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Quality assessment of children's menus served in commercial restaurants in view of the new food classification in the Food Guide for the Brazilian Population

Avaliação da qualidade dos menus infantis em restaurantes comerciais a partir da nova classificação dos alimentos do Guia Alimentar para a População Brasileira

Abstract

Introduction: The prevalence of obesity has increased in the Brazilian population, especially in children, mainly associated with behavioral factors that lead to poor food choices. **Objective**: To evaluate the quality of children's menus in restaurants in *shopping malls* in Baixada Santista-SP and their consonance with the recommendations of the Food Guide for the Brazilian Population considering the NEW food classification. **Method:** The article comes from a research project developed by a multidisciplinary and inter-institute team, composed of researchers from the Nutrition course. A questionnaire was used as a data collection instrument, applied in all *shopping malls* in four cities in Baixada Santista region – Santos, São Vicente, Praia Grande and Guarujá cities– with questions to characterize and assess the quality of children's menus. The instrument was applied individually and simultaneously by two researchers, comparing their respective nutritional aspects to the concepts of healthy eating established in the Food Guide for the Brazilian Population; later, the collected data were transcribed to a digital platform. Sixty restaurants distributed in four cities were visited, of which only 13% had a children's menu. **Results**: According to the characterization of restaurants, it was identified that 50% of them are from large chains, mostly *fast food.* Some preparations classified as ultra-processed, such as french fries, hamburgers and deep-fried, are offered in 87.5%, 62.5% and 87.5% of the restaurants, respectively. Preparations that require more specific techniques, such as pasta, were found in 37.5% of restaurants. The use of cheese as toppings and fillings was identified in 100% of the restaurants. Drinks classified as ultra-processed were offered in 12.5% of the restaurants. **Conclusion**: It was possible to identify that nutritional and allergen values are not displayed in the preparations. It was observed that the quality of children's menus offered in restaurants is limited in relation to the variety of foods and with a large offer of ultra-processed foods, in disagreement with the recommendations of the Food Guide for the Brazilian Population.

Keywords: Collective nutrition. Infant food. Obesity. Restaurants

Resumo

Introdução: A prevalência da obesidade tem aumentado na população brasileira, com destaque no público infantil, associada principalmente a fatores comportamentais que levam a más escolhas alimentares. *Objetivo:* Avaliar a qualidade de menus infantis em

restaurantes de *shopping centers* da Baixada Santista-SP e sua consonância com as recomendações do Guia Alimentar para a População Brasileira considerando a NOVA classificação dos alimentos. ***Método:*** O artigo é oriundo de um projeto de pesquisa desenvolvido por uma equipe multidisciplinar e interinstitutos, composta por pesquisadores do curso de Nutrição. Utilizou-se um questionário como instrumento de coleta de dados, aplicado em todos os *shopping centers* de quatro cidades da Baixada Santista – Santos, São Vicente, Praia Grande e Guarujá –, com questões para caracterização e avaliação da qualidade dos menus infantis. O instrumento foi aplicado individual e simultaneamente por duas pesquisadoras, comparando seus respectivos aspectos nutricionais aos conceitos de alimentação saudável estabelecidos no Guia Alimentar para a População Brasileira; posteriormente, os dados coletados foram transcritos para uma plataforma digital. Foram visitados 60 restaurantes distribuídos em quatro cidades, dos quais apenas 13% tinham a oferta de menu infantil. *Resultados*: De acordo com a caracterização dos restaurantes, identificou-se que 50% deles são de grandes redes, em sua maioria *fast food.* Algumas preparações classificadas como ultraprocessadas, como batatas fritas, hambúrgueres e empanados, são ofertadas em 87,5%, 62,5% e 87,5% dos restaurantes, respectivamente. Preparações que exigem técnicas de preparo mais específicas, como macarrões, foram encontradas em 37,5% dos restaurantes. A utilização de queijo como coberturas e recheios foi identificada em 100% dos restaurantes. Bebidas classificadas como ultraprocessadas foram ofertadas em 12,5% dos restaurantes. *Conclusão*: Foi possível identificar que não são exibidos os valores nutricionais e de alérgenos nas preparações. Observou-se que a qualidade dos menus infantis oferecidos nos restaurantes é limitada em relação à variedade dos alimentos e com grande oferta de alimentos ultraprocessados, estando em desacordo com as recomendações do Guia Alimentar para a População Brasileira.

Palavras-chave: Alimentação coletiva. Alimentação infantil. Obesidade. Restaurantes.

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INTRODUCTION

Obesity has stood out among disorders that are closely related to eating, being defined by the World Health Organization as a chronic disease characterized by the excessive accumulation of body fat, capable of producing harmful effects on health.[1]

Childhood obesity is considered a public health problem and can be caused by two factors: external socio-environmental and neuroendocrine or genetic factors, in which the highest prevalence is given by external factors, such as early weaning, imbalance between intake and caloric expenditure due to prolonged time and, consequently, the incidence of metabolic disorders related to insulin resistance, systemic arterial hypertension and others, becoming a risk factor for the development of non-communicable chronic diseases.[2,3]

The increased consumption of ultra-processed foods, with a high content of salt, sugar and trans fats, known to be one of the causes of cardiovascular disease, is a result of this change and is associated with the increase in the number of meals eaten at *fast food* restaurants, causing a negative impact on health.[4-6]

This transition in eating habits, which results in an increase in meals outside the home, has a major contribution to less nutritious and energy-dense food choices, directly reflecting on excessive weight gain.[7] The growth in the number of meals eaten outside the home is directly related to the increase in the purchasing power of the population in developing countries, such as Brazil.[8]

In addition to factors related to the economic situation of the Brazilian population, another major event that contributed to a change in society was the role of women, who started to have a large and progressive role in the labor market, as well as the growth of social media, influencing intensely the poor food choices of children and young people.[9] As a result of this scenario, consumption practices became based on a *fast food* model, replacing the eating practices and affective cooking with a new eating behavior that accompanies social changes, traditionally linked to out-of-home meals that include ultra-processed foods.[10]

In this social environment where many meals are had outside the home, the dissemination of the menu serves as a sales tool and may or may not influence consumer choices, as it presents the sequence of dishes to be served before consumption or the description of preparations and drinks available in the restaurant. Thus, children's intake is limited and intensely influenced by the availability of food offered in restaurants, which occasionally have *"children menus"*, an expression that refers to a type of menu aimed specifically at children, following a certain standardization of food offered: high content of salt, fat and sugars, as well as levels lower than recommended for fiber.[11,12]

Some foods are commonly found on children's restaurant menus – among them, hamburgers, fries and sandwiches, which are directly related to extremely high-calorie meals, especially because they are offered in large portions.[13] In addition, the offer of sugary drinks to accompany these meals is notable, which indicates a worsening in the quality of the diet.[14]

These choices are strongly influenced by the *marketing* of products aimed at children. According to Rodrigues et al.,[15] children create loyalty to the brand or to a certain product itself and make consumption a habit until adulthood, and since these foods are of high energy density, this becomes a public health problem. An aggravating factor for this situation is the frequency of advertisements aimed at children that feature exclusively ultra-processed foods, proving that in fact the commercials are not aired in accordance with the law.[16]

During childhood, the child will present different phases related to eating behavior, making choices according to taste, avoiding what is sensory unpleasant for them.[3] In this scenario, family influence has great weight, creating strategies so that the child can adopt adequate eating habits, even in environments such as restaurants.[3]

Given this fact, the performance of nutrition professionals and researchers is of great importance for the development of guidelines and actions that aim to improve the nutritional quality of foods and preparations offered in restaurants.[9]

In 2009-2010, ultra-processed foods represented 21.5% of the food supply in Brazil, and as seen in sales data in Latin American countries, these numbers grew 8.3% from 2009 to 2014, predicting an increase of 9.2% from 2014 to 2019, promoting dramatic effects on global nutrition and health. Thus, it became necessary to look at public policies aimed at health, in order to improve the nutritional profile of the population.[6,17]

For these actions, we highlight the importance of the Food Guide for the Brazilian Population, which provides guidelines for the practice of healthy eating far beyond the intake of nutrients, valuing individual, family and cultural preference aligned with commensality. In it, foods are divided into four groups: *fresh* or minimally processed foods, which are part of the first group and must be the basis of the diet, including culinary preparations, this being the Guide's golden rule. Culinary ingredients such as oils, fats, salt and sugar are part of the second group, which should be used in small amounts. In the third group are processed foods, in which foods in the second group are added to those minimally processed by the industry, and their consumption must be limited. Ultra-processed products fill the fourth group, corresponding to industrial formulations that imitate *fresh* foods and are high in salt, sugar and fat, and should be avoided.[18]

This research aimed to assess the quality of children's menus in restaurants in *shopping malls* in Baixada Santista-SP and their consonance with the recommendations of the Food Guide for the Brazilian Population considering the NEW food classification.

MATERIAL AND METHODS

This descriptive and cross-sectional study is part of a research on the quality of children's menus developed by a multidisciplinary and inter-institute team composed of researchers from the Nutrition course at the University of Porto (Portugal) and other Brazilian institutions.

Data collection was carried out in all *shopping malls* present in four cities located in Baixada Santista – Santos, São Vicente, Praia Grande and Guarujá –, defined due to geographic distance. All *shopping malls* where the research was carried out have the same pattern of stores and restaurants, being popularly frequented places capable of reaching different audiences with different socioeconomic conditions, so that they are a good representation of the population. In addition, as this is an inter-institute study, data collection was carried out in *shopping malls*, as it is similar to the data collection sites of the same study carried out in shopping malls, in the city of Porto, Portugal.

Data collection was performed by two researchers, individually and simultaneously, from September 2019 to December 2019.

A questionnaire prepared by a multidisciplinary team and inter-institutes of which this study is part, which was filled in by the researchers using the observation technique, was used as a data collection instrument. This instrument consists of a sequence of questions with characteristics relevant to the research, such as the type of service offered, whether or not it is part of a restaurant chain, the types of foods and preparations offered, whether there are gifts associated with the children's menu and whether it presents nutritional information; and also the presence and number of options for the children's menu compared to the standard menu, which is the menu aimed at the general public.

The instrument, consisting of a *checklist* with 32 items, includes food, preparations and beverages, both with different degrees of processing, being variables that allow the assessment of the quality of children's menus, based on the recommendations on healthy eating available in the Food Guide for the Brazilian population.[18]

The choice of using a questionnaire was made because it is an instrument that allows for more uniformity in the assessment, being able to collect specific information and, in addition, it is easy to use.[19,20] In this study, the application of the questionnaire by each researcher took an average of 30 minutes. After obtaining the data, the information collected was transcribed to the *Google Forms* digital platform.

The data found were analyzed according to the recommendations of the Food Guide for the Brazilian Population regarding the presence of *fresh* or minimally processed foods, oils, salt, sugar and fats, processed and ultra-processed foods.[18]

As for ethical terms, contact with the owner and/or technical responsible was established in order to explain the research objectives. Those who consented to participate in the study received and signed the Informed Consent Form (ICF) and the guarantee of identity confidentiality, with a copy delivered to the owner or technical responsible after signing. The study was approved by the Research Ethics Committee number 15340119.3.0000.5505.

RESULTS

Eighty-five commercial restaurants distributed in *shopping malls* in the four cities were visited, including those classified as franchises. Of this total, the number of restaurants was reduced to 60 when only one per chain was considered. Of the total number of restaurants, 75% were classified as *fast food* and 25% as *à la carte* service.

The first modality was *fast food,* which is represented by processed foods served in cafeterias. It is a quick preparation or for *delivery*, from large chains or small local chains, orders at the counter with immediate payment, limited and standardized menu, full of highly processed meats, refined carbohydrates, sodium, total fat, saturated and trans fatty acids.[21-23] The second modality found was the *à la carte* restaurant, in which the menu is presented to the customer with the respective prices, complete table service and waiters.[22,24]

Of the visited restaurants, four (50%) belong to large chains. As for the number of children's menu options in the analyzed restaurants, it was observed that five (62.5%) had three options, and three (37.5%) had between 4-10 options.

Of the total number of restaurants classified for the survey, eight (13.3%) restaurants had a children's menu, as shown in Table 1.

Table 1. Distribution of restaurants according to the presence of a children's menu. Baixada Santista, 2019.

	With children's menu		Without children's menu		Total	
	n	%	n	%	n	%
Restaurants Visited	17	20	68	80	85	100
Total considering one restaurant by chain	8	13,3	52	86,7	60	100

The preparations offered in the children's menus were observed, highlighting the protein options, as well as cereals and legumes, as shown in Figures 1, 2 and 3. We observed the presence of deep-fried preparations, such as French fries and deep-fried chicken, but also the offer of raw and cooked vegetables was observed. Regarding protein options, there was a greater presence of beef and poultry. Regarding the

offer of cereals and legumes, there was a smaller proportion of these foods in children's menus, when compared to the standard menu available in restaurant menus.

Figure 1. Preparations offered on the children's menu in restaurants. Baixada Santista, São Paulo, 2019.
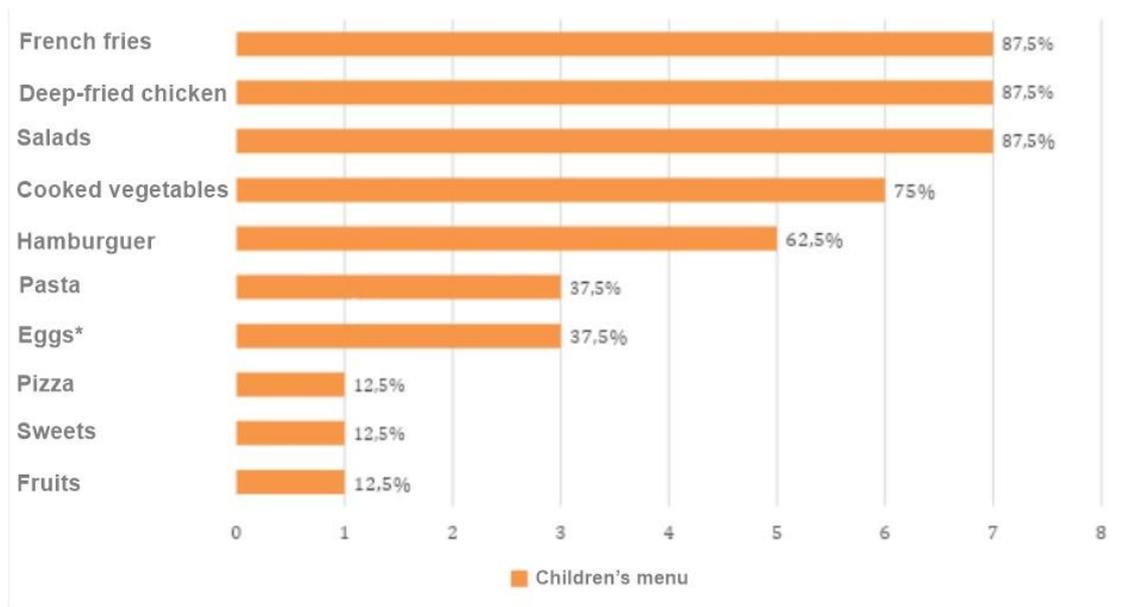
*Boiled, fried or scrambled egg

Figure 2. Protein options offered in the standard menu and children's menu in restaurants. Baixada Santista, São Paulo, 2019.
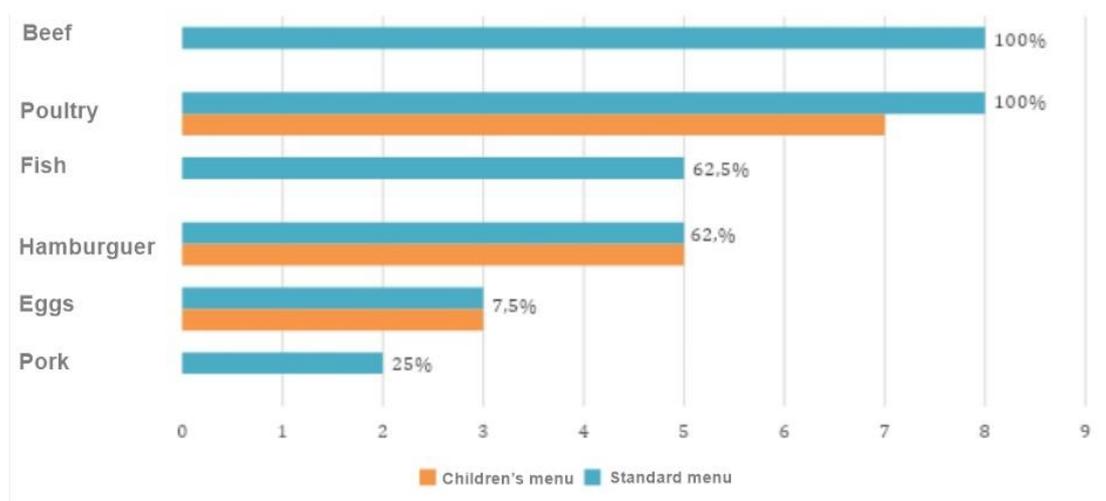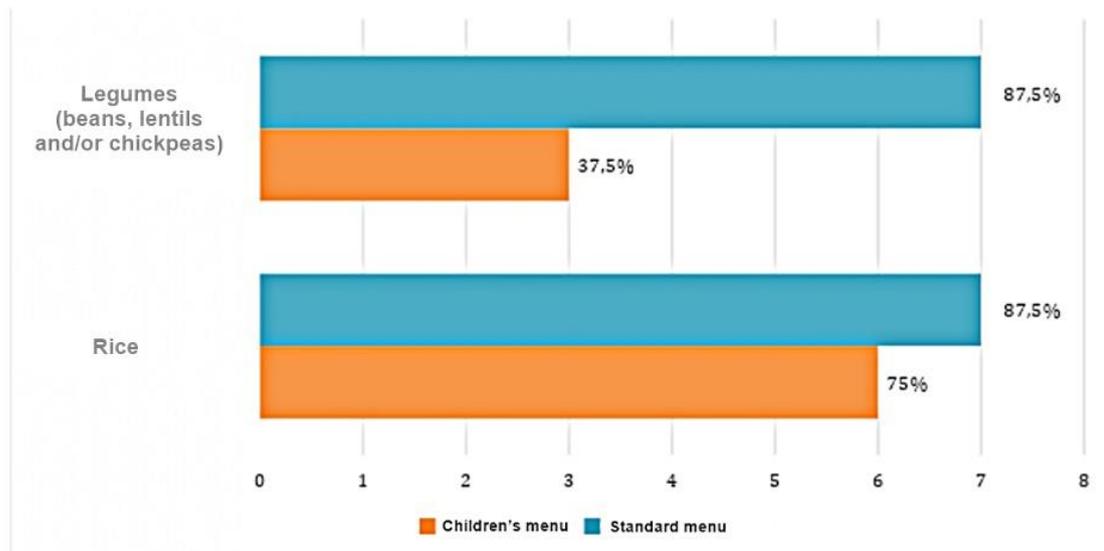
Figure 3. Offer of rice and legumes on the standard and children's menu in restaurants. Baixada Santista, São Paulo, 2019.

In restaurants, nutritional information was not found, as well as information about allergens in the children's menu. This information can only be found on company *websites*, with 25% of restaurants having nutritional information and 12.5% on allergens.

The average price of the children's menu in all restaurants was R$19.03, with a standard deviation of R$3.85. The average price of the adult/standard menu, that is, preparations offered that are not on the children's menu, was R$ 30.97, with a standard deviation of R$ 4.93.

Two restaurants (25%) presented some collectible item or commercial gift associated with the children's menu, such as various toys and *squeeze* bottles.

DISCUSSION

In commercial restaurants located in *shopping malls*, children are underserved, as shown in Table 1, where only 13.3% of the restaurants offer a specific menu for these consumers. These data confirm that this public is fed in the same way as other consumers, which in general are mostly processed and ultra-processed foods.[25]

In a study carried out in *shopping malls* in the city of São Paulo, a reduced number of children's menus was also evidenced, found in less than half (37.1%) of the restaurants in that region.[26]

According to the classification based on the type of service offered, it was observed that 75% of the restaurants that have a children's menu are *fast food*. Foods classified as ultra-processed have an increasing participation in ready-to-eat and semi-ready dishes, characteristic of *fast food* meals, demonstrating that children have greater reach to ultra-processed foods. This has a negative impact on health, considering that excessive consumption of these foods, associated or not with other factors such as sedentary lifestyle, contributes to the increase in the epidemiological situation of childhood overweight and obesity.[2, 27]

Although *fresh* or minimally processed foods are present on children's menus, such as raw vegetables, cooked vegetables, eggs and fruits in, respectively, 87.5%, 75%, 37.5% and 12.5% of the restaurants (Figure 1), the offered portion of these items was considerably small when compared to processed and ultra-processed foods. These foods have a large commercial advantage over *fresh* or minimally processed foods, due to reasons such as low cost and their composition, which make them hyperpalatable. This influences the processes that control satiety and appetite, which can lead to "meaningless eating", thus being allied to aggressive *marketing* and attracting mainly children.[28]

The questionnaire used for this study did not address issues related to culinary ingredients; it is known, however, that they are present in large amounts, that is, nutritionally inadequate, in ultra-processed foods, which are highly energetic, rich in sugar, fat and salt.[25] In addition, some *fresh* or minimally processed foods and preparations, such as chicken and potatoes, depending on the preparation technique, may be at odds with the Food Guide, reaching high values of culinary ingredients, such as when deep fried, as well as sweet desserts and overly sugary drinks.

There was no presence of processed foods on the children's menu of the analyzed restaurants. It is observed that, in 62.5% of the restaurants, the number of options on the children's menu varies from 1 to 3; and among what is offered, there is the presence of ultra-processed products, which are french fries, deep fried chicken and hamburgers, in 87.5%, 87.5% and 67.5% of the restaurants, respectively. Likewise, sweet desserts, although not described, cheese and sugary drinks were also found in 100% and 12.5% of the restaurants (Figure 1), which are foods and preparations considered as ultra-processed. These data demonstrate that in these places the few options for the children's menu, added to the intense offer of ultra-processed foods, contribute to the difficulty in following the recommendations of the Food Guide for the Brazilian Population being even greater for children.

When analyzing Figure 2, we observe that, regarding protein options, the standard menu of the analyzed restaurants has more options when compared with the children's menu, providing a more careful food choice and with more variety. In addition, it is noted that in this category (protein option), the only *fresh* option on the children's menu is eggs (37.5%); on the other hand, the percentage referring to hamburgers (62.5%), classified as ultra-processed, stands out. The results of a study carried out by Louzada et al.[27] presented data on micronutrient content in ultra-processed foods, which tend to be lower when compared to *fresh* or minimally processed foods. These data corroborate those found in the present study, as the children's menus analyzed offer lower levels of protein, fiber, vitamins and minerals due to the large offer of ultra-processed foods.

As shown in Figure 3, it is observed that the presence of rice and legumes is lower in the children's menu when compared to the standard menu. In addition, it is noted that in both the supply of rice is greater than that of legumes, which are nutritionally complementary foods and, according to the Food Guide for the Brazilian Population, are the basis for healthy eating. The reduction in the consumption of these foods stands out.

On the other hand, there is an increase in the consumption of ultra-processed foods, a phenomenon that can be observed in children's menus in restaurants that, for the most part, offer snacks and meals of low nutritional quality.[18,29] These data are similar to the results obtained in this study.

It was observed that 25% of the restaurants used gifts associated with the children's menu, adding the purchase of food to collectible gifts or not, reaching this audience mainly through the media in a playful way relating to characters, songs and toys, which is an abusive practice, according to CONANDA Resolution No. 163, of 03/13/2014.[27] This practice can create a bond between the product and the consumer, which

combines food and entertainment. This strategy is called *"entertainment"*, that is, eating for fun or *"entertaining",* in which make-believe is the main element of the family's diet, without worrying about the quality of the products they are consuming.[30,31] This practice contributes to greater interest in the products offered, which in general are high in sugars and fats.[32]

These products should follow regulatory measures to reduce consumption. In addition, public policy actions are needed to protect food systems, from production to the final consumer, encouraging the consumption of healthy meals; otherwise, the increase in overweight and obesity numbers will not be possible to reverse.[25]

Another observation that contributes to the consumption of unhealthy meals is the absence of nutritional and allergen information on the children's menu, so that this information could only be accessed on the websites of the restaurants, being 25% and 12.5%, respectively.

In some restaurants, it is possible to view only the caloric information on the labeling of certain products, which can influence the reduction of the amount to be consumed and the decision of subsequent meals, although this is not decisive for making more adequate food choices. Food symbols or traffic light labeling can be more effective, as well as information on added sugar, types and sources of fat, presence of whole grains and food preparation methods, so that consumers exercise their right to know what will be consumed, in addition to directly impacting the choices of children who are already responsible for purchasing decisions.[33,34]

According to authors, the lack of nutritional information on the products available makes it difficult to make better food choices among the options provided at the place or among other restaurants.[35]

It is known that the foods that most cause allergies in children are peanuts, milk, shellfish and nuts, which can promote fatal reactions triggered mainly by foods eaten outside the home. Therefore, it is recommended that restaurants present the list of ingredients that make up each preparation to the customer.[36]

In general, changes in people's lifestyle make eating out of the home more and more frequent, mainly due to short periods of breaks for meals and the entry of women into the labor market.[9] Thus, *shopping malls* become a relevant option for having meals, whether individual or in groups.

Therefore, it is recommended that the NEW food classification in the Food Guide for the Brazilian Population be applied in the preparation of menus for children's menus, highlighting its importance for restaurants.

Although this study was carried out in large cities in the Baixada Santista region, further studies on the subject could help in the development of public policies that can support healthy eating for children outside the home.

CONCLUSION

The data obtained in this study showed that the quality of meals offered on children's menus in restaurants is at odds with the recommendations of the Food Guide for the Brazilian Population, due to the large offer of processed and ultra-processed foods. In addition, the number of restaurants that presented a children's menu is low, with reduced options.

The results demonstrate that it is necessary to have a look at the food intended for this audience, considering that strategies for promoting health in childhood are crucial throughout life.

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Contributors

Silva NA participated in the conception and design of the study, participated in the collection, analysis and interpretation of data, participated in the writing of the study and participated in the final review and approval of the manuscript for submission; Monteiro MCC participated in the conception and design of the study, participated in the collection, analysis and interpretation of data, participated in the writing of the study and participated in the final review and approval of the manuscript for submission; Pinto AMS participated in the conception and design of the study, guided the analysis and interpretation of the data, guided the writing of the study and participated in the final review and approval of the manuscript for submission.

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