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PREVALENCE OF CHILDHOOD OBESITY: INFLUENCE OF FAMILY FACTORS

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Introduction

Obesity currently represents one of the most serious public health problems affecting children and adolescents. Lifestyles, particularly eating habits, are important health determinants for the prevention of childhood obesity.

The Portuguese Association Against Obesity (APCOI) also mentions that Portugal is among the countries in Europe with the highest number of children affected by this epidemic, with one in three children having this health problem.

Several authors report that there is a strong direct relationship between obesity and environmental risk factors, namely: existence of parental obesity, low socioeconomic status, low education, early weaning from breastfeeding, origin from rural areas, type of family structure (single child / adopted, single parent families, large families), changes in family dynamics and overfeeding [1,2].

Aim

The purpose of this study was to analyse the prevalence of overweight or childhood obesity in a subsample of children and their relationship with demographic and clinical variables.

Material and methods

The board of Regional Health Administration and Regional Health Ethics Committee approved the study. Before any data had been collected participants and/or parents provided informed consent.

Data from a sub-sample from a cross-sectional study carried out at USF Sta. Joana, Aveiro - Portugal involving children from both genders, aged between 13-18 years old. Exclusion criteria included (i) diagnostic of a disability such autism, cerebral palsy or trisomy 21, (ii) have been under surgical procedure in the last six months (iii) children under the care of an institution.

Data collection included information about food habits (type and frequency), occupational habits (physical activity, internet use and gaming), body mass index (BMI) and demographic variables.

Descriptive statistics were used for demographic and clinical variables. Overall prevalence of overweight or obesity followed the cut-off points established by World Health Organization [3,4].

Frequency of food consumption was dichotomized using as cut-off four or more times per week. BMI was also categorized by the cut-off points of WHO (2009). 'Obesity' and 'Overweight' categories were considered as one for Odds Ratio (OR) calculation. OR were calculated by univariate and multivariate logistic regression. Statistical Package for the Social Sciences (SPSS) software, version 25.0 was used for all the calculations.

Results

The study included 173 adolescents (50.3% of boys), with a mean age of 15.5±1.60 years old. About 60.1% of the participants lived in a rural area and one-parent families counted for about 28.3% of the sample.

'Obesity' (n=18) and 'Overweight' (n=33) categories counted for 29.5% of the sample. Girls presented prevalence rates higher than boys have for overweight (22.1% vs 16.1%)) and obesity (11.6% vs 9.2%). In the same way of gender, there was no statistically significant relationship between the BMI percentile and age, family type, housing area or breastfeeding duration.

Keywords:
Obesity Children and Youth, Prevention, Nurse Family, Eating habits, Physical activity

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Using a univariate logistic regression model, the odds for being classified in the categories 'Obesity' or 'Overweight' were higher for participants with less time per week of physical activity [OR=1.48 (95% CI, 1.19-1.85)], for those which mother has a higher BMI [OR=2.92 (95% CI, 1.81-4.70)] and those with a consumption of refrigerant drinks [OR=3.97 (95% CI, 1.82-8.63)].

The Nagelkerke R^2 for the multivariate analysis which included the three variables was 0.29, with OR's being calculated as 2.44 (95% CI, 1.05-5.68) for refrigerant drinks consumption, as 2.42 (95% CI, 1.45-4.03) for mother's BMI and as 1.34 (95% CI, 1.07-1.69) for physical activity time involvement per week.

Discussion:

Our results show a higher prevalence of overweight and obesity in girls, which is in agreement with other studies [5,6], this difference may be related to the greater activity of boys in activities such as running, jumping and playing football.

Physical inactivity is a leading risk factor for global mortality and a contributor to the increase in overweight and obesity[7]..

Physical activity is referred to in the literature as a protective factor against excess weight. Studies conclude that children and adolescents with obesity have lower indicators of physical activity [8,9], this fact was also observed in the present study in which children / adolescents who did not practice physical activity had a higher prevalence of excess of weight and obesity.

Milbradt et al. cited by Santos [10] states that there is a direct influence of the low level of physical activity on the development of obesity in childhood and adolescence. Therefore, one of the alternatives for the treatment of obesity is to increase the level of physical activity. Regular physical exercise is an important health factor, making it a good control and prevention of obesity

Some studies show that children with at least one obese parent are more likely to be overweight compared to those whose parents were of normal weight, indicating that parents' lifestyle, such as physical inactivity and eating habits, can influence the children's behavior more than genetic factors.

Mayer [11], corroborates the same opinion, stating that children of obese parents are more likely to be obese. However, it is not simple to assess how far the role of genetics goes and what the contribution of environmental factors is, since, in addition to genetics, parents and children tend to share similar eating habits and physical activity.

Conclusion:

The determination of the prevalence of overweight or obesity in children and adolescents, and their eating habits, allows to identify groups of children with risk for the development of diseases, and it is necessary to adopt measures in the prevention and fight against childhood obesity.

In child and juvenile surveillance consultations, dietary habits should be evaluated, allowing food counseling, adjusted for each child and family.

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