

in both genders; additionally by age at menarche, in females, and parents' BMI, in males.

MOST OF THE OBESITY IN SCHOOL CHILDREN COULD BE PREVENTED BY ACTING ON 4 Y OLD CHILDREN WITH EXCESS WEIGHT: EVIDENCE FROM A COHORT OF LOW INCOME CHILEAN CHILDREN

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Introduction: Childhood obesity has more than tripled in Chile over the past two decades. In a cohort of more than 1000 low income Chilean children born of normal weight, we have reported a progressive increase in obesity continuously from birth to 5yrs of age. **Objective:** characterize changes of the nutritional status from 4 to 6 yrs of age in Chilean low income children, by gender. **Methods:** in 2006, we selected a cohort of 1154 3 y - old children with birthweight 2500-4500 g that attended public nursery schools. At 4y (mean age= 52 months, n=1141) and 6y (mean age 81 months; n=1035) we assessed, weight, height and waist circumference (WC). At each of these ages we determined: mean HAZ and BMI Z (WHO 2006/2007 Growth References), obesity (BMI Z > 2 SD) and central obesity (WC > P90 NHANES) prevalence, by gender. **Results:** mean HAZ score increased significantly (-0.17 to +0.15 in boys, -0.21 to +0.22 in girls), while BMI Z remained stable (0.98 to 0.96 in boys; 0.90 to 0.85 in girls). Over the same period, obesity increased, particularly in boys (16.3 to 21.8%) and 12.5 to 13.8% in girls) and central obesity more than doubled in both sexes (6.4 to 13.3% boys; 6.1 to 13.8% girls). Almost 80% of 4 y old children with excess weight were obese at 6 y of age, while more than 80% of normal weight 4y olds remained normal weight at 6y. In both sexes, more than 90% of the obese children at 6y were already overweight or obese by 4y of age. **Conclusion:** between 4 and 6y of age there is a significant increase in obesity in both sexes. Obesity at school entry could be prevented by acting on factors that promote overweight and obesity in preschool children. **Conflict of Interest:** none disclosed **Funding:** Research related to this abstract was funded by Fondecyt #1090252 and #1100206.

PATTERNS OF EARLY DIET IN OVERWEIGHT AND OBESITY AT AGE OF 7 YEARS OLD CHILEAN CHILDREN

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Background: Obesity is an important public health issue in countries in transition like Chile. In 6 year old Chilean children, the prevalence of obesity has almost tripled in 20 years (from 7% in 1987 to 19.4% in 2006). The effect of environmental factors, such as a diet rich in energy dense foods and a decrease in physical activity has led to this rapid increase; however, there is limited information on the role of early life factors, particularly diet. The literature suggests that breastfeeding is probably a protective factor against obesity while early introduction of solid foods has been proposed as a risk factor. **Objectives:** To investigate how the patterns of early diet (including breastfeeding and complementary feeding) relate to overweight and obesity at 7 years of age in a representative cohort of low-middle income Chilean children. **Methods:** 1089 children and their mothers were selected from public nursery schools in Santiago. A dietary survey was conducted among the mothers when the children were 4 years old to assess general eating patterns and to ask retrospectively about

breastfeeding duration. At 7 years of age, anthropometric measurements of the children were performed to evaluate the prevalence of overweight and obesity. **Expected results:** We will present data regarding the duration of breastfeeding and the age of introduction of solid foods (including not only the common weaning foods, but also, snacks, sugary drinks and fast foods). We will evaluate how these factors relate to the proportion of overweight and obesity among 7 years old children. **Expected conclusions:** This study will contribute to a better understanding of the role of early diet on later obesity in transitional countries. Ultimately, we expect that it will provide evidence to implement early actions to prevent childhood obesity in these settings. This project received funding from Fondecyt N° 1090252 and Fondecyt N° 1100206.

DESCRIPTION OF THE NUTRITIONAL STATUS OF SCHOOLCHILDREN: HEIGHT /AGE, BMI, IN ACCORDANCE WITH CDC 2000 AND WHO 2007 PATTERNS OF REFERENCE. BOGOTA

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INTRODUCTION: In 2007, the WHO published the new patterns of reference intended to evaluate the nutritional status in children over 5 years of age. Colombia has been using CDC 2000 patterns of reference. **OBJECTIVE:** Describe and compare the nutritional status of schoolchildren, in accordance with CDC (2000) and WHO (2007) patterns of reference. **METHODOLOGY:** Observational and descriptive cross-sectional study of 600 school-aged children of a middle to low socio-economic status, via primary data collection. The measurements were taken in accordance with the protocols. The analyzed indicators were: BMI and T//E, using CDC (2000) and WHO (2007) reference patterns. **RESULTS:** In accordance with the patterns of reference for the BMI//E indicator, the findings were: Five percent (WHO) and 1.9% (CDC) of schoolchildren exhibit overweight and obesity. Under -2DE, 2% (WHO) and 2.8% (CDC) of the children show acute malnutrition (emaciation). Under -3DE, 0.3% (WHO) and 0.5% (CDC) of the children show severe emaciation. With regard to the T//E indicator, size delay was observed under -2DE, in 6.7% (WHO) and 7.5% (CDC) of the children. Under -3DE, 0.5% (WHO) and 0.7% (CDC) of the children showed severe growth delay. The prevalence of growth delay is lower with respect to the national prevalence for both indicators. **CONCLUSION:** A higher percentage of subnourished children was observed with the CDC pattern, while a higher number of children with overweight and obesity was detected with the WHO pattern. The WHO pattern classifies a higher percentage of children in the normalcy range. It is presumed that the CDC pattern overdiagnoses subnutrition and underdiagnoses overweight and obesity, in comparison with the WHO.

EVALUATION OF FOOD ATTITUDES AND BEHAVIOURS IN OBESSE CHILDREN/ADOLESCENTS VS SCHOOL COMMUNITY BETWEEN 6 AND 12 YEARS OLD

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Changes of food behaviours (FB) and attitudes is normally observed in children and adolescents. The food behaviours in paediatric age can compromise the food intake and influentiate the health and well being of

the individual. This study evaluates the FB and attitudes of children/adolescents with overweight/obesity referenced in a hospital consultation vs a school community. 157 children/adolescents were evaluated: 92 with overweight/obesity (GA) and 65 school children (GB). The FB were evaluated through ChEAT (Children's Eating Attitude Test – Maloney et al, 1998) – a version to children and adolescents adapted from EAT (Garner DM, Garfinkle PE, 1979), being the answers signed in a Likert scale (1-6), between (1) – always and (6) – never. After a recodification was made (0-3) and the punctuation goes from 0-78. The changes in FB were divided in 3 sub-scales: 1 – aspects related to the compliance of the diet (0-39); 2 – worry about food and bulimia (0-18); 3 – Control of food intake (0-21). The total sample (M=43,6%; F=56,4%), shows a mean chronological age of 9±2 years (min=6; max=12). Children are overweight (14,1%) and obese (85,9%) from GA and from the GB 23% are overweight and 12,3% are obese. It is observed that in both groups, low mean values in the global ChEAT scale (GA=16,4±8,6; GB=10,3±7,7) and in the three sub-scales: 1-GA=12±7; GB=5±5; 2- GA=2±2; GB= 1±2; 3- GA=3±3; GB=4±4, with significative differences in the sub-scales 1 (p=0,000) and 3 (p=0,021). Values of good interne consistency are observed in the global ChEAT scale (alfa=0,761) and in the sub-scale 1 (alfa=0,793) as long as in the sub-scales 2 and 3 present mean values of (2=0,518; 3=0,503). Obesity in childhood and in the initial phase of adolescence is not associated to FB indicators that were changed. ChEAT is a scale that can be used in the evaluation of FB and attitudes in the Portuguese paediatric population because it seems to measure what it is intended to evaluate.

ASSOCIATION BETWEEN PARENTS' BODY MASS INDEX AND SCHOOLCHILDREN FROM FLORIANÓPOLIS, SC, BRAZIL

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Introduction: Parental obesity is an important risk factor in the genesis of obesity in children and adolescents. Objective: To assess the association between parents' Body Mass Index (BMI) and schoolchildren from the age of 7 to 14 years old. Methods: A cross sectional study with 2799 schoolchildren from Florianópolis Island, Santa Catarina state. Data were collected from the application of a socioeconomic questionnaire with the schoolchildren parents and the anthropometric data collection of the schoolchildren. Schoolchildren and their parents anthropometric diagnostic was defined from the respectively BMI for age according to the Centers for Disease Control and Prevention and WHO cutoff points. We used STATA 9.0 software for the analyses. Pearson's chi-square test with the significant value of $p < 0.05$ was used to assess the association between schoolchildren's nutritional status and independents variables: schoolchildren's age, educational level, age and nutritional status parents and family income. We used multivariable Poisson regression models variance stratified by gender to obtain prevalence ratios and 95% confidence intervals. Results: Higher overweight and obesity prevalence was verified in male students, 27.3%, compare to 17.4% to female students ($p < 0.001$). Among the schoolchildren parents, fathers showed 55.1% of overweight/obesity and mothers 34.3%. Concerning female students, overweight and obesity prevalence was associated with age (7-9 years old) and mothers BMI ($p < 0.001$). Male students BMI did not show significant statistical relation with the variables. Conclusions: Mothers nutritional status seems to influence the nutritional status of their daughters, reinforcing the importance of the obesity prevention since childhood, also directing the focus to the family environment.

PREVALENCE OF OVERWEIGHT/OBESITY AND ON FOODS EATEN AT PRIMARY SCHOOLS AFTER ATTENDING A NUTRITIONAL EDUCATION PROGRAM

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Introduction: The prevalence of obesity in children and adolescents has been increasing in many different countries worldwide, including in Brazil, and this is strongly associated with changes in lifestyle and dietary habits. Objective: To assess the effects of a nutritional education program on the prevalence of overweight/obesity and on the foods eaten by schoolchildren in the 2nd grade of primary education. Methods: A total of 135 schoolchildren from the 2nd grade of primary education were recruited from one private and one public school in Florianópolis, Brazil, and allocated to either an intervention group (n = 55) or a no-intervention group (n=80). The children underwent two anthropometric and food intake assessments, before and after attending a nutritional education program. The program consisted of eight meetings and covered subjects related to healthy diets, how to make healthy snacks and physical activity. Nutritional status was classified according to body mass index for age, using the Centers for Disease Control and Prevention values for reference, and the foods the children ate at school were classified according to the Santa Catarina School Canteens Act. Data were analyzed using the Statistical Package for the Social Sciences. Results: There were no statistically significant changes in the prevalence of overweight/obesity before and after application of the nutritional education program in intervention group (21.8% to 23.6%) and in the no-intervention group (33.7% to 35.0 %) ($p > 0.05$). Concerning food intake, the intervention group significantly ($p = 0.013$) reduced its intake of artificial juice, which is prohibited by the Act. In the no-intervention group, there was a significant increase in intake of prohibited foods, such as mass-produced snacks ($p = 0.021$) and soda ($p = 0.031$). Conclusion: Despite its short duration, after attending the nutritional education program, there were improvements in the quality of the food the schoolchildren were eating.

COVERAGE AND APLICATION OF ANTROPOMETRIC INFORMATION IN BASIC HEALTH UNITS IN THE REGION OF BOTUCATU – SP, BRAZIL

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In Brazil, the anthropometric indicator of the population's nutritional status is the main strategy of the Surveillance System for Food and Nutrition (SSFN), whose results, should not only subsidize public politics but also guide local preventive actions. The aim of this study was to quantify and to understand the local applicability of the anthropometric information produced by the public health system of Botucatu's region (SP). It was evaluated fourteen units of Primary Health Care from four small and medium cities (A=128,397, B=18,761, C=5,656 e D= 4,555 inhabitants). The data were collected on visits to the units from semi-structured questionnaire, previously validated (face hand test). The referring data to each group of risk were evaluated in relation to the attached total population to the units evaluated in each city. In the city A, the children up to five accounted for 2.23% of the population, the adults affected by chronic metabolic disorders, as hypertension (0.99%) and diabetes (0.57%) appeared in the sequence, and the pregnant women represented 0.46% of the population. In the city B, the proportion of children was 16.64%, followed by adults with hypertension (7.39%) and diabetes (2.63%). In the city C the hypertensive patients (3.3%) and the children (3.26%) were those who had the highest proportion of accompaniments. In the city D, only the children were monitored, representing 10.29% of the population. With regard to the local applicability of the produced data, any use of the data produced in the planning of the activities of the units wasn't reported. It was observed low