

# Influence of marketing on parental food choices for their children

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## Abstract:

**Background:** The food offered to children is full of caloric products, associated with the fact that families buy some types of food based on advertisements that, in some cases, relate consumption to a healthy life. Parents, for not having tools to discern such information, end up offering products that determine chronic diseases in childhood. The aim of the study is to analyze the influence of marketing on parents' food choices for their children.

**Materials and Methods:** This is a cross-sectional, descriptive, exploratory study, with a quantitative and qualitative approach, with a study sample composed of 23 parents of children aged 6 months to 7 years, assisted in Basic Health Units in Brazil.

**Results:** The results show that food marketing aimed at children offers, in a biased way, information that influences the acquisition and consumption of a variety of products, determining the intake of foods with high caloric content and nutrients that pose health risks.

**Conclusion:** Low education and low income are factors present in the group that characterizes them as vulnerable and susceptible to the onslaught of these advertisements. Therefore, there needs to be a fight against this type of marketing by the government, making the regulations about this class of products more severe and effective, since they endanger the health of children and of future adults.

**Key Word:** *Infant feeding; Child health; Nutritional education.*

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## I. Introduction

In a broad view of the global and national clinical situation, Chronic Noncommunicable Diseases (NCDs) are currently considered a challenge for public health. Diseases such as diabetes, hypertension and obesity can be cited as an example, the latter of which has grown considerably to worrying numbers in the last 30 years. This growth can be explained by changes in the living standards of today's society, which include an association of a sedentary lifestyle with a diet based on the consumption of highly processed products<sup>1</sup>.

Not unlike the clinical picture of adults, children are also ill, and this can be seen as a result of food advertisements made available by the media to this public, which drive the acquisition and consumption of foods with high levels of fat, sugar and salt, the main nutrients that trigger the development of NCDs. On the other hand, content that addresses the benefits of a natural diet is scarce or does not exist<sup>2</sup>.

According to data from the Ministry of Health, in 2020, 15.9% of children under 5 years of age, accompanied by Primary Health Care (PHC), were overweight. This number increases, reaching the mark of 31.8%, that is, of every 10 children 3 are overweight. It is worth noting that about 23% of children aged up to 9 years already had a diagnosis of obesity<sup>3</sup>.

National studies determine that almost half of children in Brazil under two years of age have already consumed some ultra-processed food, demonstrating an increase in the consumption of unhealthy foods among children under one year of age, which are: coffee, soft drinks, cookies and/or processed snacks<sup>4</sup>.

In recent years, the increase in marketing aimed at food for children has had a strong negative influence on the formation of healthy eating habits, since parents make their purchases, most of the time, satisfying the wishes of their children. Thus, industries invest heavily in the preparation of products for this age group<sup>5</sup>.

Horta et al. (2011)<sup>6</sup>, analyzing data from the World Health Organization (WHO) states that "marketing of obesogenic foods and establishments of fast-food aimed at children has been considered one of the main triggering elements of childhood obesity". Since it is considered a vulnerable group, food companies adopt methods that appeal to factors associated with the emotion and identification of this public<sup>7</sup>.

Currently, the food offered to children is full of products of high caloric value and nutrients that predispose to metabolic disorders, being directly associated with the fact that several families purchase their food products based on advertisements, which dump misinformation on several products, in some cases relating their consumption to a healthier life.

Therefore, questions arise about the influence of media and marketing of foods intended for children on food choices, and also what would be the knowledge of parents about the risks of excessive consumption of industrialized products by their children, as well as the products consumed more frequently.

Research related to infant feeding is of fundamental importance, since the dietary pattern of children suffers several influences, often causing unhealthy choices, which result in the development of diseases due to deficit or excess nutrients, increasing the risk of becoming ill adults. Therefore, this study aims to analyze the influence of marketing/media on the food choices of parents for their children in basic health units of a municipality in Ceará.

## **II. Material And Methods**

A cross-sectional, descriptive, exploratory and quantitative-qualitative study was carried out after approval by the Ethics and Research Committee of the Juazeiro do Norte College, Ceará, Brazil.

A study sample was composed of 23 parents of children aged between 6 months and 7 years, attended in Basic Health Units (BHU) of a medium-sized municipality in the state of Ceará - Brazil, these units being within the territory of the Integrated Health Residency with emphasis on Family Health and Community of the School of Public Health of Ceará (RIS/ESP-CE). As an inclusion criterion, the study participants should be over 18 years old and have access to some means of communication (internet, radio, television or advertisements in supermarkets).

For data collection, a semi-structured questionnaire was used, built by the respondent based on their experiences in the area of public health, containing objective and subjective questions that addressed the socioeconomic aspects of families and the food offered to children, also inquiring about some external influence for their acquisition. The questionnaires were applied in the interview format, to users who sought health services in the basic units mentioned above, and the objective of the research was previously explained, and the Informed Consent Form was explained, requesting the signature of those who agreed to participate in it. To ensure the confidentiality of personal information, the name of the participants was replaced by a number (participant P1), participant 2 (P2) and so on.

The number of study participants to compose the sampling was determined by the data saturation criterion, which is based on the closure of the collection when no new element is found, and the addition of new information is no longer necessary, as these did not change the understanding of the element studied<sup>8</sup>.

The quantitative data collected were organized in spreadsheets of Software Word of Microsoft Office 2010, to obtain tables and graphs that facilitate the visualization of the results, while the qualitative data were organized in the following categories: Types of products purchased due to the influence of advertising and health benefits for children; Reasons that drive the acquisition of products, Media and food advertisements. The categories were analyzed according to qualitative research conceptualizations according to Minayo (2017)<sup>9</sup>.

## **III. Results And Discussion**

In view of the analysis of the information obtained, it was possible to observe the data that will be discussed below: Table 1 presents the information on the age group and education of the parents, family income and number of children per family. It is observed that people aged between 24 and 30 years, incomplete secondary education, income from 1 to 2 minimum wages, with two children per family predominate.

These data lead to the hypothesis that they are factors capable of influencing food choices. Low schooling, for example, determines less access to information, as well as less discernment to analyze the various forms of approach and dissipation of information by industries. Thus, they are led by this type of media to offer products such as chocolate milk, fermented milk, cakes, industrialized juices, stuffed cookies, among other products, rich in refined sugars, fats and salt, which in turn determine diseases such as obesity, hypertension and diabetes in childhood.

Age shows important significance in food choices. Even though young people have some knowledge about healthy food choices, they choose not to do so, while the older population gives preference to food choices with lower levels of fat, salt and sugar<sup>10</sup>.

The city studied has an estimated population of 50,195 inhabitants in 2021 and a Gross Domestic Product (GDP) per capita in 2019 of about R\$13,660.13, ranking 184th in the state of Ceará, highlighting that about 49.6% of the population, in 2020, had an income of only half a salary per person<sup>11</sup>. As for income and total children per family, these factors may be strongly associated with the food quality of the children, because the bigger the family is, the higher the income for food provision must be. Considering the studied group, it is clear that the per capita income is low since the current Brazilian minimum wage is R\$1,212.00 and, consequently, many food

choices can consider the lowest cost, to the detriment of nutritional quality.

Variables such as income, family size and schooling have a more incisive impact on food choices, presenting a greater flexibility in choices especially when they are aimed at healthier behaviors<sup>12</sup>. In Brazil, the population has shown food characteristics that determine a considerable increase in the consumption of cereals, fatty meats, sugars, oils and fats, as well as highly processed foods with high energy density. On the other hand, the consumption of vegetables and fruits is scarce and, in many cases, monotonous, with only one or two types of food<sup>13</sup>.

**Table no 1:** Socioeconomic data of 23 parents participating in the study.

Characteristics	N		%	
<b>Age</b>				
Between 18 and 23 years old	7		31	
Between 24 and 30 years old	9		39	
Between 31 and 40 years old	6		26	
Over 40 years	1		4	
<b>Education</b>				
	<b>Complete</b>		<b>Incomplete</b>	
	N		%	
Primary school	0	0	4	17,4
High school	2	8,7	11	47,8
University education	2	8,7	4	17,4
<b>Family income</b>				
	N		%	
More than 3 salaries	2		8,5	
Between 2 and 3 salaries	1		4,3	
Between 1 and 2 salaries	16		69,5	
Less than 1 salary	4		17,4	
<b>Children per family</b>				
1 child	5		22	
2 children	14		61	
3 children or more	4		17	

### ***Acquisition of food products under the influence of advertisement/media***

At first, the parents were asked about the purchase of food products due to the influence of advertisements, whether they were available on television, radio, internet, or even in the supermarkets where they made their purchases.

Figure 1 shows the strong influence that the media have on the food choices of the population, since about 75% of the interviewees have already made purchases due to the visualization of some advertisement.

Several studies carried out over the years have determined a strong evidence score, that the excessive exposure of information aimed at marketing food has affected the preferences and/or attitudes of consumption of unhealthy foods in children, a fact that presents a direct correlation with their health losses, making it clear that food advertisements aimed at this audience must be severely restricted<sup>14</sup>.

Regarding the qualitative evaluation, the data were grouped into the following categories:

### ***Types of products purchased due to the influence of advertising and health benefits for children***

When asked about which product they had already bought for their children due to the influence of advertisements, a considerable list of products was cited by the study population, among them: liquid fermented milk, *petit-suisse* type fermented milk, chocolate powder and liquid, instant noodles, burgers, some types of farinaceous intended for children, stuffed cookies and breakfast cereals, occurred more frequently.

Regarding the benefits they believe that these products bring to the health of their children, it was possible to identify discourses that determine that these foods provide an adequate amount of vitamins, minerals and calories and, therefore, would be a better choice for a “healthy” development of the child, in addition to

providing energy and providing a better and greater acceptance of the child audience, as can be seen in the following statements:

*"It has vitamins and improved the child's development" (P1)*

*"Because it is a food that contains vitamins and less sugars" (P19)*

*"It provides more energy to the child" (P2)*

*"Because of the vitamins in the product" (P3)*

*"Yes, it helps in the child's feeding, the child becomes more active" (P18)*

*"Helps with food, encourages the child to eat" (P4)*

*"It helps with growth, it is an extra supplement in food" (P20)*

The above statements determine how misleading the advertisements are, since the vast majority of the products cited have exacerbated amounts of sugar and nutrients, and not "less sugar" as it is cited. It is important to highlight that some parents, even though offering these food groups, show understanding of the several components that can cause damage to the health of their children, or that they do not bring health benefits, emphasizing that it is only misleading advertising by the food industry:

*"It complements food, but it does not bring benefit because it has a lot of chemicals" (P17)*

*"No, because it is propaganda (P15)*

*"It does not bring benefit" (P13)*

### ***Reasons driving the purchase of products***

When asked about the reasons considered for the purchase of the products, the target audience highlighted that the requests made by the children is what determines the greatest influence, but other issues are taken as a criterion for the acquisition. They mention the price, the practicality to transport the products in occasions of school trips or snacks, also highlighting that these foods have better quality of manufacture and help in the development of good health for the children:

*"The child asks for it and facilitates feeding" (P23)*

*"Easy to take for walks and child's request" (P13)*

*"Quality and price" (P14)*

*"Because it is a very good product to complement the child's menu" (P20)*

*"It's good for the child's health" (P1)*

It is important to highlight the issue mentioned in the discourses about prices, as this returns us to the data presented in Table 1 that demonstrates the low income of the families studied, that is, with lower income, parents base their food choices on more attractive prices for their economic situations, which makes the industries cheapen the costs, so that the public to which their products are aimed continue to consume them, even if they belong to the most economically disadvantaged classes.

The food industry performs a decisive role in food choices in the different age groups of human growth, intensifying a big distance that already exists when comparing the consumption of fresh foods to those that are very processed. This is possible due to the ultra-processed production availability that is easily found on supermarket shelves. These have lower nutritional quality, consequently determining lower prices, being more frequent choices for consumption<sup>15</sup>.

In situations where a balanced diet is not observed, children may prefer foods that have stronger flavors, as observed in sweets, soft drinks, cookies and similar, as they consider these tastier. From the

perspective of parents, being able to offer this class of food to their children presents itself as a form of demonstration of care and affection, not considering that they are rich in calories and nutrients that may harm their children's health, increasing risks for diseases such as diabetes, hypertension, obesity, dyslipidemia, among other chronic diseases<sup>1</sup>.

It is possible to clearly identify in some discourses that the food industry uses the advertisements contained in the packaging of products to influence their purchase, claiming that their consumption is associated with health benefits, indicating the presence of vitamins and minerals, as well as the use of colors and visual effects that draw the attention of children. In turn, they end up asking the parents to buy, and these, upon request, fulfill the wishes of the children:

*“The new packaging makes the child to want to try” (P12)*

*“What caught my attention the most was the advertisement: ‘more complete nutrition, 27 vitamins and minerals and less sugars’” (p19)*

Food producers use specific devices, very well targeted to the audience they want to reach, so that greater identification occurs, and, consequently, greater consumption of their products, being sometimes found in advertisements with food, children's imaginary characters or families that represent an image of perfection, demanding a behavioral appeal from the affected audience<sup>16</sup>.

### ***Means of communication and food advertisements***

According to the semi-structured questionnaire applied, the advertisements were broadcast by television, radio, internet and supermarkets as a means of dissemination. Figure 2 indicates that parents saw food advertisements, predominantly through TV (39.1%) and internet (34.7%).

Studies show a huge number of advertisements directed at children, which is an age group at risk, as they show little or no insight into good food choices, which can cause food addictions that will perpetuate themselves through adulthood and may increase the risks of developing chronic diseases<sup>17</sup>. It is also worth mentioning that these advertisements would disagree with the law that determines the prohibition of the use of drawings or characters that are captive to the children, which are also associated with foods with high levels of sugar, saturated fat, low nutritional value drinks, among others<sup>16</sup>.

RDC No. 222 of August 2002, as well as Law No. 11,265 of January 3, 2006, which regulate the marketing of foods for infants and young children, determines that the use of illustrations and/or drawings that are not related to the brand or logo or those that are necessary to understand the use/manipulation of the products in foods such as infant formulae, fluid milk, powdered milk, modified milk or similar is prohibited<sup>18,19</sup>.

It is remarkable the expressive preference for the consumption of products that are presented to the public, through the association with characters and/or other forms of affectivity construction among the child or guardians, which determines these means of communication as an important factor in the construction of eating habits, emphasizing that this advertising argues that the consumption of the product is linked to health benefits<sup>7</sup>. It is worrying to see how industries use advertising to reach their target audience, being at the mercy of a system where the stimuli produced by advertisements result in unhealthy food choices.

### ***Frequency of consumption of industrialized products by children***

Table 2 shows the food frequency of some food products common to children's daily lives. They are industrialized foods that have in their composition a high amount of nutrients such as sugars, food preservatives, sodium, trans and saturated fats, making them caloric and nutritionally unbalanced. It is noteworthy that all respondents reported the consumption by the child of at least two items mentioned, in various situations associating the consumption of both products. However, it is observed that more than half of the group reported the consumption of filled cookies once to twice a week, 47.8% reported the intake of sweets and 34.7% reported the intake of soda and cake with filling.

The daily consumption by children of various foods mentioned in Table 2 is worrying, as it indicates that they are ingesting a high calorie content of substances that can contribute to obesity and diabetes. It is pertinent to emphasize that this high consumption is related to information that is disseminated by the industries that point their products as rich in vitamins and minerals, as previously mentioned, leading parents to think that these are good foods. The fact is that, in addition to determining high caloric levels, these foods may predispose to hypervitaminosis and nutritional imbalance, since they do not contain essential nutrients and serve as a basis for several meals throughout the children's day.

**Table no 2:** Frequency of consumption of industrialized products.

PRODUCTS	CONSUMPTION FREQUENCY							
	≥ 3 x/WEEK		1 - 2 x/ WEEK		1x/ WEEK		1 x/MONTH	
	N	%	N	%	N	%	N	%
Chocolate powder (liquid or powder)	0	0	7	30,4	11	48,7	3	13
Cake with filling	3	13	8	34,7	2	8,7	5	21,7
Soda	5	21,7	8	34,7	2	8,7	5	21,7
Stuffed cookie	2	8,7	12	52,1	2	8,7	5	21,7
Hamburgers	0	0	6	26	2	8,7	3	13
Industrialized soups	1	4,3	6	26	1	4,3	2	8,7
Industrialized juices (liquid or powder)	1	4,3	4	17,3	4	17,3	2	8,7
Sweets (bonbons, chocolates, lollipops, etc.)	5	21,7	11	47,8	4	17,3	3	13

The results in Table 2 are similar to other studies<sup>20</sup>, who determined that 24.3% of the children evaluated in their study consume sweets in their most varied forms, five times or more per week. The consumption of foods with low nutritional value influences the reduction of immunological protection factors that, in turn, may develop a greater propensity to allergic processes and nutritional dysfunctions<sup>21</sup>.

According to the Primary Care Notebook No. 23<sup>22</sup>, that deals with Child Health, Breastfeeding and Complementary Feeding, there are several foods that should be discouraged regarding their consumption, especially in the first years of life. Among these, candies, snacks, soft drinks or similar, as they have exaggerated amounts of fat, food coloring and sugar, predisposing the development of diseases such as overweight and/or obesity, changes in blood pressure, dyslipidemia, among other pathologies that can last until adulthood.

The document also points out that the supply of artificial juices and sugary drinks should be avoided, because these foods do not have nutrients other than sugars, artificial food coloring and essences that can cause allergic processes and predispose to the emergence of early caries.

#### IV. Conclusion

The study reveals that food marketing influences the acquisition and consumption of food by most parents in the sample universe. Considering the products mentioned, children are eating foods with high caloric value and nutrients that pose health risks.

It is also noticed that low education and low income are factors present in the group that characterizes them as vulnerable and susceptible to the onslaught of these advertisements. Therefore, there needs to be a fight against this type of marketing by the government, making the regulations about this class of products more severe and effective, since they endanger the health of children and of future adults.

It is also recommended to adopt an educational policy that provides further clarification in a language easily understandable by the family in the same media used by the food industry. Parents and those responsible for feeding children need to be advised about the extinction of the thought that the supply of industrialized foods is a way of showing caring and affection, showing that this type of behavior endangers the health of their children, exposing them to nutritional disorders and possible serious diseases.

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