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REVIEW ARTICLE

The role of Brazilian culture in the face of childhood obesity over the last three decades

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Abstract

Childhood obesity can affect health in adulthood in several ways. First, studies have shown that obese children are more likely to become obese adults. This significantly increases the risk of developing chronic diseases such as diabetes, hypertension, heart disease, cancer and other conditions that can negatively impact quality of life. This work seeks to bring reflections on environmental and cultural changes in terms of habits, which may have contributed to the increase in obesity in the Brazilian population, through advertising, as well as typical foods and childrens routine before the COVID-19 pandemic.

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INTRODUCTION

Childhood obesity is a growing problem in Brazil and has become more common in recent decades. Data from the Brazilian Institute of Geography and Statistics (IBGE) indicate that, in 2019, one in three children aged 5 to 9 was overweight. The factors that contribute to the increase in childhood obesity in Brazil are multiple and include the increase in the consumption of ultra-processed foods, the decrease in physical activity and inadequate eating habits[1,2].

Brazilian culture is characterized by a wide variety of typical dishes, many of which are high in calories and fat. The availability of ultra-processed foods has also increased in recent years, and the consumption of these foods has been associated with the increase in childhood obesity in Brazil and around the world [3,4].

To this end, this article aimed to conduct a bibliographic review, focusing on childhood obesity and discuss the factors that influence children's lifestyles, such as audiovisual media, family relationships, the impact of Brazilian culture through advertising, typical foods and children's lifestyles in the face of childhood obesity, over the last three decades, before the COVID-19 Pandemic.

MATERIAL AND METHODS

A broad search was carried out in the medical literature, extracting information from national and international literature, between the years 1990 and 2023. The databases used for this systematic review were: Electronic Library Online (SciELO), Latin American and Caribbean Literature in Health Sciences (LILACS), PubMed and Google Scholar. The following descriptors were used: "childhood obesity Brazilian culture". Data collection began through the pre-selection of articles, according to the inclusion criteria. After that, the articles that addressed the topic of interest were selected. The data analyzed after reading the selected articles showed specific themes such as: poor diet, lack of physical activity and genetic influence, psychology associated with obesity, family factors and obesity, and media influences. We excluded those that dealt with the period during the COVID-19 pandemic or those that did not emphasize environmental influences in relation to childhood obesity.

RESULTS AND DISCUSSION

After searching the databases on the topic of childhood obesity in Brazilian culture, 150 articles were found, those published between 1990 and 2023 were selected, and 33 articles were used to compose this literature review.

One of the most important epidemics, which has emerged as the evil of the 21st century, is obesity. Obesity is a disease that causes an increase in body fat. A child is considered obese when he or she is 20% over the ideal weight for his or her age. To measure this, the child is weighed in kilograms (kg), and the age is calculated in months. These values are identified on the child growth chart by age, which corresponds to the curve that reflects growth, BMI by age and weight by age that is present in the child's health record, provided after the child is born, with one standardization for boys and another for girls (see figures 1 and 2). Weight-for-age cutoff points for children under 10 years of age: percentile > 97 and/or z-score > +2 considered high weight for age[3].

One of the factors that can lead to obesity is poor nutrition, with foods rich in sodium, sugars and fats, which is a risk factor for the development of chronic non-communicable diseases[4].

With the growing number of cases worldwide, childhood obesity is a rising issue that causes great concern. The Brazilian Obesity Commission (COB) revealed that overweight and obesity are found with great frequency, from the age of 5, in all income groups and in all regions of Brazil. According to the latest report on childhood obesity, released by the World Health Organization (WHO), approximately 41 million children under the age of 5 were obese or overweight in 2014. Obesity can begin at any age and its development is related to genetic, metabolic and physiological factors, which can be aggravated by the environment. Among the environmental factors that can lead to childhood obesity, we list media influence, which encourages inadequate nutrition, while demanding an ideal standard of thinness; and the economy/politics that encourage both consumerism and the interests of the unhealthy food industry[4,5,6,7,8].

Overweight and obesity are considered serious and relevant conditions, considered one of the biggest health problems in the world, responsible for the increase in morbidity and mortality from Chronic Noncommunicable Diseases, according to the WHO. Childhood obesity poses several health risks and can be related to several diseases such as cardiovascular disease, hyperlipidemia, colorectal cancer, diabetes mellitus II, gout, arthritis, lung diseases, low resistance to heat, among others[9,10].

One of the many consequences caused by childhood obesity is the emergence of psychopathologies. More than half of the children presented stress levels, and a small number were already using psychiatric medications. Furthermore, obesity has an unfavorable effect on anxiety, self-esteem and depression[11,12].

In childhood, the etiological factors that determine the onset of obesity are early weaning, the introduction of inadequate foods, the use of inadequately prepared milk formulas and physical inactivity. Other factors are related to the family environment. Children of obese parents have an 80% chance of becoming obese; these chances fall by half if only one of the parents is obese and 7% if neither parent is obese. Another factor related to the family environment that increases the likelihood of childhood obesity is being an only child, which can reduce the frequency of play, which results in energy expenditure. It is essential to treat not only the child,

but the entire family, as they play an important role in the physical, psychological and moral development, influencing eating habits, being the first emotional and nutritional educators. Children also end up influencing the family's eating habits when they begin nutritional monitoring, because parents need to re-educate their children about their diet to help them in this process[13].

For many years, it was understood that complications arising from obesity occurred exclusively in adults, even though its effect on children was understood. There are studies that prove the negative consequences of weight gain in children and its consequent harm to health, and the responsibility for this lies in an inadequate diet, mainly linked to a lack of physical activity, and a growing number of chronic diseases, in addition to the exclusion that these children suffer because of bullying. Children reflect their parents, therefore, if they do not have a healthy lifestyle, the child will follow their example, so it is important to perform physical activities daily and change eating habits. The study on the treatment of childhood obesity highlights two factors: family participation and the environment. The family functions as a model in the learning process, and the environment contributes to this educational practice, considering that the family is the main factor of influence in this environment [3].

According to the Michaelis dictionary, "culture" is based on: A set of knowledge, customs, beliefs, patterns of behavior, acquired and transmitted socially, which characterize a social group. The history of food shows origins, civility, behaviors and cultures. The essence of gastronomy refers to changes, temporality and the past demonstrated as a continuous process of vision about transformations, which is maintained and what eventually happens. When studying Brazilian popular culture, one of the main questions is to discover where this knowledge came from and its relationships with the multiple influences that formed Brazilian culture. Brazilian culture is characterized by a wide variety of typical dishes, many of which are high in calories and fat. The cycles of immigration also brought African, Portuguese, Italian and Syrian cuisine. It is also worth remembering the references and traits of indigenous dishes, such as the use of cassava and other roots. Considering that "foods and delicacies were organized in each region according to a detailed code of values, rules and symbols, around which the food model of a cultural area was organized in a given period", one can think, from there, about the formation of regional gastronomy, here understood as the set of know-how that encompasses ingredients, culinary techniques and recipes, which are arranged in a relatively coherent panorama, geographically delimited and capable of being recognized as such. The term typical dish is even more used in the context of tourism. Within the context of regional gastronomy, it is noted that some delicacies end up standing out and, marked by certain specificities (combination of ingredients, preparation or service techniques, for example) that survive the passing of time, are adapted and reinterpreted, but maintain an essence of identity that can be recognized. These dishes, commonly called typical dishes, are linked to the history and cultural context of a given group, constituting a tradition that becomes a symbol of its identity. Typical dishes (or typical foods) are therefore understood as integral elements of regional gastronomy, which emerge from this broader set for numerous reasons (practicality, association with other cultural practices, association with certain celebrations) and can be consumed symbolically, if the diner has the skills to allow such an experience. This perspective becomes possible because, as anthropologist Sidney Mintz observes, eating habits "can change completely when we grow up, but the memory and weight of the first learning about food and some of the social forms learned through it remain, perhaps forever, in our consciousness". The concept of food-memory refers to delicacies that, when tasted, allow a nostalgic experience and a connection with symbolic contents that can be associated both with individual memory (personal memories from childhood) and with collective memory (memories of situations experienced - or "inherited" within social groups), exercising the so-called gustatory memory[13,14,15,16,17].

In recent decades, the eating habits of the Brazilian population have changed due to the transformations that have occurred in people's daily lives and work, due to several factors that mark contemporary life, such as the development of cities, urbanization, industrialization, marketing and the various responsibilities of women, who, in most families, play the main role in caring for everyone's health and nutrition, in addition to working outside the home. These and several other factors, such as eating out as a convenience and time-saving measure, contribute to the development of inappropriate eating habits and, above all, to the high consumption of processed foods. Food aid from developed countries to the Third World has also been responsible for changing regional habits. The "Food for Peace" program, developed by the United States, was presented to improve the diet of Brazilians. Wheat and powdered milk were donated to the population in the 1950s. In fact, it was realized that it was important for the United States to find an outlet for its surplus production, because otherwise, prices would fall. Furthermore, this program "had the desired effect of greatly increasing the American trade markets abroad." These two products were incorporated into the population's habits, making them dependent on these foods. In exchange, the population reduced its consumption of traditional dietary products such as cassava and corn, remnants of indigenous culture. The Brazilian government also encouraged the consumption of wheat during the period in which it subsidized its price for consumption by the population. Not only has the food culture changed, but the diet has also impoverished, since white wheat lacks nutrients found in corn and cassava. In a country where hunger is still a serious public health issue, this situation worsened the condition of a large part of the population. In addition, the consumer pays more.

The price of a French loaf, for example, is proportionally higher than that of cornmeal porridge. It is interesting to note that it has been suggested that corn be included in the preparation of commercial bread, since the price could be reduced. However, parts of the population were completely against this measure. They defended wheat without knowing how recent it is in the country's food history[14,15,18,19].

Another strong factor that influences childhood obesity is the role of the media in inducing the consumption of certain types of food. The media has an "active and major role in childhood"; through these media, companies encourage the consumption of foods with high levels of fat, sodium and other substances that are harmful to health. The use of toys and children's characters is used by advertising to attract children to buy the foods advertised[19,20].

The media has become an influential means of communication in recent years and contributes to the behavior of eating disorders. From this perspective, we can visualize the powerful impact of the media on the eating behavior of individuals, especially children and adolescents. In this scenario, advertising, one of the driving forces of consumer society, aims to influence the choices of individuals. It can be said that it is important that the population does not allow itself to be influenced by what it is exposed to. To this end, critical thinking regarding the statements that reach children must be constantly encouraged. There is a lot of information and advertising that incites consumers to make mistakes. The increase in consumption of soft drinks and processed meats, which are heavily marketed, or even dairy products, which, in addition to massive advertising, have also seen their prices reduced in recent years, suggests that advertising, combined with good prices, has been effective in changing Brazilian habits. On the margins of consumption for decades, some poorer sectors are exercising their purchasing power, perhaps seeking, in addition to convenience, the status that these industrialized products provide them. Another revelation from this review is that Brazilians in large cities are following the global trend, which some might call the "American standard", which means eating more, increasing the proportion of fat consumed and adopting the habit of eating out. Regarding the use of fast food, in the 1990s alone, this market grew by 30%. But the problem may be even greater, as fast food is increasingly invading Brazilian homes. Hamburger consumption in Brazil began with the Bob's chain of fast-food restaurants in the 1950s, in Copacabana. It is worth mentioning that in France, fast food began much later, almost twenty years later. Young people were initially the main target group. Gradually, children were also attracted to this market. Today, it is a marketing tool; McDonald's advertising figure is a clown. Although food consumption is still a little-explored topic in Brazil, some studies point to a change in Brazilian eating patterns, with an increase in the consumption of processed foods[13,14,21-27].

It is important that health professionals who deal with children know that the influence of the media is a social concern. Depending on the proportion, there is the possibility of direct and/or indirect intervention during child development. In this scenario, advertising aims to influence individuals' choices[26].

The availability of ultra-processed foods has also increased in recent years, and the consumption of these foods has been associated with the increase in childhood obesity in Brazil and around the world. Many studies have been conducted to understand the relationship between culture and childhood obesity in Brazil. The results of these studies suggest that interventions that consider the specificities of Brazilian culture, such as the promotion of healthy eating habits involving local and traditional foods, may be effective in reducing childhood obesity[26,27].

One of the factors that can influence adolescents' food choices is related to family eating habits. In addition, we can mention the influence of food advertising associated with marketing. Habits practiced by adolescents, such as watching television, may be associated with a lifestyle that is not considered healthy, reducing the consumption of fruits, vegetables and greens, and replacing them with foods promoted through advertising campaigns that are not beneficial to health[26].

A survey conducted in 27 cities in Brazil in 2016 by Vigitel shows data on the frequency of adults who spend three or more hours per day of their free time watching television or using a computer, tablet or cell phone was 61.7%, and this was similar for men and women. This study shows how people are exposed to influential media, with the promotion of non-nutritious foods, and that it is important to teach children about good food choices and the use of social networks, information that should come from an adult[28].

The times we live in are different from all previous ones, and are called by intellectuals as: postmodernism, characterized by globalization and technological revolution, reducing the borders between nations, peoples and customs. With the rise of technology, combined with the reach of the media, beauty companies are increasingly working on optimizing the body, removing blemishes, marks and other issues. The prevalence of eating disorders, the growth of the media and the predominance of information about health, diet and nutrition are causes that require further study. On the other hand, many young people are influenced by the cultural capitalism industry and want to have the so-called "perfect body", defined by the industry itself and idealized by society, an aesthetic standard, a factor that can cause suffering and disappointment. The public at greatest risk of developing eating disorders is composed of adolescents, who have low self-esteem, negative moods, depression and greater perfectionism[26].

The consumption of beans and flour, foods that have been the basis of the diet of most of the population since the 17th century, has decreased in the last ten years. Annual consumption of beans fell from 11.8 kg to 9.9 kg per Brazilian

and cassava flour ranks 38th in the food market. Contrary to what some people assume, Brazilians' diets are gradually incorporating new products created by the industry. It seems certain that the population of large cities is more prone to these changes, and children are the most affected, through cookies, chips and children's yogurts. Although these changes are a fact all over the world, they seem to occur more easily in Brazil. Brazilian culture, since the colonial period, seems to have been appreciative of everything that comes from abroad, which does not seem to be the case to the same extent with national articles[14,29,30,31,32].

Brazil has a long history of public policies aimed at overcoming nutritional deficiencies and, more recently, at overcoming the epidemic of overweight/obesity. Therefore, in addition to social policies that should provide recreational spaces for leisure, environments conducive to physical activity and basic information about health, changing eating habits depends on society and its individual choices. The obesity rate of the Brazilian population should be monitored to understand patterns and risk factors, ensuring prevention of childhood obesity and promoting healthy habits in Brazilian society, and supporting public policies is essential. The digital world has a global reach, through social networks, websites and television channels, and is a tool for industries in various segments to promote their products, and to gain more visibility and profit, they hire famous internet influencers, or actors from soap operas and films known by society. "The WHO is committed to improving methods of monitoring and restricting the digital marketing of unhealthy products for children"[26,33].

FINAL CONSIDERATIONS

Childhood obesity is a growing problem in Brazil, and its relationship with Brazilian culture is complex. Identifying the factors that contribute to childhood obesity in Brazil, as well as developing effective interventions that consider the specificities of Brazilian culture, is essential to prevent and reduce this public health problem. We have seen through this extensive study how environmental influences, such as advertising, typical foods and the lifestyle of Brazilian children, have led to a substantial increase in an obese generation that is physically, psychologically and socially ill. Just as genetic factors influence the pathogenesis of this multifactorial disease, we have also seen that environmental factors cannot and should not be ignored. It is up to the entire society, including health professionals such as pediatricians, endocrinologists, psychologists, as well as parents, teachers and politicians, to become aware of the long-term consequences that obesity can have on children's health.

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