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ADOLESCENT OBESITY IN ASSOCIATION WITH THE SEDENTARY LIFESTYLE OF CHILDREN AND ADOLESCENTS AT THE REGIONAL HOSPITAL OF THE MIDWEST OF SÃO PAULO

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ABSTRACT

Introduction: According to the WHO, overweight and obesity are defined as abnormal or excessive accumulation of adipose tissue, which can lead to damage to health. Overweight in Brazil has been significant, following a global trend. Approximately six times increase in adolescents from 3.7% to 21.7% in males and almost threefold in females from 7.6% to 19.4% in the period from 1974 to 2009. Childhood obesity is a medical condition, associated with numerous comorbidities during childhood and adulthood. Lifestyle modification is essential for treatment, but often presents an insufficient response to improve health and fight the disease with behavioral approaches alone. **Objective:** To identify the association between obesity in children and adolescents, associated with predisposing factors for this condition, in this age group at the Regional Hospital of Presidente Prudente. **Methodology:** A retrospective cross-sectional observational study will be carried out through the analysis of medical records referring to patients in the age group of 10 to 19 years old, comparing daily habits and risk factors.

Keywords: Adolescents. Obesity. Epidemiological profiles. Habits. Child.

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INTRODUCTION

According to the WHO, overweight and obesity are defined as abnormal or excessive accumulation of adipose tissue, which can lead to damage to health. Rising obesity rates have been documented in Brazil by several national surveys since the 1970s, with evidence of an acceleration in obesity in the 2000s in all age groups over 5 years of age. (IBGE, 2010)

We note that nowadays, obesity is driven by radical changes in the management of global food, and in particular, since the 1980s, by the increase in the production, availability, accessibility and commercialization of processed foods and beverages. (MILLER, 2004)

In recent years, there has been an increase in the consumption of products with higher caloric intake and a lower supply of vitamins, especially fruits and vegetables, from the pediatric population to adolescents. (OGDEN CL, 2002)

According to the National Health and Nutrition Examination Surveys (NHANES), the prevalence of obesity in preschool (2 to 5 years) and schoolchildren (6 to 11 years) from 1990-2022 was doubled and, between 1976 and 1980, for adolescents between 12 and 19 years old, triple. (WHO, 1995)

Data show that it is worrying to be overweight or obese, affecting both physical and psychological health. In these conditions, there is an increased risk of chronic non-communicable diseases, including type 2 diabetes mellitus, hypertension, and fatty liver. In recent years, a strong link between obesity and various types of cancer have also been identified. (HEDLEY AA, 2004)

We increasingly recognize that high levels of consumption of several specific types of processed foods or beverages are associated with weight gain and associated chronic non-communicable diseases. (GARCIA NCB, 2019)

Associated with the fact of increased consumption, we can also observe a high individual variation in the difficulty in weight loss, associated with several barriers. Among them, they include not only physical factors, but also environmental, emotional and especially endogenous predisposition of individuals. (OGDEN CL, 2012).

Learning to deal with emotional situations, especially stress, can be an important factor in weight regulation, as it can be associated with an unfavorable lifestyle, including little physical activity and greater intake of caloric foods, which give a greater feeling of satiety. (SWINBURN BA, 2011)

The decrease in play, with an increasingly sedentary character in school activities and daily activities, as well as changes in transport patterns and development, technologies, are direct allies to overweight. (AGUILAR et al, 2014)

In this sense, the school becomes one of the most conducive environments to stimulate physical activity and guide a change in behavior towards a healthy lifestyle and the prevention of overweight, obesity and associated diseases in this age group. (AGUILAR et al, 2014)

Thus, with the change in the sedentary lifestyle of children and adolescents in recent decades, problems are noted in the biopsychosocial aspects of this group, giving greater repercussion related to the patterns that involve weight gain. (AGUILAR et al, 2014)

Thus, it is necessary to provide health education in children and adolescents, through the development of strategies that demonstrate and adopt reliable practices of physical activity, dietary re-education and that show results to them.

OBJECTIVES

GENERAL OBJECTIVE

To analyze the epidemiological profile and consequences through the analysis of medical records, evaluating the lifestyle of adolescent patients in the outpatient clinics of General Pediatrics, Pediatric Endocrinology and Adolescent Adocrinology in a Regional Hospital in the Midwest of São Paulo, from February 2021 to May 2022.

SPECIFIC OBJECTIVES

- Describe personal history of obesity
- Identify daily habits and if there is any time of day for physical activity
- To know the risk factors/predisposing habits and situations of vulnerability associated with obesity

METHODOLOGY

RESEARCH DESIGN

This is a cross-sectional, observational, descriptive study, carried out from the analysis of medical records of obese adolescents from a Regional Hospital in the Midwest of São Paulo from February 2021 to May 2022.

INSTITUTIONS

The study will be developed in a Regional Hospital in the Midwest of São Paulo, in the outpatient sector

PROCEDURE

The study will be carried out through the analysis of medical records, verifying eating habits, physical activity, family history and previous diseases.

ETHICAL ISSUES

The research will be submitted for approval by the Research Management System of the University of Western São Paulo (Unoeste) and the Brazil Platform to later begin the study of medical records strictly following the ethical standards in force, ensuring confidentiality of the institution's name and not the identification of the participants in the research in future publications.

INCLUSION CRITERIA

Children and adolescents between 10 and 17 years old, being monitored at the General Pediatrics and Adolescent Outpatient Clinic at the Presidente Prudente Regional Hospital who have been treated from February 2021 to May 2022 with a diagnosis of obesity.

EXCLUSION CRITERIA

Patients under 10 years of age or 18 years of age or older who, eventually, have undergone care at the aforementioned outpatient clinic in the period from February 2021 to May 2022, or those who, within the recommended age group, did not present, among their diagnoses, obesity.

RISKS AND BENEFITS

Regarding risks pertinent to carrying out this study, sensitive patient data may be leaked, such as full name, parents' contact telephone number, address, etc. To minimize these risks, only authorized members of the research will have access to the medical records, which will be handled in a controlled environment.

There will be no direct benefits to patients, but with the possibility of gains for the scientific literature and the pediatric population in the region, once the real epidemiology of obesity in children is known, more assertive strategies can be taken.

RESULTS

A total of 421 medical records of all patients treated in the pediatric sector from 2019 to 2021, whose diagnoses included obesity (ICD-10 E66), were analyzed. In 2019, there

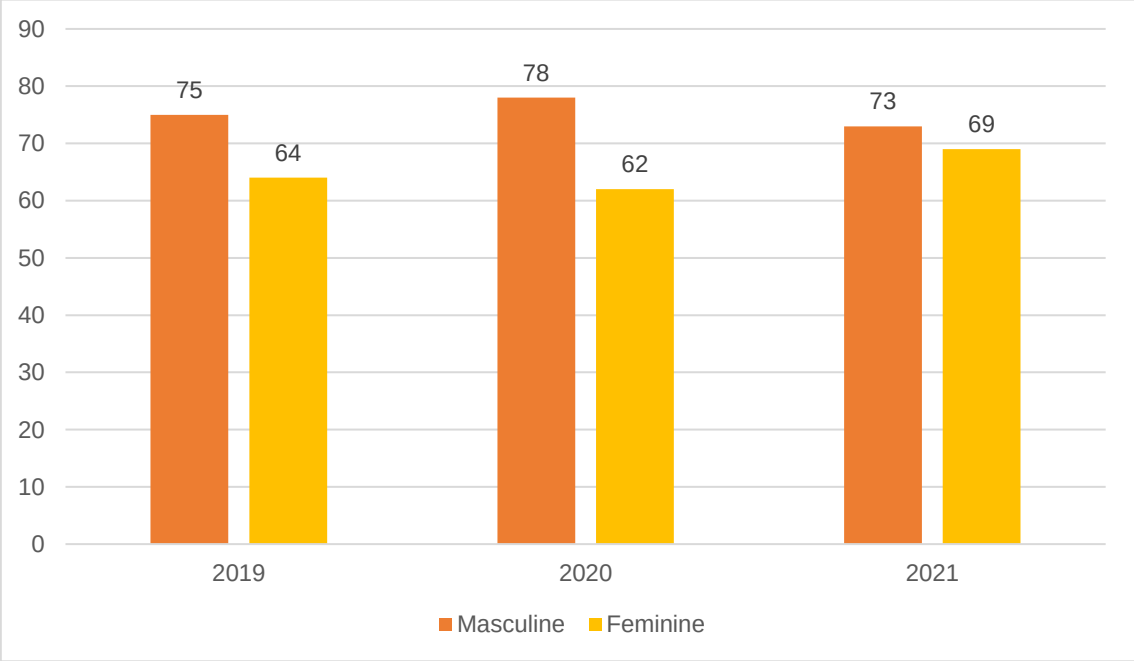
were 142 consultations, 140 in 2020 and 139 in 2021, making an average of 140 consultations per year, with no relevant variations in the observed period.

In all 3 years analyzed, the majority of patients were male, accounting for 51% of patients in 2019, 55% in 2020, and 53% in 2021. Overall, male patients accounted for 53.6% of the sample in this study (Figure 1).

Regarding the age of the patients, those from zero to 18 years of age were attended; in 2019, the mean age of patients was 11.9 years, in 2020 and 2021 the mean age rose to 12.3 years (Figure 2).

In the medical records, it was possible to obtain an overview of the most current and previous health situation of the patients, their eating habits and physical activities. Of the 421 patients included in the study, 19 had documented insulin resistance and were instructed on lifestyle habits to avoid progression to type 2 diabetes (DM-2). Another 15 patients had already been diagnosed with DM-2 and are undergoing endocrinological follow-up and oral antidiabetic therapy (Figure 3).

Figure 1 – Gender of patients treated in pediatrics with a diagnosis of obesity



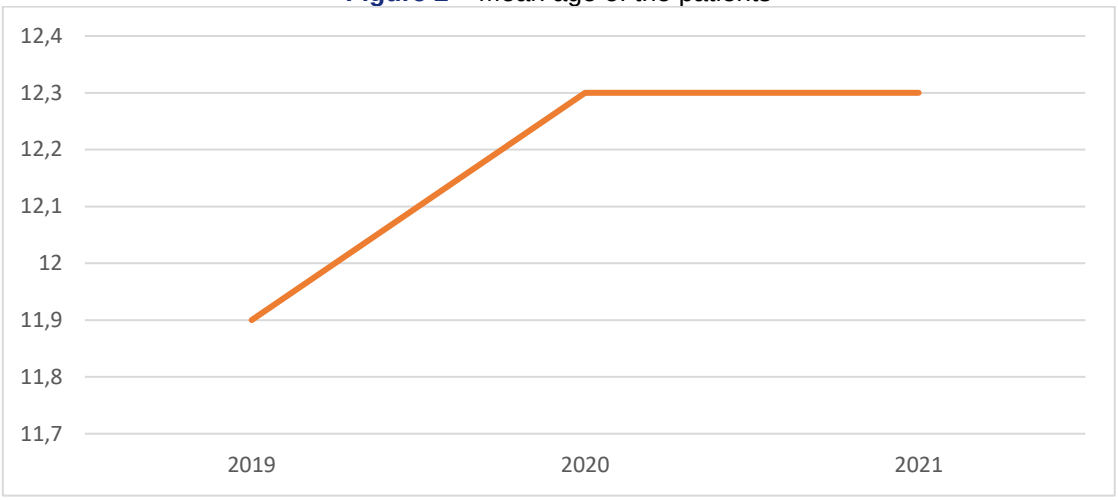
There were 14 visits of pediatric patients diagnosed with obesity associated with asthma, all of whom had good symptom control and were using maintenance therapy appropriate for their age group. Other diagnoses of chronic respiratory diseases, associated with obesity, were not identified in the sample (Figure 3).

20 patients diagnosed with systemic arterial hypertension (SAH) were also treated, all of whom were using at least one antihypertensive drug, with a history of good control of blood pressure levels. Regarding regular physical activity, only 34 patients were recorded in

the medical records, corresponding to only 8% of all patients included in the study (Figure 3).

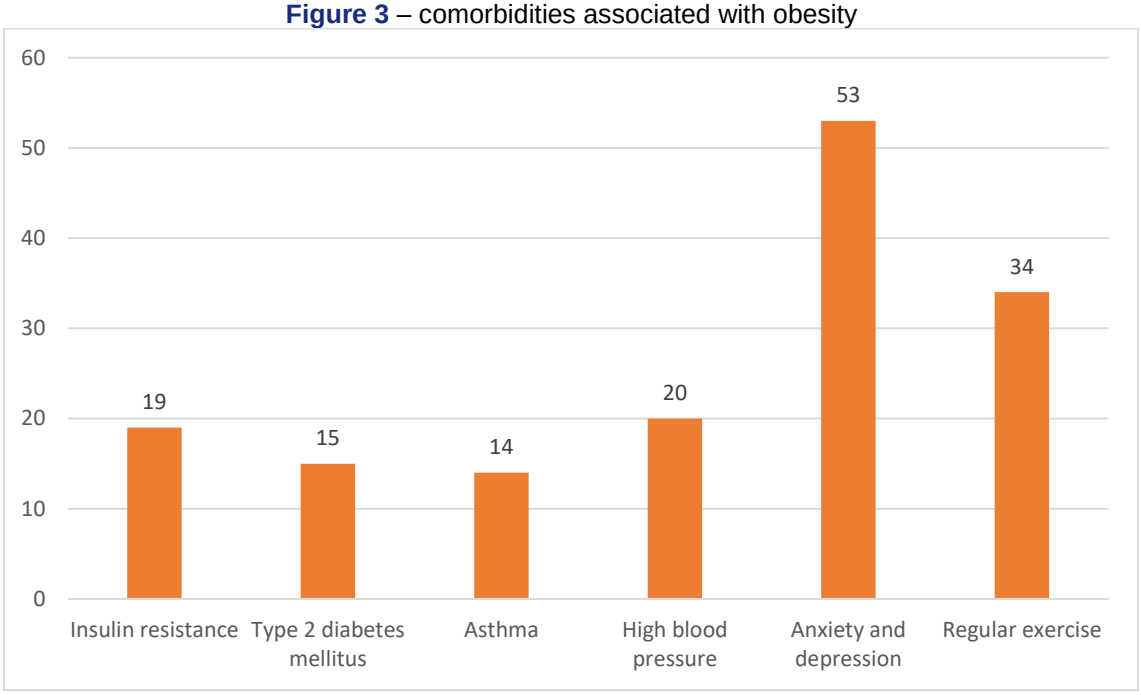
The most prevalent diagnosis in the patients in this study was psychiatric; 53 patients, or 12.5%, had been treated in the psychology and/or psychiatry sectors, in follow-up for anxiety and/or depression, all of them using specific medications (Figure 3).

Figure 2 – Mean age of the patients



Source: the authors.

Figure 3 – comorbidities associated with obesity



DISCUSSION

The diagnosis of obesity in pediatric patients can vary due to numerous factors, such as frequency of visits to the doctor, associated comorbidities, and access to health services. Children with genetic obesity are usually diagnosed at less than 2 years of age, while in the general population the age is close to the 4th year of life14.

Age at the diagnosis of obesity has a great influence on the complications associated with this disease. Obese children before 5 years of age have a higher risk of metabolic complications when compared to those who became obese later15.

In this study, the mean age of the patients ranged from 11.9 to 12.3 years, however, the age at diagnosis was not obtained, due to limitations of information in the medical records. However, there is a great disparity between the ages found here and what is seen in the literature, which draws attention to the risk of late diagnosis of obesity in the region.

Regarding respiratory diseases, there has been an increase recorded in recent decades in most countries, especially rich and developing countries, which seems to be closely related to the growth of obesity in the pediatric population. Asthma is the most common chronic respiratory disease in childhood, and its association with obesity is related to increased symptom exacerbations and poorer response to drug treatments16,17.

In the population analyzed in this study, only 3.3% of the patients are diagnosed with asthma and are on regular maintenance therapy and crises, however, it should be taken into account that the definitive diagnosis of the disease comes only after 6 years of age, with spirometry and lung capacity assessment, and since the population included is aged 0 years and older, This prevalence tends to grow as patients age.

Regarding obesity, the literature suggests that the prevalence of this comorbidity in the pediatric public can vary from 5 to 30%, depending on diagnostic criteria, ethnicity, and age. However, it is known that higher body mass indexes (BMI) are also associated with higher blood pressure levels18.

In the population evaluated by this study, the prevalence of systemic arterial hypertension was 4.7%. The importance of long-term surveillance of the blood pressure levels of these patients is highlighted, given that, given early diagnosis, statistically there is a greater chance of worse long-term outcomes when considering cardiovascular comorbidities, such as strokes and acute myocardial infarctions19,20.

Regarding psychiatric disorders, there is robust evidence in the literature pointing to a close relationship between both pathologies. A Spanish study points out that in a group of overweight or obese children, 57% had some mental disorder, with anxiety being the most common of them. In addition, there seems to be a close relationship between attention deficit hyperactivity disorder (ADHD) and autism with childhood obesity [21,22].

These data draw attention to the growing need for psychological and psychiatric evaluations in patients with childhood obesity, given the large percentage of disorders related to the diagnosis. In the population evaluated by this study, the prevalence of anxiety

and depression, together, reached 12.5%, with the most common diagnosis being associated with obesity.

Finally, low adherence to physical activities is highlighted; in only 8% of the medical records there was a documented report of regular physical exercise throughout the week. The practice of physical activities by children with obesity, in addition to helping with weight loss, has a positive impact on associated comorbidities, such as SAH, respiratory diseases, and diabetes. In addition, children with regular sports practice have a cardiovascular risk approximately 20% lower than those who are sedentary.[23:24].

CONCLUSION

Despite the limitation of the sample size and the period of coverage of the study, the data obtained help to better understand the profile of patients treated at the pediatric service, which allows for the optimization of resources. Other, larger and multicenter studies are needed to delineate on a larger scale the prevalence of childhood obesity in the pediatric population and the profile of affected patients, with the aim of outlining medium and long-term goals and planning, aiming to reduce the negative effects of the pathology on children's quality of life.

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