly at the CSJ. At follow-up, calcifications had decreased in number, size, or density—or a combination of these—in 34 children (92%, 95% confidence interval: 79% to 97%), were no longer visible in one child, and remained unchanged in two children. No child presented an increase in calcifications. The CSJ calcifications that were no longer visible at follow-up occurred predominantly in the parietal and occipital lobes. These imaging changes were not associated with any evident clinical improvement. **Conclusions**: The detection of brain calcifications should not be considered a major criterion for the late diagnosis of CZS, nor should the absence of calcifications be used to exclude the diagnosis.

Keywords: zika virus; microcephaly; computed tomography; neuroimaging.

TRANSLATION, CROSS-CULTURAL ADAPTATION AND SCALE VALIDATION CHILDREN'S HOSPITAL OF PHILADELPHIA INFANT TEST OF NEUROMUSCULAR DISORDERS (CHOP INTEND) FOR THE PORTUGUESE LANGUAGE OF BRAZIL

RENALLI MANUELLA RODRIGUES ALVES

Advisor: Lívia Barboza de Andrade
Defense date: 2022 dec. 14

Introduction: 5q spinal muscular atrophy (SMA) is a rare, genetic neuromuscular disease that affects motor neurons, leading to hypotonia and progressive muscle weakness. It is classified into four types based on the age of symptom onset and severity, with type I being the most common and severe. Affected infants may experience significant functional and clinical impairments. Over the last five years, substantial progress has been made in disease-modifying therapeutic options. The combination of multidisciplinary care and new drugs has demonstrated stabilization in disease progression and the emergence of new phenotypes. For this, the use of standardized assessment tools is essential to quantify patient progression and enable comparisons between studies. **Objective**: To perform the translation, cross-cultural adaptation into Portuguese, and validation of the Children's Hospital of Philadelphia Infant Test of Neuromuscular Disorders (CHOP INTEND) scale for use in Brazil. **Methods**: This is a methodological study conducted after obtaining permission from the author of the original English version of the scale, a 16-item assessment tool designed to evaluate motor function in individuals with SMA who are unable to sit unsupported. The research followed the stages of translation, synthesis of translations, back-translation, expert committee review, and testing. The process began with the translation of the original English version into Brazilian Portuguese by two independent bilingual translators. This was followed by the synthesis of the versions and back-translation into English, also performed by two independent bilingual translators. After reconciling the translations, a meeting was held with the researchers and a committee of ten specialists in pediatric neurology to analyze the semantic, structural, idiomatic, and cultural equivalence of the translation. At this stage, terminology adjustments were discussed, and the content validity of the Portuguese instrument was examined through expert evaluation of the clarity and relevance of the resulting version. Subsequently, the Portuguese version was tested. Scores for 13 children with SMA type I, treated at a reference center for rare diseases in Pernambuco, were recorded by three independent evaluators to verify inter-rater reliability. **Results**: The scale was translated with appropriate adaptation and substitution of terms, demonstrating good agreement rates. The overall content validity index for the instrument was 0.98, and inter-rater reliability, analyzed using the intraclass correlation coefficient, showed a value of 0.998. **Conclusion**: The final Portuguese version of the CHOP INTEND scale proved to be valid and reliable for use with the Brazilian population of patients with SMA type I.

Keywords: spinal muscular atrophy; growth and development; validation studies.

VALIDATION OF RISK SCORES AND CONSTRUCTION OF A BUSINESS MODEL PREDICTION OF HEMOTRANSFUSION USING MACHINE LEARNING IN A CARDIOVASCULAR SURGERY SERVICE

CRISTIANO BERARDO CARNEIRO DA CUNHA

Advisor: Lívia Barboza de Andrade
Defense date: 2022 May 17

Introduction: Red blood cell transfusion is common in cardiac surgery, despite its well-known deleterious effects. Given the limited availability of this resource, identifying patients with a higher likelihood of transfusion becomes essential so that strategic measures can be implemented to reduce the need for blood transfusion. The most used risk scores to predict transfusion are TRUST and TRACK; however, to date, these tools have not been validated for the Brazilian population. On the other hand, more recently, artificial intelligence techniques such as Machine Learning (ML) have been successfully applied across various health fields, providing greater reliability to prediction tools. **Objective**: To assess the accuracy of the TRUST and TRACK tools in predicting the need for blood transfusion during and after major cardiac surgery and to develop a predictive tool using Machine Learning. **Methods**: This is an accuracy study based on a retrospective analysis of a database from a high-volume surgical center in Brazil, including patients operated on between November 2019 and September 2021. A comparison between TRUST and TRACK scores was performed using the non-parametric Mann-Whitney test. To assess score calibration, the Hosmer-Lemeshow goodness-of-fit test was applied. Accuracy was determined by using the area under the ROC curve (AUC). Subsequently, a supervised machine learning model was developed to predict the risk of blood transfusion. Variables with potential influence on transfusion risk in cardiac surgery were evaluated, and seven ML algorithms were analyzed. All analyses considered a 95% confidence interval (CI) and p<0.05. **Results**: A total of 498 patients were analyzed. It was observed that while the TRACK score showed good calibration (p=0.238), the TRUST score did not perform well (p=0.034) in predicting blood transfusion. For TRACK, the area under the ROC curve was 0.678 (95% CI 0.63-0.73, p<0.001), indicating significant accuracy, although below 0.7. After analyzing the clinical variables and ML algorithms, a predictive tool for blood transfusion in cardiac surgery was created, incorporating 11 variables (age, gender, body surface area, presence of diabetes mellitus, systemic arterial hypertension, preoperative hemoglobin, preoperative creatinine, previous cardiac surgery, use of cardiopulmonary bypass, type of surgery, and whether the surgery was urgent). The Random Forest algorithm demonstrated the best results, with good predictive capacity (AUC: 0.73). **Conclusions**: This study demonstrated that only the TRACK score showed good calibration in predicting blood transfusion in cardiac surgery in our population, albeit with low accuracy. By using ML, it was possible to develop a predictive tool for blood transfusion in major cardiac surgery that is easy to apply and offers good predictive capacity.

Keywords: cardiac surgery; red blood cell transfusion; risk index; machine learning.

ADEQUATE PRENATAL CARE IN PERNAMBUCO: TRENDS TIME, ASSOCIATED FACTORS AND NATIONAL SCIENTIFIC PRODUCTION

JULIANA DE CASTRO NUNES PEREIRA

Advisor: Maria de Fátima Costa Caminha
Defense date: 2023 apr. 20

Introduction: Prenatal care is a key phase in the maternal-child health cycle, emphasizing the promotion of maternal health and serving as an indicator of healthcare quality. The care accessed during this period is a crucial intervention that allows pregnancy monitoring and the identification of risks for both mother and fetus, enabling timely interventions when necessary. **Objective**: To analyze indicators of adequate prenatal care in the state of Pernambuco in the years 1997, 2006, and 2016, as well as bibliometric indicators of national scientific production within graduate health science programs in Brazil regarding prenatal care. **Methods**: Phase 1 - A population-based, cross-sectional, observational study with descriptive and analytical objectives using secondary data from the II, III, and IV State Health and Nutrition Surveys (PESN) conducted in Pernambuco. The population consisted of mothers of children under five years old residing in Pernambuco in 1997, 2006, and 2016. Sample sizes were estimated at 2081, 1650, and 567 mothers, respectively, for the three years. The database, comprising an ad hoc file, was built using validated digitized information from the three population-based surveys. Data analysis was conducted using Stata 12.1 software. Categorical data were described through frequency distribution tables, while numerical data were analyzed with measures of central tendency and dispersion. Comparisons of categorical characteristics used the chi-square or Fisher's exact tests. For numerical variables, Student's t-test or the Mann-Whitney test (non-parametric) were applied, where appropriate. The original data collection was ethically approved, and the present study was approved by the Research Ethics Committee (CEP) of Instituto de Medicina Integral Prof. Fernando Figueira (IMIP), under approval number 3.763.801 and CAAE: 26428919.3.0000.5201. Phase 2 - A bibliometric and documentary study of works available on the Coordination for the Improvement of Higher Education Personnel (CAPES) Thesis and Dissertation Portal was conducted using Lotka's, Bradford's, and Zipf's Laws. Data collection occurred between March and April 2020. A total of 864 scientific works were included. Information was imported into Statistical Package for the Social Sciences (SPSS) version 21.0 and analyzed using descriptive statistics. **Results**: Phase 1 - In the temporal study, most women were aged 25-35 years, had completed high school, were unemployed, and had a per capita income below half the minimum wage. Variables such as age at first pregnancy and distance to the healthcare facility were associated with adequate prenatal care. The number of consultations increased across 1997, 2006, and 2016. In 2006, 37.7% of the women received adequate prenatal care, whereas in 2016, this figure rose to 50.4%. There was also a significant increase in early prenatal initiation, tetanus vaccination, and maternal health guidance in 2016 compared to 1997 and 2006. Phase 2 - In the bibliometric study, of the 864 included works, 78.9% were dissertations, predominantly produced in the Southeast region

(44.6%). Authors were primarily nurses (45.7%), with supervisors being mainly physicians (39.9%) and nurses (32.5%). Most studies were descriptive-exploratory (75%), quantitative (64%), focused on prenatal care assessment (25%), with pregnant women as the population (66%), and primary health units as the main setting (50.8%). The most frequent keyword was "prenatal care." **Conclusion**: The number of prenatal consultations progressively increased in 1997, 2006, and 2016, with a higher prevalence of adequate prenatal care observed in 2016 compared to 2006. The bibliometric study revealed a predominance of descriptive studies with level 6 evidence, quantitative approaches, mainly from the Southeast and South regions, with limited use of interventions or technologies and scarce theoretical framework references. These findings can aid in planning interventions to reduce maternal and child morbidity and mortality rates that persist in Pernambuco and across Brazil.

Keywords: prenatal care; women's health; pregnant women; population surveys; bibliometrics.

EVALUATION OF MECHANISMS INVOLVED IN HUMORAL AND IMMUNE RESPONSE CELL PHONE IN ADULTS WITH ACUTE BACTERIAL AND VIRAL MENINGITIS

CAMILA DANIELLE ARAGÃO ALMEIDA

Advisor: Leuridan Cavalcante Torres
Defense date: 2023 May 03

Introduction: The blood-brain barrier and the meninges present in the central nervous system (CNS) represent an interface between brain tissue and the periphery, and at the same time, protect the CNS by containing a variety of immune cells. Neuroinfections, such as meningitis, still present high morbidity and mortality rates and require rapid diagnosis and treatment to avoid unfavorable outcomes. In acute infectious conditions, immunological mediators are important in activating and expanding immune cells, generating an effective immune response through the activation of humoral and cellular immune responses. **Objective**: To evaluate the mechanisms involved in humoral and cellular immune responses in young adults with acute bacterial meningitis (BM) and viral meningitis (VM). **Methods**: This was a translational, longitudinal 15-day follow-up study conducted from 2018 to 2020 in adult patients aged 18 to 50 years of both sexes, hospitalized at Hospital Correia Picanço (HCP) with a diagnosis of acute CNS infection. Blood collection was performed upon hospital admission within 24 hours (T0), on the third day (T3), and the fifteenth day (T15) after admission. Patients were divided into two groups: a) patients with BM (n=20) and b) patients with VM (n=10). Laboratory analyses were conducted using Enzyme-Linked Immunosorbent Assay (ELISA). Patients were evaluated at hospital admission and underwent new laboratory evaluations on the third (T3) and fifteenth (T15) days of hospitalization. Serum levels of the molecules sBAFF, sAPRIL, sHVEM, sLIGHT, sTACI, sCD80, sCD28, sPD1, sPDL1, and sPDL2 were measured using ELISA. Categorical variables were expressed in absolute and relative numbers, while continuous variables were presented as medians with interquartile range (IQR). The Shapiro-Wilk test was used to assess the distribution of continuous variables. For non-parametric variables, the Mann-Whitney test was used to compare the two groups. For longitudinal analysis between T0, T3, and T15, Sidak's multiple comparisons test with adjusted p-values was applied. Data analysis was performed using GraphPad Prism v9.0 software (GraphPad Software, San Diego, CA). Statistical significance was set at $p<0.05$. This study was approved by the Ethics Committee on Human Research at IMIP under CAAE No. 95221418.0.0000.5201. **Results**: The median age (years) was 24 in both the bacterial meningitis (BM) and viral meningitis (VM) groups. In bacterial meningitis, 85% of cases were caused by Streptococcus pneumoniae and 15% by Neisseria meningitidis. Regarding the expression of mediators involved in the humoral immune response, sBAFF and sAPRIL levels were elevated in the BM group compared to the VM group at T0 (p=0.02 and p=0.0091, respectively). sAPRIL levels were also elevated in BM patients compared to the VM group at T15 (p=0.0002). In the longitudinal analysis of the BM group, sBAFF levels decreased between T3 vs. T0 (mean difference: -517; $p<0.0001$), T15 vs. T0 (mean difference: -332; $p<0.0001$), and

increased between T15 vs. T3 (mean difference: 185; p=0.01). sAPRIL levels increased in BM patients between T3 vs. T0 (mean difference: 539; p<0.0001) and T15 vs. T0 (mean difference: 667; p<0.0001). For sTACI, there was a decrease in BM patients compared to VM patients at T3 (p=0.004). An increase in sHVEM levels was observed in BM patients between T3 vs. T0 (mean difference: 84.9; p<0.0001) and T15 vs. T0 (mean difference: 89.3; p<0.0001). sTACI levels decreased between T3 vs. T0 (mean difference: -76.11; p<0.0001) and T15 vs. T0 (mean difference: -73.47; p<0.0001) in BM. Regarding mediators involved in the cellular immune response, sCD80 and sPD1 levels were elevated in the BM group compared to the VM group at T0 (p<0.05). In BM patients, sPDL1 levels increased between T3 vs. T0 (mean difference: 8.23; p=0.008) and T15 vs. T0 (mean difference: 8.61; p=0.009). In the VM group, sPD1 levels increased between T15 vs. T0 (mean difference: 7.70; p=0.013) and T15 vs. T3 (mean difference: 6.34; p=0.037). **Conclusion**: Reductions or increases in sBAFF, sAPRIL, sHVEM, and sTACI levels were observed between T0, T3, and T15 in patients with bacterial meningitis, which may be related to the activation of the humoral immune response against encapsulated bacteria. Increased sPDL1 levels at T3 and T15 in bacterial meningitis may be associated with mechanisms for regulating the immune response and clinical treatment.

Keywords: mediators; meningitis; humoral immunity; cellular immunity.

CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS AND TREATMENT OF LARYNGEAL CANCER IN BRAZIL

ANA LUIZA FASSIZOLI DA FONTE

Advisor: Maria Julia Goncalves de Mello
Defense date: 2024 mar. 15

Background: Cancer is the second leading cause of death in the world and is an important barrier to increasing lifeexpectancy in all countries and, therefore, the importance of knowledge about the behavior of different types of tumors.Head and neck cancer (HNC) is composed of a heterogeneous group of cancers that include those of the lip, oral cavity,nasopharynx, oropharynx, hypopharynx, larynx, salivary glands, paranasal sinus and thyroid. Laryngeal cancer (LC) is the second most common malignant neoplasm in the upper aerodigestive tract, surpassed only by lung cancer and correspondsto 20 to 25% of tumors and head and neck (HNC) and risk factors include smoking and excessive alcohol consumption. Thelarynx plays a crucial role in several vital functions such as breathing, swallowing and speech. The global incidence of cancer is expected to rise among the older population due to an increase in life expectancy and continued population growth. The use of chemotherapy alongside radiotherapy in LC treatment has shown a 4.5% increase in overall survival. However, this type of multimodal treatment can cause significant acute toxicity and morbidity, which may reduce treatment adherence, particularly in older patients with other comorbidities and impaired functional status. By identifying the clinical andepidemiological profile of CL, we can diagnose it earlier and provide more timely treatment, resulting in better treatment outcomes, survival rates, and quality of life. Analyzing the oncological treatment pattern, especially in elderly patients, canhelp us develop better treatment practices for this population Objectives: To analyze the epidemiological- clinical profile ofHNC in Brazil, between 2000 and 2019, evaluating the temporal trend and analyze the treatment modalities offered todifferent age groups. **Methods**: Cross-sectional epidemiological study with an analytical component using the database ofthe Integrator of the Hospital Cancer Registry System of the National Cancer Institute (INCA) between 2000 and 2017, thePopulation-Based Registry between 2000 a 2018 and the Mortality Information System between 2000 and 2019, availableonline **Results**: The incidence rate in men decreased from 9.20/100,000 in 2000 to 4.95/100,000 in 2018, while mortalityremained stable with values from 3.37/100,000 in 2000 to 3.30/100,000 in 2019. In women, the incidence decreased from1.26/100,000 in 2000 to 0.48/100,000 in 2018 and the mortality rate increased from 0.34/100,000 to 0.36/100,000 in 2019. The prevalence of larynx cancer was 26,05% from 221.566 patients with Head and Neck cancer from 2000 to 2019. The medianage of patients was 61 years old with 23.2% over 70 years old. Most patients were smokers (66.2%), men (86.6%), diagnosedwith locally advanced stage (66.7%), and squamous cell carcinoma as the main histological type (93.2%). Men tended to beolder (p<0.001), white (p<0.001), smokers (p<0.001), had higher time to initiate treatment (p<0.001), and higher early death(p<0.001). Older patients were more often diagnosed at early stage (28.9% versus 39.3%; p < 0.001), albeit they were found15% less

likely to received surgery (OR = 0.85 95% IC: 0.79-0.92), 46% less chemotherapy (OR = 0.56; 95% IC: 0.52-0.61), less33% likely of association two or more modalities of oncological treatment (OR = 0.67; 95% IC: 0.62-0.72), 35% more commonin support care (OR = 1.35; 95% IC: 1.21-1.51) and 13% more likely to receive radiotherapy (OR = 1.13: 95% IC: 1.04-1.23)compared to younger ones. **Conclusion**: Laryngeal cancer showed a decrease in incidence with stable mortality and is adisease that affects a productive male age group, 50 to 69 years, mostly with an avoidable etiologic factor such as smoking.Although Brazilian older patients with larynx cancer had a higher frequency of early staging diagnosis, there were the trendof undertreatment by surgery, chemotherapy, association between modalities, and more use of support care as compared toyoung patients.

Keywords: laryngeal neoplasms; head and neck neoplasms; smoking; data collection; aged; Brazil.

ECONOMIC EVALUATION OF MATERNAL NEAR MISS IN A REFERRAL HOSPITAL IN PERNAMBUCO: A COST STUDY

MOARA MARIA SILVA CARDOZO

Background: women who almost died but survived a complication during pregnancy, childbirth or within 42 days of termination of pregnancy are defined by the World Health Organization as "maternal near miss" (MNM). While epidemiological studies on MNM may indicate the magnitude of this problem and its risks, little is known about the economic consequences of these events for the women, her family and for the health system. In the economic health evaluation, cost-of-illness studies are able to signal the impact of a particular disease on a country, region, community or even individuals. **Objectives**: the aim of this study was realizing a systematic review that synthesizes published studies that present the ratio of MNM (RMNM) in Brazilian cities and describe the costs related to hospitalization of MNM cases in a reference hospital for high-risk pregnant women in the state of Pernambuco, Brazil in the perspective of SUS and IMIP (Instituto de Medicina Integral Prof. Fernando Figueira) as a paying institution. **Methods**: a systematic review of published studies in the last ten years that presented data regarding the RMNN in Brazilian cities. This reason was then related do the Human Development Index (HDI) of the studied population. Afterwards, a partial economic evaluation (costof-illness study) was done, applying microcosting, where the costs of disease were described in the IMIP perspective with data collection by the medical records of women with diagnosis of MNM in the year of 2019 and in the SUS perspective through the AIH (Hospital Admission Authorization). The study followed the Resolution 466/12 for human research and was approved by the Research Ethics Committee of IMIP. **Results**: the systematic review revealed that the average RMNM per 1000 live births was 15,35 and the average HDI was 0,77. Due to the small number of studies and the narrow HDI- 8 M range of the municipalities included, it was not possible to establish an association between such variables. In the cost analysis, 128 patients were included. Describing the MNM event by cause, 61,7% had complications related to hypertension, 15,6% hemorrhage and 11,7% infection. The costs of treatment of patients treated with MNM varied depending on the methodology used, resulting in an average cost of US\$ 1.142,70 per review of medical records and US\$ 973,00 per SUS compensation. Estimated costs for reimbursement were significantly lower than those estimated for revised medical records ($p<0.0001$). We calculated an economic burden of US\$ 86.055.130,50 for the SUS for the year 2019. From the SUS's perspective, the highest expenses were due patient with complications secondary to hypertensive emergencies (US\$ 74.699,46) **Conclusions**: The occurrence of MNM in Brazilian municipalities signals a marker of health inequity, raising the discussion about a possible reflection of the social disparities to which these women are exposed. The costs related to MNM reinforce the need to include the economic aspects in the evaluation of effective interventions to reduce this condition, which is in the vast majority, as well as maternal deaths, considered preventable.

Keywords: near miss; costs and cost analysis; cost of illness; pregnancy complication

HOSPITALIZED COVID-19 PATIENTS IN INTENSIVE CARE UNITS ON VENTILATORY SUPPORT: CLINICAL/EPIDEMIOLOGICAL PROFILE AND FACTORS ASSOCIATED WITH MORTALITY BEFORE AND AFTER THE VACCINATION PROGRAM IN BRAZIL

DONATO DA SILVA BRAZ JUNIOR

Advisor: Guilherme Jorge Costa
Defense date: 2024 jun. 19

Introduction: Coronavirus Disease - 19 (COVID-19), an infectious respiratory disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2), has a higher mortality rate among critically ill patients with severe acute respiratory syndrome (SARS). The clinical/epidemiological profile and factors associated with the death of patients admitted to Intensive Care Units (ICUs) needed to be better determined in Brazil, as well as the need to assess mortality after the start of vaccination against COVID-19. **Objective**: To analyze the clinical/epidemiological profile and determine the factors associated with death in patients hospitalized for COVID-19 in ICUs in Brazil at the beginning of the pandemic and to compare changes in epidemiology and mortality before and after the first 6 months of the SARS-CoV-2 vaccination program. **Methods**: Cross sectional study involving adult ICU patients diagnosed with COVID-19 by quantitative reverse transcriptase polymerase chain reaction (RT-qPCR) in Brazil. Secondary data from the Influenza Epidemiological Surveillance Information System (SIVEP-Gripe) in 2020 (pre-vaccination phase) and 2021 (post-vaccination phase) were used. Data was analyzed using measures of central tendency and dispersion for continuous variables and absolute and relative frequency distribution for categorical variables. Student's t-test was used to compare the continuous variables and chi-square for the categorical ones. Differences were considered significant when the p-value was <0.05. After univariate analysis, variables with p-values <0.15 were tested sequentially in a multivariate model. **Results**: Two manuscripts were produced: The first called "Risk of death in critically ill COVID-19 patients undergoing different respiratory supports throughout 2020 in Brazil" was published in the journal Respirology in the form of a letter to the editor with the title: "Letter from Brazil in 2021". This study evaluated 116,640 ICU patients and found that 49.0% of patients required invasive mechanical ventilation (IMV); ICU mortality was 58.3%. Patients with COVID-19 who underwent IMV had a worse risk of death (aOR= 10.24; 95% CI 9.76 - 10.75; p < 0.001). The second article, entitled "Mortality rate and epidemiological changes in severe patients with coronavirus disease 2019 after vaccination program in Brazil", was published in May 2022 as a letter to the editor in the Brazilian Journal of Pulmonology. This study found that compared to the pre-vaccination period, patients hospitalized in the ICU after the SARSCOV-2 vaccination program were younger (median 65 vs 61 years, p < 0.001), had a higher frequency of absence of comorbidity (23.5% vs 28.8%, p < 0.001), a higher need for IMV (49.0% vs 56.8%, p < 0.001) and a higher ICU mortality rate (58.3% vs 66.4%, p <

0.001). Conclusion: IMV patients, the elderly, and those admitted to ICUs were the groups most at risk of mortality, with the aim of defining priority groups for public health actions. After 6 months of the vaccination program, which prioritized healthcare professionals, elderly patients and/or those with comorbidities, there was a change in the clinical/epidemiological profile of patients admitted to the ICU to a younger, nonvaccinated group, as well as a significant increase in the use of IMV and mortality rates.

Keywords: COVID-19; risk factors; mortality; intensive care; vaccination.

EFFECTS OF AN EDUCATIONAL INTERVENTION ON SPIRITUALITY IN ANXIETY, DEPRESSION, AND STRESS SYMPTOMS AMONG HEALTH DEPARTMENT RESIDENTS IN RECIFE-PE

ARTURO DE PADUA WALFRIDO JORDAN

Advisor: Maria de Fatima Costa Caminha
Defense date: 2024 jun. 26

Introduction: Spirituality is a dimension that confers meaning and purpose to life and can be related to religion, religiosity, naturalism, humanism, and art. By fostering positive religious/spiritual coping, spirituality promotes resilience and a positive world view. In this context, it can influence symptoms associated with mental disorders such as anxiety, depression, and stress. It is well-documented that healthcare professionals, particularly those in training, experience significant academic, professional, and personal pressures, which can negatively impact their mental health. Thus, spirituality andreligious/spiritual coping, as inherent dimensions of individuals, emerge as important resources to assist in coping with the challenges of training and promoting better mental health. **Objective**: To identify the sociodemographic/academic profile and factors associated with spirituality by analyzing the effects of an educational intervention in spirituality on symptoms of anxiety, depression, and stress among residents of the health department in Recife-PE. **Methods**: This is a cross-sectional study and educational trial of the before-and-after type, with the intervention conducted through the transversal module of spirituality and integrality offered to residents of nine residency programs of the Recife Health Department. The study was conducted between March 2020 and October 2023. The sample was calculated from the total population of 143 residents who participated in the transversal module of spirituality and integrality in 2021 and 2022. With a confidence level of 95% and a margin of error of 5%, the calculated sample size was 105 subjects. The final sample included 107 subjects. Inclusion criteria were being over 18 years old, being regularly enrolled in a SESAU residency program, and attending the spirituality and integrality module. The exclusion criterion was being on maternity leave or having a clinical condition during the studyperiod. Researchers used a self-designed instrument for data collection, covering sociodemographic, educational, and complementary training information. Additionally, the Spiritual Self-Rating Scale (SSRS) was administered to measure the level of spiritual orientation, the Brief Religious/Spiritual Coping Scale (Brief RCOPE) was used to assess coping strategiesrelated to religiosity/spirituality, and the shortened version of the Depression, Anxiety, and Stress Scale (DASS-21) was employed to measure symptoms of anxiety, depression, and stress among the participants. The questionnaire, including thescales, was applied before the educational intervention and six months later. The collected data were entered into Excel withdouble entry and validated in Epi Info 7.2.4. Analysis was performed using Stata 12.1 software. Categorical variables were described by absolute and relative frequencies, and numerical variables by mean and standard deviation. Pre-and post-intervention comparisons were made using the Stuart-Maxwell marginal homogeneity test for categorical variables and the student's t-test for

numerical variables. The analysis of factors associated with anxiety, depression, stress, and spirituality used Poisson regression models. Each variable's statistical significance was calculated, as well as the crude and adjusted prevalence ratios, with 95% confidence intervals. For statistical purposes, a p-value < 0.05 was considered significant. The study was approved by the IMIP Research Ethics Committee under opinions 5.097.535 and 4.556.357, with CAAE:52660721.2.0000.5201 and 42807221.2.0000.5201. **Results**: Among the 107 participants, the predominant age group was 21 to25 years (45.8%), the majority were female (79.4%), in multiprofessional residency programs (50.5%), and in their first year ofthe program (89.7%). Positive religious/spiritual coping was found in the medium, high, and very high categories in 69.2%, low or no negative religious/spiritual coping in 93.4%, and medium/high spiritual orientation in 57%. In the final model formedium/high spiritual orientation, residents in the nursing specialty had a 46% higher prevalence ratio for medium/high spiritual orientation compared to those in multiprofessional residencies. Residents with Lato Sensu postgraduate education had a 40% higher prevalence ratio for medium/high spiritual orientation compared to those who had only completedundergraduate studies. There was a shift in the Total Religious/Spiritual Coping (TRC) from low/medium to low, PositiveReligious/Spiritual Coping (PRC) from medium to low/medium, and Negative Religious/Spiritual Coping (NRC) from low tonone/low after the intervention (p < 0.001). When evaluating the NRC/PRC ratio, a value of 0.53 in phase 1 and 0.59 in phase 2was identified, with no statistically significant change between the phases. The mean score of the spiritual orientation level before the intervention was lower and statistically significant (p < 0.001) compared to the mean score after the intervention, while higher NRC remained associated with symptoms of depression, anxiety, and stress. **Conclusion**: Higher levels of spiritual orientation and positive religious coping were more prevalent among nursing professionals and those with higher academic qualifications. There were changes in total TRC, PRC, and NRC. The educational intervention elevated the level of spiritual orientation without directly affecting depression, anxiety, or stress; however, higher negative religious coping was associated with a greater frequency of symptoms.

Keywords: spirituality; nonmedical; internship; internship and residency; anxiety; depression; stress; psychological.

USE OF IBUPROFEN VERSUS DIPYRONE IN PUERPERAL WOMEN WITH PRE-ECLAMPSIA SUBMITTED BY CESAREAN SECTION: RANDOMIZED CLINICAL TRIAL AND PAIN AFTER CESAREAN SECTION: LITERATURE REVIEW

ANA CAROLINA BARBOSA PORDEUS

Advisor: Melania Maria Ramos de Amorim
Defense date: 2024 mar. 13

Background: pre-eclampsia affects 4% to 5% of pregnancies and, when established, the treatment is termination of pregnancy. Although the mode of delivery is obstetric, a cesarean section may be necessary if the benefits outweigh the risks, and so it is often performed in this context. Pain after cesarean section is expected and there is a need to carry out effective postoperative pain relief measures for better functional recovery in this postpartum woman. Spinal anesthesia with intrathecal morphine (ITM) is one of the most important measures for postoperative pain relief, as well as adequate surgical technique and prescription of multimodal treatment with simple analgesic, non-steroidal antiinflammatory drug (NSAID) and rescue opioid. In the absence of ITM, the association with regional blocks can be used for postoperative analgesia. The use of NSAIDs in preeclampsia, previously avoided due to the possibility of uncontrolled blood pressure and kidney damage, began to be incorporated for the benefits of postoperative analgesia, but the relative effectiveness of analgesia and safety have not been adequately evaluated. In Brazil, dipyrone is frequently used as an analgesic in the postoperative period, however, there are no studies comparing NSAIDs and dipyrone in patients with pre-eclampsia. **Objective**: to compare the effectiveness and safety of using ibuprofen versus dipyrone for postoperative analgesia in postpartum women with preeclampsia undergoing cesarean section and to carry out a review on pain after cesarean section. **Methods**: a randomized clinical trial (RCT) and a narrative review of the literature on pain after cesarean section were carried out. The study was carried out from July 2022 to May 2023. Statistical analysis was performed with Epi-Info 7.2.5.0 and Medcalc 22.016. Categorical variables were compared in contingency tables with chi-square tests of association and Fisher's exact tests. The relative risk (RR) was calculated, determining its 95% confidence interval (CI). Quantitative variables with normal distribution were analyzed using the Student's t test and for unpaired samples with non-normal distribution, the Mann-Whitney test was used. Repeated measures analyzes were carried out for the evolution of blood pressure levels in both groups. For the literature review, a search strategy was carried out with the descriptors: "Cesarean Section, Repeat" OR "Cesarean Section"; "Acute Pain" OR "Pain Management" OR "Pain, Postoperative" OR "Pain Threshold" OR "Pain Measurement" OR "Pain" in databases: Medline, Web of Science; LILACS, Cochrane Library which, after selection, resulted in 25 articles. **Ethical aspects**: the study was submitted to the IMIP Research Ethics Committee and was approved with the CAAE number: 62838022.4.0000.5201, all participants agreed to participate and signed an informed consent form. The literature review, as it was a secondary data study, was not submitted to the ethics

committee. **Results**: this thesis resulted in two articles. The first is an RCT and will be sent to The Journal of Maternal-Fetal & Neonatal Medicine. In it, a slight superiority of dipyrone was found in relation to ibuprofen for pressure algometry pain thresholds on the first day (D1) and second day (D2) postoperatively at the left upper abdominal lumbar point (LAB2E) D1, 1.30 ± 0.7 kgf/cm^2 versus 0.9 ± 0.4 kgf/cm^2 (p=0.02) and on D2 1.30 ± 0.78 kgf/cm^2 versus 0.90 ± 56 kgf/cm^2 (p=0.016). However, regarding postoperative pain on the first day using the visual analogue scale (VAS) it was similar in both groups with a median of four (IIQ 2-5 versus IIQ: 2-5; p=0.68), there was also no difference between the groups regarding visual analogue scale (VAS) scores, development of acute kidney injury, serum creatinine levels on the second postoperative day or diuresis volume, as well as blood pressure levels. The second article is a literature review to be submitted to the Brazilian Journal of Gynecology and Obstetrics and brought together 25 articles, 12 of which were systematic reviews and 13 randomized clinical trials (RCTs). Preoperative, intraoperative, postoperative interventions (invasive and noninvasive) and complementary therapies were evaluated and these studies were compared with the main guidelines on the subject. Among these interventions, when studies did not use intrathecal morphine, regional abdominal blocks were effective in relieving pain after cesarean section. Abdominal wraps are recommended by Postoperative pain management recommendations (PROSPECT), but more current meta-analyses are conflicting regarding their effectiveness in relieving pain. Elastic bandages and cryotherapy were small RCTs, but they were statistically significant in reducing pain after cesarean section. The preoperative use of intravenous paracetamol, gabapentin, ketamine and the French Ambulatory surgical technique require further studies for formal recommendation. **Conclusions**: there was no difference between dipyrone and ibuprofen in the treatment of post-cesarean section pain in almost all pain parameters analyzed. The sample was not powered to assess the outcome of kidney injury. Pain after cesarean section is a predictable event and pain relief care is necessary for the comfort and recovery of the postpartum woman. In the absence of intrathecal morphine, regional abdominal blocks can be performed to reduce postoperative pain. In patients who received intrathecal morphine, cryotherapy appears to be effective as an adjuvant treatment in reducing pain after cesarean section.

Keywords: Preeclampsia; postpartum period; NSAIDs ;acute kidney injury; cesarean section; analgesia.

CLINICAL-EPIDEMIOLOGICAL CHARACTERISTICS AND RISK FACTORS ASSOCIATED WITH UNFAVORABLE OUTCOMES IN CHILDREN HOSPITALIZED WITH SEVERE ACUTE RESPIRATORY SYNDROME IN THE STATE OF AMAPÁ

FERNANDA GABRIELLA DE SIQUEIRA BARROS NOGUEIRA

Advisor: Livia Barboza de Andrade
Defense date: 2024 dec. 10

Introduction: Acute viral respiratory infections (AVRI) represent a significant public health problem worldwide, being the leading cause of hospitalizations in children. In this context, investigating the risk factors for unfavorable outcomes in children affected by SARS is essential to guide the allocation of resources and the provision of appropriate multidisciplinary care. **Objective**: to describe clinical-epidemiological characteristics and identify risk factors associated with unfavorable outcomes in children hospitalized with SARS in the state of Amapá. **Methods**: two observational studies were carried out, one of the cohort type, according to the STROBE guidelines (Article 1) and one cross-sectional (Article 2) carried out with secondary data from the National Influenza Epidemiological Surveillance Information System (SIVEP-GRIPE) of Amapá, between May 2020 and May 2022. Children of both sexes, aged zero to 12 years old, hospitalized with positive RT-PCR for respiratory viruses were included. In Article 1, to identify possible independent factors associated with the outcome's death, need for ventilatory support, and prolonged hospital stay, univariate and multivariate Poisson regression models with robust variance were adjusted. The measures of association estimated in these models were the adjusted relative risk (RR), for which point estimates and 95% confidence intervals (95% CI) were obtained, and a p-value <0,05 was considered significant. Logistic regression was also performed to assess calibration (Hosmer-Lemeshow and Stukel tests) and discrimination (Receiver Operating Characteristic - ROC curves). In Article 2, only children with positive RT-PCR for SARS-CoV-2 were analyzed. Data collected: age, sex, race/color, signs and symptoms at admission, presence of comorbidities, vaccination against influenza, admission to the intensive care unit (ICU), use of ventilatory support, length of hospital stay and death. Associations were made between categorical variables, applying the Chi-square test and Fisher's exact test and comparison between independent groups, using the Mann-Whitney test. **Results**: Article 1 involved 226 hospitalized children with ARVI. Independent risk factors for death were need for ventilatory support (RR=6.81 [95% CI: 2.52-18.39]), presence of comorbidity (RR=2.25 [95% CI: 1.13-4.46]) and detection of respiratory syncytial virus (RSV), [RR=2.38 {95% CI: 1.12-5.04}]. Independent risk factors for need for ventilatory support were ICU admission (RR=4.14 [95% CI: 2.78-6.17]), presence of RSV (RR=1.68 [95% CI: 1.24-2.27]) and influenza H3N2 ([RR=1.59 [95% CI: 1.13-2.23]). While the independent factors for prolonged hospital stay were peripheral O2 saturation <95% (SpO2<95%), [RR= 1.47 {95% CI: 1.33-5.64}], infection by other respiratory viruses (RR= 1.86 [95% CI: 1.36-2.53]) and by influenza H3N2 (RR = 1.67 [95% CI:

1.22-2.27]). According to the Hosmer-Lemeshow classification, the discriminatory capacity of the models for death and use of ventilatory support was excellent and for the model for prolonged hospital stay, the discrimination was acceptable. The calibration of the three models was satisfactory. In the second article, 118 records of SARS due to SARS-CoV-2 were studied. The mean age of the children was four years, there was a predominance of black and brown people, and the majority came from urban areas. The fatality rate was 10.2% and the need for invasive and non-invasive ventilatory support was observed in 30.6% of children. No significant differences were identified between boys and girls in clinical characteristics, comorbidities, time of symptoms until admission and length of hospital stay. **Conclusions**: The independent risk factors presence of RSV, influenza H3N2, comorbidity and SpO2 <95% were associated with unfavorable outcomes in children with SARS due to respiratory viruses. The performance of the models adjusted for death and ventilatory support showed excellent discrimination and calibration. In the clinical and sociodemographic characteristics of children with SARS-CoV-2, there were no differences between sexes, although the high proportion of deaths and need for ventilatory support stands out.

Keywords: Hospitalized Child; Severe Acute Respiratory Syndrome; Viral Infections; Risk Factors; Public Health; COVID-19.

HYPOVITAMIN D IN PREGNANT WOMEN: PREVALENCE AND ASSOCIATED FACTORS IN A REFERENCE HOSPITAL IN NORTHEAST BRAZIL: CROSS-SECTIONAL STUDY AND MATERNAL AND PERINATAL OUTCOMES

KARLA DA SILVA RAMOS

Advisor: Malaquias Batista Filho
Defense date: 2024 May 14

Introduction: in relation to pregnancy, vitamin D is a relevant micronutrient due to its effect on gene regulation and benefits throughout the life cycle. Its deficiency can adversely influence placental development and fetal programming, thus triggering serious consequences for maternal and fetal health and even in the adult life of the conceptus. Studies carried out in different countries suggest that vitamin D deficiency in pregnant women is multifactorial, including factors such as the use of sunscreen, geographical location, skin pigmentation, cultural habits and nutritional aspects. **Objective**: To analyze the prevalence and factors associated with vitamin D deficiency in pregnant women attending prenatal care at a referral hospital in northeastern Brazil between April/2017 and May/2019. To conduct an integrative review in order to identify studies on vitamin D deficiency in pregnant women and maternal/fetal/neonatal outcomes. **Methods**: This is a cross-sectional study based on the survey "Nutrition and infection: the problem revisited in light of the microcephaly outbreak", through a cohort study with 1,469 pregnant women treated at a referral hospital in northeastern Brazil, with data collected between April/2017 and May/2019. The current study was carried out between March/2019 and February/2024 with the 1,049 pregnant women from the original study's database who had serum vitamin D levels. The analysis of the prevalence and classification levels of results was according to the criteria recommended by the Brazilian Society of Endocrinology and Metabology: deficient < 20.0 ng/mL; insufficient from 20 to 30.0 ng/mL; and sufficient > 30.0 ng/mL. The analysis was carried out using the Stata 12.1program. Categorical variables are presented in absolute and relative frequencies. To analyze vitamin D deficiency associated with the explanatory variables, simple and multiple Poisson regression models were adjusted, estimating the crude and adjusted prevalence ratios (PR) and the respective 95% CI. Variables with a p-value < 0.20 in the univariate analysis were eligible for multivariate analysis and those with a p-value < 0.05 remained in the final model. The Wald test was used to analyze the statistical significance of each variable. The survey was approved under opinion no. 2.020.481 and the current study was approved under CAAE no. 65180922.9.0000.5201, approval opinion no. 5.834.119. Both by the Research Ethics Committee of the Instituto de Medicina Integral Prof. Fernando Figueira. The integrative review used articles published in the last 14 years in the SciELO Brazil and PubMed databases. Descriptors used: Vitamin D deficiency, Pregnancy, Vitamin D. Guided by the question: can vitamin D deficiency lead to unfavorable outcomes for the mother and the conceptus or to insufficiency for the fetus/newborn? Criteria for selecting

articles: vitamin D deficiency in pregnant women, fetuses and newborns and the presence of pre-eclampsia, gestational diabetes mellitus, prematurity and vitamin D deficiency in fetuses and newborns. The literature review was updated in January 2024, with articles in English, Portuguese or Spanish. **Results**: The prevalence of VD in pregnant women was 61.8%. Regarding the association between vitamin D deficiency and the biological, socioeconomic, obstetric, care and anthropometric nutritional status variables of the pregnant women, black/brown race (p = 0.031), 12 years or more of schooling (p = 0.008), paid occupation (p = 0.014), secundigravida and multigravida (p = 0.009), overweight and obesity (p = 0.002) remained in the final multivariate Poisson model. After carrying out the integrative review on vitamin D deficiency in pregnant women and maternal fetal/neonatal outcomes, 758 articles were identified and, according to the eligibility criteria, 8 were selected to present maternal fetal/neonatal outcomes. Negative outcomes were found for the pregnant woman: pre-eclampsia and gestational diabetes mellitus; for the fetus and conceptus: vitamin D deficiency and prematurity; as well as that maternal vitamin D deficiency can influence diseases in early childhood and adulthood. **Conclusion**: The prevalence of hypovitaminosis D in pregnant women was found in more than half of the population studied. Pregnant women who self- reported being black/brown when compared to white, with 12 years or more of schooling when compared to those with up to 8 years, working for pay, having had one or more previous pregnancies and being classified as overweight or obese, had a higher prevalence ratio for vitamin D deficiency/insufficiency. These results may also reflect that their level of knowledge acquired through years of study may raise awareness of skin care, as well as skin pigmentation associated with time spent indoors and the use of sunscreen, making it difficult for the epidermis to synthesize vitamin D, its main source of acquisition. The integrative review identified the relationship between vitamin D deficiency in pregnant women and pre- eclampsia, gestational diabetes mellitus, prematurity and vitamin D deficiency in fetuses and newborns born to mothers with vitamin D deficiency, and that maternal VD can influence diseases in early childhood, as well as diseases in adulthood.

Keywords: Vitamin D deficiency; Vitamin D; Pregnancy; Prevalence; Factors Associated.

MINTER IN MATERNAL AND CHILD HEALTH: IMIP-UNIVASF

FACTORS ASSOCIATED WITH SEVERE MATERNAL MORBIDITY AND NEAR MISS IN THE SÃO FRANCISCO VALLEY, BRAZIL

ÁLVARO JOSÉ CORREIA PACHECO

Advisor: Prof. Leila Katz
Co-advisors: Prof. Alex Sandro Rolland de Souza
Prof. Melânia Maria Ramos de Amorim
Defense date: 2012 oct. 16

Objectives: To determine the factors associated with severe maternal morbidity and near miss in a reference maternity hospital in the São Francisco Valley, located in the northeast of Brazil. **Methods**: A retrospective cohort study was conducted at the maternity ward of Hospital Dom Malan (HDM), the only obstetric referral service for high-risk pregnancies in the city of Petrolina, a key city in the São Francisco Valley, from May to August 2011. Sociodemographic and obstetric variables, comorbidities, the presence of first, second, and/or third delays and/or severe maternal morbidity (SMM) and near miss (NM) in pregnant or postpartum women attending the hospital during the study period were evaluated. Categorical variables were compared using chi-square and Fisher's exact tests, when applicable. For the comparison of continuous variables with normal distribution, Student's t-test was used. For discrete, ordinal, or continuous variables without normal distribution, the Mann-Whitney test was applied. P-values for all tests were two-tailed, and the significance level adopted was 5%. The relative risk (RR) was calculated as a measure of relative risk, and its 95% confidence interval (CI) was determined. Finally, multiple hierarchical logistic regression analysis was performed. **Results**: A total of 2,291 pregnant and postpartum women attended HDM during the study period, excluding three cases of maternal death from the analysis. The frequencies of severe maternal morbidity and near miss were 17.5% and 1%, respectively. There were three cases of maternal deaths during the study period. In the bivariate analysis, among sociodemographic, obstetric, neonatal characteristics, and those related to delays, the history of previous cesarean section (RR: 1.3, CI95%: 1.13-1.81; p=0.002), third delay (RR: 4.0, CI95%: 3.27-4.97; p<0.0001), second delay (RR: 3.4, CI95%: 2.40-4.69; p<0.0001), the presence of clinical comorbidities in general (RR: 2.7, CI95%: 2.30-3.25; p<0.0001), and specifically chronic hypertension (RR: 6.7, CI95%: 2.25-20.33; p<0.0001) were significantly associated with SMM/NM. After multivariate analysis, factors that remained significantly associated with an increased risk for SMM/NM included the history of previous cesarean section (OR 2.6, CI95%: 2.0-3.3), the presence of clinical comorbidities (OR 3.4, CI95%: 2.5-4.4), fewer than six prenatal consultations (OR 1.1, CI95%: 1.01-1.69), and delays by healthcare professionals in providing assistance (OR 13.3, CI95%: 6.7-26.4). **Conclusions**: The risk for severe maternal morbidity/near miss was higher in women with a history of previous cesarean section, the presence of clinical comorbidities, and a reduced number of prenatal consultations, being 13 times higher when there was a delay by healthcare professionals in providing adequate care. All these factors can be minimized through discussions about healthcare policies, introducing preventive measures, and improving the qualification of professionals and services responsible for obstetric care.

Keywords: Severe maternal morbidity, maternal mortality, prenatal care, cohort studies.

EVALUATION OF THE QUALITY OF PUBLIC UNITS OF INTENSIVE CARE IN MATERNAL AND CHILD HEALTH IN THE MUNICIPALITY OF PETROLINA-PE

AMANDA FIGUEIROA SILVA CARMO

Advisor: Prof. Fernando Antonio Ribeiro de Gusmão-filho
Co-advisors: Prof. Suely Arruda Vidal
Prof. Viviane Euzébia Pereira Santos
Defense date: 2012 mar. 13

Objectives: To evaluate the quality of public intensive care units for maternal and child health in the municipality of Petrolina-PE. **Methods**: This was an evaluative, observational, descriptive study with both quantitative and qualitative approaches, conducted from January to June 2011 in the mixed pediatric and obstetric ICU at Hospital Dom Malan in Petrolina-PE. The study was carried out in three phases. In the first phase, a logical model and judgment matrix were created and later subjected to a consensus technique with six specialists in intensive care and evaluation. In the second phase, a normative evaluation of the structure and process dimensions was conducted using the judgment matrix. For this, document analysis, institutional record reviews, interviews with 19 key informants, and visits to the ICU were performed. In the third phase, the outcome dimension was addressed through semi-structured interviews with users or companions to assess their satisfaction with the service, and the analysis was carried out using Bardin's technique. The research was approved by the Ethics Committee in Petrolina. **Results**: The two units investigated were classified as inadequate, as they scored 28% and 38% for adequacy in the obstetric ICU and the mixed pediatric ICU, respectively. The obstetric ICU showed lower overall and dimensional adequacy than the pediatric ICU, which may be related to the operational time of the units, as the pediatric ICU has been in operation for four years, while the obstetric ICU has only been operational for two. Due to distinct physical structures and non-conformities, the scores of the two units were very similar. The difference of 5 points in the process dimension was due to the complete support team in the pediatric ICU and the incomplete team in the obstetric ICU, as well as the unavailability of some equipment. In the process dimension, the difference was also 5 points, related to a higher proportion of professionals who knew the protocols and routines and had been trained to use them in the pediatric ICU, which did not happen in the obstetric ICU.

Keywords: critical care; evaluation; quality of healthcare services.

EVALUATION OF THE ADEQUACY OF SCREENING AND DIAGNOSIS OF GESTATIONAL DIABETES IN PUERPERAE ATTENDED AT HOSPITAL DOM MALAN–PE AND MUNICIPAL MATERNITY OF JUAZEIRO-BA

AUDIMAR DE SOUZA ALVES

Advisor: Prof. Leila Katz
Co-advisor: Prof. Isabela Cristina Coutinho de Neiva Coelho
Defense date: 2012 aug. 02

Objectives: To evaluate the adequacy, according to the Ministry of Health, of screening and diagnosis of gestational diabetes in puerperae attended at Hospital Dom Malan-PE and the Municipal Maternity of Juazeiro-BA. **Methods**: A cross-sectional study involving 1,340 puerperae hospitalized in the obstetric wards of Hospital Dom Malan-IMIP in Petrolina-PE and the Municipal Maternity of Juazeiro-MMJ-BA, from April 2011 to January 2012. A form was filled out with sociodemographic, obstetric, prenatal, and screening variables. Frequency distribution tables were constructed for categorical variables, and measures of central tendency and dispersion were calculated for quantitative variables. The project was approved by the IMIP Ethics and Research Committee. **Results**: The average age of the women was 24.5 years (±6.4 years). The average gestational age (GA) at the start of prenatal care was 14 weeks (±5.9), with 48.6% starting in the first trimester. The average GA at the request for fasting blood glucose (FBG) was 14 weeks, considered adequate in 46%. The average GA at the time of FBG testing was 16.9 weeks, with about 38% having the test performed within 30 days of the request. The average time to receive the FBG result was 20.2 weeks, considered adequate in 33.4%. Among the women studied, 28.1% had a second FBG test requested and interpreted adequately. About 21% had blood glucose results from the first and second FBG tests equal to or greater than 85 mg/dl, and 11.9% did not undergo or receive the FBG test. Screening/diagnosis was inadequate in 76.3% (n=1,022), and of these, only 5% (n=67) underwent the oral glucose tolerance test (OGTT). Some inadequacy was observed in 91.9% of the women who underwent screening. **Conclusions**: Screening and diagnosis of gestational diabetes among the women studied was inadequate.

Keywords: gestational diabetes, prenatal care, screening.

VISCERAL FAT AND ESTIMATION OF FETAL WEIGHT IN ADOLESCENT PREGNANT WOMEN – COHORT STUDY

LUCIANA PAULA FERNANDES DUTRA

Advisor: Prof. João Guilherme Bezerra Alves
Co-advisor: Prof. Alex Sandro Rolland de Souza
Defense date: 2012 apr. 26

Objectives: To correlate maternal visceral fat between the 12th and 20th weeks of gestation with the estimation of fetal weight between the 33rd and 36th weeks of gestation in adolescents. **Methods:** A prospective cohort study conducted at Hospital Dom Malan in Petrolina, Pernambuco, Brazil. Seventy-seven adolescent pregnant women aged 10–19 years with a live fetus and gestational age between the 12th and 20th weeks were included. Exclusion criteria: pregnant women with confirmed intellectual disability, fetal malformations, multiple pregnancies, uterine tumors (fibroids), oligohydramnios, and polyhydramnios. The studied variables included biological, socioeconomic, sociodemographic, obstetric factors, visceral fat measurement, and fetal weight estimation. The patients underwent obstetric ultrasound to measure visceral fat between the 12th and 20th weeks, using the Armellini technique, and fetal weight estimation between the 33rd and 36th weeks. Weight was assessed through ultrasound. To identify associations between maternal and fetal variables, simple linear regression analysis was performed with a significant level of 5%. **Results:** A tendency to correlate maternal visceral fat at the beginning of pregnancy with fetal weight estimation at the end of pregnancy was observed (R^2=121.2; p=0.072). **Conclusions:** Excess visceral fat can be easily detected between the 12th and 20th weeks of gestation, and there is a tendency for it to correlate with excessive estimated fetal weight.

Keywords: adolescent pregnancy; visceral fat; ultrasound; fetal weight.

ELEVATED MATERNAL HEMOGLOBIN A1C LEVEL AND LOW BIRTH WEIGHT: A CASE-CONTROL STUDY

LUCIMAR COELHO DE MOURA RIBEIRO

Advisor: Prof. Simone Seixas da Cruz
Co-advisor: Prof. João Guilherme Bezerra Alves
Defense Date: 2012 sep. 19

Objectives: To verify whether there is an association between elevated maternal hemoglobin A1C levels and low birth weight (LBW). **Methods**: A case-control study involving 1,142 postpartum women admitted to three hospitals in northeastern Brazil, conducted from March 2011 to January 2012. The case group (n=329) consisted of mothers of live births with low birth weight (<2500g), and the control group (n=813) consisted of mothers of live births with a weight greater than or equal to 2500g. To assess the glycemic level, blood samples were collected up to the seventh day postpartum, and hemoglobin A1C (HbA1c) levels were measured. Inclusion Criteria: Postpartum women admitted up to 7 days after delivery in the obstetric wards of the hospitals involved in the study. Exclusion Criteria: Women with hemorrhagic disorders in the third trimester, women with pre-gestational diabetes, postpartum women with newborns having malformations and/or chromosomal abnormalities, women with multiple pregnancies, and those who required antibiotic prophylaxis for dental procedures or were subjected to periodontal treatment during pregnancy. Statistical analysis procedures included evaluating the frequency distribution of sociodemographic, reproductive, lifestyle, and gestational health conditions and prenatal care variables, using chi-square or Fisher's exact tests, with a significance level of 5%. Stratified analysis and unconditional logistic regression were also performed to estimate the Odds Ratio (OR). The study was approved by the Research Ethics Committee (CEP) of the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) and the CEP of the Universidade Estadual de Feira de Santana (UEFS). **Results**: For maternal hemoglobin A1C levels greater than or equal to 5.6% and less than 6.5%, the findings showed no association between elevated maternal HbA1c levels and low birth weight. After adjusting for confounding factors, these results remained [adjusted OR=0.83; 95% CI 0.34 – 1.26], as well as for the range above 7% [adjusted OR=2.39; 95% CI 0.70 – 19]. **Conclusions**: There was no association between elevated maternal HbA1C levels and low birth weight.

Keywords: low birth weight; fetal growth restriction; diabetes mellitus; glycated hemoglobina.

FACTORS ASSOCIATED WITH HYPERTENSIVE SYNDROMES IN POSTPARTUM WOMEN ADMITTED TO THE DOM MALAN HOSPITAL IN PETROLINA-PE: A CASE-CONTROL STUDY

LUCIMARA ARAÚJO CAMPOS ALEXANDRE

Advisor: Prof. Aurélio Antonio Ribeiro da Costa
Co-advisor: Prof. Carlos Noronha Neto
Defense Date: 2012 mar. 20

Objectives: To determine the factors associated with hypertensive syndromes in postpartum women admitted to the Dom Malan Hospital (HDM) in Petrolina-PE. **Methods**: An observational, analytical case-control study was conducted, including postpartum women with hypertensive syndromes (cases) and without hypertensive syndromes (controls) in a 1:1 ratio, from March 2010 to March 2012 at the Dom Malan Hospital, located in the city of Petrolina/Pernambuco, Northeast Brazil. Inclusion criteria for the cases were postpartum women diagnosed with hypertensive syndrome during pregnancy who were admitted to the joint accommodation or the Intensive Care Unit (ICU) of HDM. For the controls, the criteria included postpartum women without hypertensive syndrome who were admitted to the joint accommodation of HDM. Postpartum women with cognitive impairment, unable to understand and sign the Informed Consent Form (ICF), were excluded. Biological, sociodemographic, lifestyle, obstetric/reproductive variables, and main clinical conditions were studied. To assess the association between variables, chi-square and Fisher's exact tests were used with a significant level of 5%. Confidence intervals (CI 95%) and Odds Ratios (OR) were calculated. Multivariate analysis was performed to determine the adjusted risk of hypertensive syndromes during pregnancy. **Results**: A total of 150 postpartum women were included (75 cases and 75 controls). Analyzing the association between maternal risk factors, it was observed that postpartum women with hypertensive syndromes during pregnancy were more likely to have less than nine years of education (OR=0.43; CI95%; 0.22–0.84), come from Petrolina (OR=0.22; CI95%; 0.11–0.44), and have a history of hypertension in previous pregnancies (OR=3.00; CI95%; 0.98–9.40). No association was found between hypertensive syndrome during pregnancy and maternal age under 20 years (p=0.15), maternal age over 40 years (p=0.18), pre-gestational BMI greater than 30 kg/m^2 (p=0.98), no partner (p=0.41), per capita income below one minimum wage (p=0.26), smoking (p=0.10), alcohol use (p=0.50), age at first intercourse under or equal to 17 years (p=0.86), number of partners greater than one (p=0.32), time of sexual activity with the current partner (p=0.86), primigravida (p=0.87), and primiparity (p=0.41). After multivariate analysis, using logistic regression with a hierarchical model, only coming from Petrolina (OR=0.22; CI95%; 0.11–0.44) remained significantly associated with the increased risk of hypertensive syndromes. **Conclusions**: This study demonstrated that women who developed hypertensive syndromes during pregnancy were associated with lower levels of education, a history of hypertension in previous pregnancies, and being from Petrolina. The findings have some limitations, mainly because it is an observational study. In this context, future investigations are recommended, including larger prospective studies with follow-up and a greater number of participants to explore potential risk factors for hypertensive syndromes during pregnancy in the São Francisco Valley region.

Keywords: pregnancy-induced hypertension; preeclampsia; risk factors; case-control study.

FACTORS ASSOCIATED WITH PERSISTENCE/RECURRENCE OF CIN 2/3 IN A TEACHING HOSPITAL IN RECIFE, PERNAMBUCO: A CASE-CONTROL STUDY

MARÍLIA VIEIRA DE MELO SILVA

Advisor: Prof. Isabela Cristina Coutinho de A. Neiva Coelho
Co-advisors: Prof. Leila Katz
Prof. Sandra de Andrade Heráclio
Defense date: 2012 sep. 11

Objectives: To identify risk factors associated with the persistence/recurrence of CIN 2/3 in women who underwent high frequency conization (HFC) in a hospital in Northeastern Brazil. **Methods:** A case-control study was conducted, involving 100 women (50 with persistence/recurrence and 50 without persistence/recurrence) after HFC performed at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP) between 2004 and 2011. Inclusion criteria were women with a diagnosis of CIN 2/3 under follow-up (cases) and those with follow-up of two years or more with no CIN 2/3 (controls). Women who underwent HFC at other services, HFC due to persistent CIN 1, invasive cervical carcinoma in the HFC specimen, and abnormal cytology and/or cervical histopathology during the two-year follow-up were excluded from both cases and controls. Persistence was defined as residual disease identified within the first year after conization, and recurrence as the appearance of lesions after the first year. A bivariate analysis was performed to assess the association of persistence/recurrence of CIN 2/3 with biological, sociodemographic, sexual, reproductive, lifestyle, and clinical variables. Chi-square and Fisher's exact tests were used as necessary, with a significant level of 5%. Odds Ratios (OR) were calculated to assess the risk ratio and the 95% confidence interval (CI 95%). Multiple logistic regression analysis was conducted to identify the variables most strongly associated with persistence/recurrence, determining the adjusted risk. The study was approved by the IMIP Human Research Ethics Committee (CEP), under number 2168. **Results:** In the bivariate analysis, women with persistence/recurrence of CIN 2/3 were more than 4 times as likely to be older than 40 years, more than 2 times as likely to come from the interior of Pernambuco state, more than 7 times as likely to use alcohol, more than 6 times as likely to have surgical margin involvement, more than 4 times as likely to have endocervical gland involvement, and more than 15 times as likely to have CIN 2/3 presence in the surgical specimen's histopathology. After performing multiple logistic regression analysis, the factors that remained strongly associated with persistence/recurrence of CIN 2/3 were: origin from the interior (OR=3.11; CI95% 1.14-8.41), smoking (OR=4.22; CI95% 1.18-15.05), and compromised endocervical margin (OR=6.58; CI95% 2.37-18.28). **Conclusions:** Women with persistence/recurrence of CIN 2/3 were more likely to be from the interior of the state, be smokers, and present histopathological evidence of compromised endocervical margins.

Keywords: conization; cervical intraepithelial neoplasia; local recurrence of neoplasia.

VERTICAL HIV TRANSMISSION: ADOPTION OF PREVENTION MEASURES IN TWO MUNICIPALITIES – SUB-MIDDLE SÃO FRANCISCO REGION

MÚCIO DO NASCIMENTO BRANDÃO

Advisor: Prof. Edvaldo da Silva Souza
Co-advisor: Prof. Rodrigo Videles de Brito
Defense Date: 2012 may 23

Objectives: To evaluate the vertical transmission (VT) of HIV and associated factors, as well as the adequacy of prevention measures (PM) and associated factors in HIV-infected mothers and their exposed newborns in the municipalities of Petrolina/PE and Juazeiro/BA. **Methods**: A retrospective cross-sectional study. 76 mother-child pairs were included, with deliveries between January 2006 and December 2010. A child was defined as "infected" if they had two detectable viral loads (VL) in two blood samples collected in the first year of life, or if they had a positive HIV serology after 18 months of age, or if they died of AIDS (clinical diagnosis) with confirmed HIV exposure and no diagnosis through VL. "Adequate" adoption of PM was defined as the combined adoption of five measures: combined antiretroviral therapy (cART) in pregnant women, elective cesarean section, intravenous zidovudine (AZT) in laboring women, oral AZT in children, and no breastfeeding. Data analysis was performed using the EPI-INFO 3.5.3 program for Windows. **Results**: Five children were infected, showing a VT rate of 8.6% in 58 pairs with completed investigation. None of the studied variables were associated with VT; however, all infected children were born with ruptured membranes (p=0.051) and by vaginal delivery or emergency cesarean section (p=0.056). PM were considered adequate in 40.8% (20/49) of the cases. Being a non-white pregnant woman was the only factor associated with inadequate adoption of PM (p=0.032; PR: 2.39 / 95% CI: 1.42-4.00). **Conclusions**: The VT rate was high, and the implementation of PM was inadequate in most cases. Non-white patients received fewer PMs, with a 2.4 times higher chance of receiving inadequate prevention.

Keywords: hiv infections; prenatal care; vertical transmission of infectious diseases; prevention of communicable diseases.

VISCERAL FAT AT THE BEGINNING OF PREGNANCY, MATERNAL GLYCEMIA IN THE THIRD TRIMESTER, AND BIRTH WEIGHT IN ADOLESCENTS – COHORT STUDY

ROSANGELA MEIRA RODRIGUES CISNEIROS

Advisor: Prof. João Guilherme Bezerra Alves
Co-advisors: Prof. Melania Maria Ramos de Amorim
Prof. Marcelo Marques de Souza Lima
Defense Date: 2012 may 28

Objectives: To correlate visceral adipose tissue in the second trimester of pregnancy with the birth weight of the newborn, maternal blood pressure in the second trimester, and maternal glycemia in the third trimester in adolescent pregnant women. **Methods**: A longitudinal cohort study was conducted at the prenatal care service of Hospital Dom Malan, managed by the Instituto de Medicina Integral Prof. Fernando Figueira, and two Basic Health Units, located in the municipality of Petrolina, Pernambuco, Northeast Brazil, from February 2011 to March 2012. Adolescents aged 10–19 years with a gestational age of 12–23 weeks were included. Pregnant women with mental deficiency, severe fetal or newborn malformations, multiple pregnancies, uterine tumors, oligohydramnios, polyhydramnios, infectious or obstetric complications, and previously diagnosed diabetes mellitus were excluded. The studied variables included maternal (visceral adiposity, biological, socioeconomic, sociodemographic factors, and glycemia) and newborn (birth weight and gestational age at birth). The pregnant women underwent visceral adiposity measurement between the 12th and 23rd week of pregnancy, blood pressure measurement, and a glucose tolerance test with a 75g anhydrous glucose load at the 24th and 36th weeks of pregnancy. Visceral adiposity was measured ultrasonographically with the convex transducer placed just above the umbilical scar, measuring the distance in centimeters between the inner edge of the abdominal rectus muscle at its insertion on the linea alba and the anterior wall of the abdominal aorta. Statistical analysis was performed using the SPSS (Statistical Package for the Social Sciences) version 17. Simple linear regression models were constructed to evaluate the influence of visceral fat on maternal glycemia, blood pressure, and birth weight, with a significance level of 5%. **Results**: 89 pregnant women were studied. Maternal visceral adiposity ranged from 1.5–6.6 cm (3.4 ± 1.2 cm). The mean fasting glycemia, one hour, and two hours after glucose load were 79.9 ± 13.6 mg/dL, 115.1 ± 26.4 mg/dL, and 98.5 ± 23.6 mg/dL, respectively. The average birth weight of the newborns was 3,292 ± 464.6 grams. After simple linear regression analysis, a significant positive correlation was found between maternal visceral adiposity and birth weight (R^2 = 128.1; p = 0.01) and one-hour post-glucose load glycemia (R^2 = 7.3; p = 0.01). No statistically significant correlation was found with fasting glycemia (R^2 = 1.9; p = 0.24), two-hour post-glucose load glycemia (R^2 = 3.1; p = 0.27), and systolic blood pressure measurements (R^2 = 1.22; p = 0.49) and diastolic blood pressure (R^2 = 0.04; p = 0.49). **Conclusions**: Maternal visceral adiposity in the second trimester of pregnancy was significantly correlated with the newborn's birth weight and maternal glycemia one hour after glucose load.

Keywords: pregnancy; adolescence; adiposity; low birth weight.

EVALUATION OF DIABETIC CARE IN FAMILY HEALTH UNITS IN THE MUNICIPALITY OF PETROLINA-PE

VENÂNCIO DE SANT'ANA TAVARES

Advisor: Prof. Suely Arruda Vidal
Co-advisor: Prof. Fernando Antonio Ribeiro de Gusmão-Filho
Defense date: 2012 jun. 18

Objectives: To evaluate diabetic care in the municipality of Petrolina-PE in 2011. **Methods:** A normative evaluation based on Donabedian's systemic model, in the dimensions of structure, process, and outcome, using the Municipal Health Plan and the Ministry of Health's Hypertension and Diabetes Mellitus Care Reorganization Plan as parameters. A random sample of urban and rural family health units was evaluated, with interviews conducted with six nurses to assess the care process, structure, and procedures. Additionally, 29 users were interviewed to identify diabetes care in six Family Health Teams. Finally, secondary data from the Hospitalization Information System (SIM) were analyzed, from 2004 to 2006 and 2007 to 2009, as proxy outcomes for outpatient care. **Results:** There are structural deficits, with 66.66% of the units having adequate waiting areas, and only 33.33% having a space for meetings or lectures with users. None of the units had educational materials, and the Ministry of Health's diabetes control manual was found in 66.66% of the teams studied. Oral medications for Diabetes Mellitus were available in half of the units, but all had insulin. Only 16.66% of the units-maintained equipment routinely. The teams were inadequately trained (16.66%) in the Family Health Strategy and in Hypertension and Diabetes Mellitus Control. Regarding program activities, 66.66% of teams reported performing diabetes screening in the community, and 100% used fasting glucose and OGTT to screen for gestational diabetes. No team performed routine clinical exams for lower limbs to prevent diabetic foot, and 66.66% of the teams held monthly medical consultations for non-compliant users or those with difficult metabolic control. Monitoring of attendance at consultations and home visits was performed by only 33.33% of the teams. All teams reported conducting periodic educational activities in the community, but only 33.33% targeted specific diabetic groups. All interviewees indicated they provided emergency care and treatment for complications in the units, and 66.66% discussed cases with the team. The referral outpatient unit did not have an endocrinologist. Users expressed dissatisfaction with irregular medication supply, difficulty in undergoing basic exams, and waiting times for care (17.2%). Analysis of the SIH and SIM revealed no statistically significant reduction in hospitalization cases and deaths due to DM complications between the studied triennia (p=0.059). **Conclusions:** Diabetes Mellitus care within the Family Health Strategy in the municipality of Petrolina is of regular quality (67%) according to the Municipal Plan and the Hypertension and Diabetes Mellitus Care Reorganization Plan. There are structural difficulties hindering full professional performance, mainly due to lack of training and the control manual.

Keywords: health program and project evaluation, diabetes mellitus, adult health

KNOWLEDGE ABOUT PREVENTION AND MANAGEMENT OF ACUTE DIARRHEA AMONG CAREGIVERS OF CHILDREN UNDER FIVE YEARS OF AGE ATTENDING AN EMERGENCY SERVICE IN THE SERTÃO REGION OF PERNAMBUCO, BRAZIL

YURI FRANCILANE CARVALHO DOS SANTOS

Advisor: Prof. Jailson de Barros Correia
Co-advisor: Prof. Ana Rodrigues Falbo
Defense date: 2012 dec. 12

Objectives: To determine caregivers' knowledge regarding the prevention and management of acute diarrhea. **Methods:** A cross-sectional study involving 213 children under five years of age, treated in a public emergency service in Northeast Brazil, from July to August 2011. Caregivers' knowledge was assessed through a questionnaire covering aspects related to prevention, management, and identification of dehydration signs. Responses were considered adequate according to the recommendations of the World Health Organization. **Results:** When evaluating aspects related to prevention, caregivers believed that breastfeeding during the first six months of life, not using tap water in food preparation, and vaccinating against rotavirus and other diseases help prevent diarrhea (89.7%, 91.0%, 69.5%, and 79.3%, respectively). Regarding treatment, they reported taking the child to the hospital at the first sign of diarrhea, administering medicine, and not offering solid food (57.3%, 68.1%, and 63.7%, respectively). Although 78.9% knew the reason for using oral rehydration salts, only 40.8% knew the correct way to prepare it, and 78.4% believed it cures diarrhea. Less than half of the caregivers mentioned one or more signs of dehydration (43.9%). **Conclusions:** Despite caregivers correctly reporting preventive measures, they had limited knowledge about the proper management of diarrhea. There is a need to strengthen health education measures aimed at the management of diarrhea at home.

Keywords: diarrhea; caregivers; management; knowledge.