v. 2, n. 69, 2022

International Journal of Health Science

CHILDHOOD OBESITY: A CURRENT CONSENSUS

Rafaela de Andrade Ubertini
Doctor graduated by the institution: Universidade de Valença (UNIFAA)
http://lattes.cnpq.br/1584284574588674

Anderson Medeiros Filho
Medical student at the institution: Universidade de Vassouras (UV)
http://lattes.cnpq.br/0289423504079023

Gabriel Silva Esteves
Medical student at the institution: Universidade de Vassouras (UV)
http://lattes.cnpq.br/9870931719013255

Paulo Roberto Hernandes Júnior
Medical student at the institution: Universidade de Vassouras (UV) and Scientific Initiation Student at PIBIC - Universidade Estadual de Campinas (Unicamp)
http://lattes.cnpq.br/7418862771895322

Rossy Moreira Bastos Junior
Doctoral student at the institution: Universidade Federal do Rio de Janeiro (UFRJ)
http://lattes.cnpq.br/0075913838823892

Abstract: Childhood obesity has increased worldwide, having become a worrying epidemic in recent times. Due to the large number of cases, several studies and researches are being developed, focused on the severity of the disease. Determination of the scope of biological, psychological, socio-economic and socio-behavioral factors in the constitution of overweight and obesity in children and adolescents; Identification of the individual characteristics of children and adolescents undergoing treatment for weight loss in the researched articles; Determination of changes in quality of life resulting from weight loss; Synthesis of available information regarding quality of life after weight loss. Demarcation of essential issues for weight loss, since the presence of at least one risk factor for CVD (hypertension, dyslipidemia or hyperinsulinemia) has been observed in 60% of overweight children and adolescents, with 20% having two or more risk factors. Obesity is considered a chronic and epidemic disease, with a rapid increase in its prevalence in recent decades, both in developed and developing countries, and is related to a high rate of morbidity and mortality. Integrative literature review, as an instrument of evidence-based practice, allowing a deeper understanding of a delimited topic, enabling the improvement of both research and care. The results of this research are intended to contribute to the improvement of the quality of the bibliographic collection on childhood obesity, as they bring, in a summarized way, what has been published more recently on the subject, collaborating with health research and favoring a quick reading. and practice.
Keywords: Childhood obesity, Behavior, Eating habits.

INTRODUCTION

There is extraordinary concern about child health, especially when obesity is addressed, as it is a Chronic Non-Communicable Disease (NCD), with enormous consequences for health. Therefore, the precaution of health professionals must be directed to children and adolescents, predicting the causes and risk factors of obesity, pointing to progress in the quality of subsidy and benefiting healthy child development.

Childhood obesity has increased worldwide, having become a worrying epidemic in recent times. Due to the large number of cases, several studies and researches are being developed, focused on the severity of the disease[1].

Obesity is a recurrent, non-transmissible disease, arising from the imbalance between swallowed and used energy, of multifactorial origin, encompassing genetic, socioeconomic, biological, psychological and environmental factors, being distinguished by the exaggerated accumulation of fat in the tissue, in the form of triglycerides[2].

Costa *et al.*[3] corroborates this understanding, stating that overweight in childhood and its prevalence in adulthood are precipitating factors for cardiovascular diseases, arterial hypertension, hyperlipidemia and diabetes mellitus. Other damages are also indicated, especially in the psychological and social domain, such as compromised self-esteem, difficulties in relationships and social inclusion.

Regarding the participation of parents in the treatment of overweight and obese pediatric patients, there are descriptions that family customs are very important in the weight loss of children and adolescents.[4]

The influence of the micro and macro environment on the development of excessive weight in children from 5 to 9 years of age was confirmed in a study on the prevalence of overweight, more than double in students enrolled in the private education network (13.4%) when compared to those in

the public school system (6.5%) and almost triple obesity (7.0% vs 2.7%)[3].

Santos and Robinovich[1] focus on current family dynamics influenced by the culture of consumption, which intervenes in children's feeding and sociability inappropriately. Obesity determined as body weight relevant to lean mass, and overweight as too much fat, as an extension of weight greater than desirable for height are categories of multifactorial etiology, whose increase is influenced by biological, psychological and socio-economic.

Must *et al*.[5] analyzed adolescents from the Harvard Growth study, who were followed for 55 years, and found that 52% of individuals who were overweight as adolescents remained in this nutritional status 55 years later, and the relative risk for all causes of coronary heart disease was approximately two times greater in these individuals.

In addition to the increased risk of obese children and adolescents remaining in this state as adults compared to eutrophic individuals, longitudinal studies suggest that the duration of obesity is directly associated with morbidity and mortality from cardiovascular diseases. (DCV)[6].

It can be seen that risk factors for CVD are already present in obese children and adolescents, with the onset and duration of obesity being an important factor in the development of atherosclerosis. It must be noted that the rate of progression of the development of the atherosclerotic process is variable, depending on the degree of exposure to a series of risk factors.[6].

GOALS

GENERAL GOAL

The general objective of the present study is to determine the range of biological, psychological, socio-economic and socio-behavioral factors in the constitution of overweight and obesity in children and adolescents.

SPECIFIC OBJECTIVES

- Identify the individual characteristics of children and adolescents undergoing weight loss treatment in the researched articles;
- Determine changes in quality of life resulting from weight loss;
- Synthesize available information regarding quality of life after weight loss.

HYPOTHESIS

Obligation of the health professional to determine the biological, psychological, socio-economic and socio-behavioral factors in the composition of overweight and obesity in children and adolescents;

Demarcation by the health professional of the essential issues for weight loss, as there is the presence of at least one risk factor for CVD (hypertension, dyslipidemia or hyperinsulinemia). It has been observed in 60% of overweight children and adolescents, with 20% having two or more risk factors.[4]

Existence of children and adolescents undergoing weight loss treatment and whether changes have occurred in the child's quality of life after treatment;

Individual characteristics of children and adolescents who participated in some weight loss treatment.

JUSTIFICATION

The research is justified by the fact that obesity is considered a chronic and epidemic disease, with a rapid increase in its prevalence in recent decades, both in developed and developing countries, and is related to a high rate of morbidity and mortality.

Therefore, epidemiological studies indicate an association between the significant growth in the incidence of chronic diseases, such as

type 2 diabetes mellitus and coronary heart disease, with the decrease in disease-free life span, as the BMI increases in the population of children and teenagers.[3]

There are several other reasons that justify the research, among which are: resistance to the action of insulin in the tissue and high levels of fasting plasma insulin, very frequent changes in obese children and adolescents, seem to be the first signs for the development of diabetes. mellitus type 2. In obese children, it appears that in the early stages of the disease, due to insulin resistance, pancreatic ß cells increase insulin production and secretion as a compensatory mechanism, while glucose tolerance remains normal.

This state remains for some time, until a decline in insulin secretion and a decrease in glucose tolerance are observed. Therefore, the increase in endogenous glucose production occurs in the late stage of development of: *diabetes mellitus* tipo 2[6].

In a study by Bao et al., long-term plasma insulin levels were evaluated in children (5 to 9 years of age) and in young adults (17 to 23 years) of the population of *Bogalusa Heart Study*, observing the consequences of high levels in relation to the lipid profile and blood pressure. After 8 years of follow-up, it was found that the prevalence of obesity was 72% in individuals who had persistently high insulin levels and cases of hypertension and dyslipidemia were 2.5 to 3.0 times higher, respectively, for these individuals.[7]

The insulin resistance index was a strong predictor for impaired glucose tolerance, confirming that in childhood, insulin resistance associated with hyperinsulinemia are the most important risk factors for the development of impaired glucose tolerance in obese children. The developmental process of type 2 diabetes mellitus in childhood appears to evolve more rapidly than in adults.[3].

Atherogenic, thrombogenic and inflammatory metabolic alterations contribute to obese children and adolescents with abdominal obesity being at greater risk for the development of coronary heart disease in later life. Hyperinsulinemia may indirectly contribute to thrombogenic changes, as the accumulation of abdominal fat appears to be the most important predictor[1].

Leptin is a hormone secreted by adipocytes and the product of the ob gene, influencing the reduction of food intake and the increase of energy expenditure through its action on the hypothalamus, suggesting that, possibly, in obese individuals, there is resistance to the action of this leptin. hormone[8].

In childhood and adolescence, there is a difference in plasma leptin levels between the sexes: in girls, leptin levels progressively increase according to age, with weight gain and body fat, while in boys there is a progressive decrease. Some authors state that this difference becomes more evident in the prepubertal phase, while others, in the final stages of sexual maturation. Probably hormonal differences, in which testosterone has a negative correlation with leptin levels, explain such discrepancies.[6]

In a study carried out with obese children, it was found that visceral fat, assessed by means of magnetic resonance imaging, showed a significant correlation with undesirable levels of triglycerides, total cholesterol and fractions, and the ratio of total cholesterol to HDL-C, apolipoprotein B and systolic blood pressure. However, in clinical practice, the use of these methods is unfeasible, therefore, the use of anthropometric measurements is recommended, which, through equations, can determine visceral and subcutaneous fat.[4]

In teenagers, Neutzling[9], through an analysis of the data, he found a prevalence of 7.6% of overweight. More recently, there has been an increase in the prevalence of

overweight and obesity from 4.1% to 13.9% in children and adolescents aged 6 to 18 years.[4]

Studies carried out in some Brazilian cities show that overweight and obesity affect 30% or more of children and adolescents, as in Recife, reaching 35% of schoolchildren evaluated. [3]. The study of Souza Leão *et al.*[10], showed a prevalence of 15.8% of obesity in 387 schoolchildren in Salvador, which was significantly higher in private schools (30%) compared to public schools (8.2%).

Similar data can be verified in a study carried out in the city of Santos, state of São Paulo, with the entire population (10,821) of public and private schoolchildren, aged 7 to 10 years, in which 15.7% and 18.0% were overweight and obese, respectively, with the highest rates appearing in students from private institutions[3].

Several factors are important in the genesis of obesity, such as genetic, physiological and metabolic ones, but those that could explain this increase in the number of obese individuals seem to be more related to changes in lifestyle and eating habits. The increase in the consumption of foods rich in simple sugars and fat, with high energy density, and the decrease in the practice of physical exercises, are the main factors related to the environment.[6]

The study of Oliveira *et al.*[11], found that childhood obesity was inversely related to the practice of systematic physical activity, with the presence of TV, computer and video games in homes, in addition to low consumption of vegetables, confirming the influence of the environment on the development of overweight in our country. quite.

However, these data are not in agreement with those found in developed countries, where there is an inverse relationship between education or socioeconomic level and obesity. Another aspect that has been discussed about the factors related to the obesity epidemic is the contribution of the increase in the portions of food served in restaurants, bars and supermarkets.[1]

Young and Nestle[12] demonstrates the evolution of food portion sizes offered in some establishments in the US over the past few decades, compared to those standardized by the US Department of Agriculture (USDA). The results showed that the portion size of meats, pastas and chocolates exceeded by 224, 480 and 700%, respectively, that of the USDA standard. In addition, it was found that it was from the 70's that an increase in portions began, coinciding with the stronger performance of marketing in the food industry. As the size of French fries offered to consumers in the mid-1950s was 1/3 of the largest size offered in 2001.

There is great biological variability among individuals in relation to the storage of excess energy ingested, conditioned by their genetic heritage. Genetic factors have a permissive action so that environmental factors can act as if they created an "internal environment" favorable to the production of excessive weight gain (overweight and obesity), and there are some studies that point to the role of biological factors in its development.[11].

Children's food preferences, as well as physical activities, are practices directly influenced by parents' habits, which persist into adulthood, reinforcing the hypothesis that environmental factors are decisive in maintaining or not a healthy weight. Therefore, genetic information constitutes a sufficient cause for determining overweight and obesity, but not always necessary, and it is possible to reduce its influence through changes in the micro and macro environment in which people live[1].

They have an epidemic character and increasing prevalence, in developed and developing countries, explained by sociologists and nutritionists, as inadequate nutritional

factors resulting from the nutritional transition, associated with excessive sedentary lifestyle conditioned by reduced physical activity and increased habits that do not generate caloric expenditure. with watching TV, using video games and computers, among others, in short, due to an important change in lifestyle, determined by cultural, social and economic factor[6].

There is a strong influence of the biological component on the development of obesity, especially among adults, but it concludes that the prevalence observed in the last 20 years can be explained simply by environmental factors, since metabolic alterations that point to a biological disorder have not been demonstrated.[11]

The family and social environment are far-reaching factors in the condition of obesity in children, another contributing factor for obesity in childhood and adolescence is the fact that parents are obese. In addition to the genetic elements covered, childhood obesity is related to the issues of learning eating habits and the re-edition of obesity based on identification with parents[6].

Finally, health professionals must provide continuous assistance, maintaining contact with patients and families of children and adolescents, in determining changes in quality of life resulting from weight loss, summarizing the available information regarding quality of life after, the slimming.

METHODOLOGY

It is a field research, exploratory, descriptive, with a quantitative and qualitative approach. The choice of the combination of qualitative and quantitative methods produces the methodological triangulation, which, in a relationship between complementary opposites, seeks to bring positivism and understanding closer together. Thus, triangulation is a research strategy that contributes to increasing knowledge about a given topic, achieving the objectives outlined, observing and understanding the reality studied.

After authorization from the Faculty of Medicine of Valença, the present study will be submitted by the Ethics and Research Committee with Human Beings of the Faculty of Medicine of Valença, under the number: 1,222,532, according to Resolution 466/2012 of the National Health Council. Study participants received a Free and Informed Consent Term (FICT), which they signed consenting to their participation in the study (Appendix 1).

STUDY LOCATION

The chosen place was the Escola Artesanato Nossa Senhora Aparecida, a private school belonging to the educational system of the Municipality of Valença/RJ, located at Rua Dr. Figueiredo, nº 1251, Bairro Aparecida, with complete elementary school, currently serving children and adolescents between 3 and 16 years old.

SUBJECTS

They will be children between 8 and 15 years old, residents in the area covered by the Biquinha Family Health Strategy.

INCLUSION AND EXCLUSION CRITERIA

Children aged between 8 and 15 years will be included in the study, excluding children with hearing impairments and neurological and/or mental disabilities.

INSTRUMENT FOR DATA COLLECTION

A semi-structured interview questionnaire will be used following a script with 15 open and closed questions (Appendix 2). The questionnaire will be completed by those

responsible for the children and adolescents, and will be distributed by the researchers themselves.

DATA ANALYSIS

Objective data will be analyzed using descriptive statistics and presented in the form of graphs and tables. Qualitative data will be categorized into thematic units according to Bardin's (2011) content analysis and discussed in the light of relevant literature.

EXPECTED RESULTS

The worldwide prevalence of obesity has increased rapidly in recent decades, being a true global epidemic. This fact is quite worrying, since the association of obesity with metabolic alterations, such as dyslipidemia, hypertension and glucose intolerance are considered risk factors for type 2 diabetes mellitus and cardiovascular diseases, which until a few years ago were more evident. in adults, but today they can often be observed in the younger age group2.

In addition, some studies suggest that the duration of obesity is directly associated with morbidity and mortality from cardiovascular diseases.

In Brazil, there has been a process of nutritional transition in recent decades, with a reduction in the prevalence of child malnutrition (from 19.8% to 7.6%) and an increase in the prevalence of obesity in adults (from 19.8% to 7.6%). 5.7% to 9.6%)3.

Given the above, the expected result is the implementation of interventionist measures to combat and prevent this nutritional disorder in younger individuals. Among the main components of policies for a healthy life in adolescents, the promotion of increased physical activity, the implementation of physical exercise programs and the encouragement of the acquisition of healthy eating habits within the schools stand out. Some areas deserve attention, with education, the food industry and the media being the main vehicles for action.

It is expected that educational and informative measures and mass media will be increased, as well as the control of unhealthy food advertising, aimed mainly at children and the inclusion of a minimum percentage of in natura foods in the national school feeding program, with the reduction of simple sugars. Regarding the food industry, support must be sought for the production and marketing of healthy foods.

Finally, these results intend to contribute to the improvement of the quality of the bibliographic collection related to childhood obesity, as they bring, in a summarized way, what has been published more recently on the subject, collaborating with health research and favoring a better reading. fast and practical.

REFERENCES

1. SANTOS, L. R. C.; RABINOVICH, E. P. Situações familiares na obesidade exógena infantil do filho único. **Saúde e Sociedade**, São Paulo, v. 20, n. 2, p. 507-521, 2011. Disponível em: http://www.scielo.br/scielo.php?script=sci_attext=s0104-12902011000200021 acesso em 10/09/2016.

2. CORSO, A. C. T. et al. Fatores comportamentais associados ao sobrepeso e a obesidade em escolas do estado de Santa Catarina. **R, bras. Est. Pop**., Rio de Janeiro, v. 29, n1, p.117-131, jan/jun, 2012. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1517-97022012000300008&lng=pt&nrm=iso acesso em 15/10/2016.

3. COSTA, M. B. *et al*.: Obesidade infantil: características em uma população atendida pelo programa de saúde da família. **Rev. APS**. 2011jul/set, 14. Disponível em: http://aps.ufjf.scielo.emnuvens.com.br.aps/article/vuw,1037/505 acesso em 16/10/2016**.**

4. OLIVEIRA, T. R. P. R.; CUNHA, C. F.; FERREIRA, R. A. Características de adolescentes atendidos em ambulatório de obesidade: conhecer para intervir. **Nutrire,** São Paulo, v. 35, n. 2, p. 19-37, 2010. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2012000600016&lang=pt acesso em: 11/10/2016

5. MUST A, *et al*. Long-term morbity and mortality of overweight adolescents: a follow-up of the Harvard Growth Study 1922 to 1935. **N Engl J Med** 1992; 327:1350-5.

6. TASSARA, V.; NORTON, R. C.; MARQUES, W. E.: Importância do contexto sócio familiar na abordagem de crianças obesas. **Revista Paulista de Pediatria**, São Paulo, v. 28, n. 3, p. 309-314, 2010. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2012000600016&lang=pt acesso em 11/10/2016.

7. BALABAN G, SILVA GAP.: Prevalência de sobrepeso em crianças e adolescentes de uma escola da rede privada de Recife. **J Pediatr 2001**; 77:96-100.

8. STYNE DM. Childhood and adolescent obesity. Prevalence and significance. **Pediat Clin North Amer 2001**; 48:823-53.

9. NEUTZLING MB, *et al*. Overweight and obesity in Brazilian adolescents. **Int J Obes 2000**; 24:1-7.

10. SOUZA LEÃO SC, *et al*. Prevalência de obesidade em escolares de Salvador, Bahia. **Arq Bras Endocrinol Metab 2003**; 47/2:151-7.

11. OLIVEIRA AMA, *et al*.: Sobrepeso e obesidade infantil: Influência dos fatores biológicos e ambientais em Feira de Santana, BA. **Arq Bras Endocrinol Metab 2003**; 47/2:144-50.

12. YOUNG LR, NESTLE M. The contribution of expanding portion sizes to the US obesity epidemic. **Am J Public Health 2002**; 92:246-9**.**