Children's food choices: Health risks and impacts on adult life

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ABSTRACT

Nowadays, time has become a scarce wealth in the face of the countless tasks to be fulfilled. Within this reality, practicality has become overvalued. This is when habits such as the consumption of processed foods emerge, which compared to fresh foods require less preparation time. For their commercialization, these foods are packaged in packaging used as merchandising space, bringing implicit and explicit information that often associates them with happiness and well-being. However, the idea constructed by marketing may not be consistent with the real meaning of food for health. All foods have nutritional information on their labels, where this may be the only source of information available to the consumer at the time of purchase, so it is essential that the consumer is able to understand and use the available information. The fact that labeling is mandatory does not mean that consumers are using it as a tool for choosing healthy foods, which makes the food industry take advantage of this and invest in eye-catching packaging. The objective of this study was to analyze the packaging of some industrialized

products generally consumed by children, in order to allow a greater reflection and more conscious and correct choices regarding children's health. For this analysis, the following products were selected: nesfit – cocoa and cereals, chocolate trakinas and Ana Maria vanilla flavored cupcake. The analyses were carried out on the labels of the products, as well as the ingredients and according to their nutritional table. It can be seen from the analysis of these products widely consumed by children, that the great increase in obese children and with problems of increased blood pressure, is due to an unbalanced diet, allowed by the parents themselves since they do not pay attention to the labeling of children's products that are full of sugars, trans fat and sodium as can be seen in the products analyzed. and that are widely consumed by children, which causes a taste linked to foods, especially rich in carbohydrates and additives introduced in the form of salt, causing risks of childhood obesity and increased blood pressure in adulthood.

Keywords: Infant feeding, Food influences, Fats.

1 INTRODUCTION

Consumption is typical of the capitalist model and this discussion refers to the consequences of this practice during childhood, such a peculiar phase, especially because of emotional, personality and body development. It is observed that for children, the issue of consumption goes beyond the behavioral factor of buying and interferes, mainly, in the formation of young people, not only affecting health, but also education and the values and judgments of the society of the future (SANTOS, GROSSI, 2009).

In view of this, the market has changed its way of seeing and acting with children, adolescents, and adults. Aiming at this niche, food industries have increasingly invested in advertisements and products that fit the requirements of these target audiences.

Advertising, whether digital or product packaging, is the most used means for food promotion, as it can reach a large audience, in addition to reaching individuals who do not read newspapers and magazines, such as children (VARGAS, 2006).

In front of the TV, children, adolescents and even adults can learn incorrect conceptions about what a healthy food is, since most of the foods conveyed have high levels of fats, sugars and salt, in addition to chemical additives (ALMEIDA, NASCIMENTO, QUAIOTI, 2002).

Several studies have shown the relationship between the high consumption of low-nutritious and high-calorie products with the onset of obesity and increased blood pressure (CONDE, BORGES, 2011; ENES, SLATER, 2010; REGISTRAR, TADDER, ANC, 2000; MARCHIORI, WAROQUIER, KLEIN, 2011). This relationship affects all age groups, and it is therefore possible to infer that children and adolescents frequently exposed to these products are susceptible to overweight (MARCHIORI, WAROQUIER, KLEIN, 2011).

A relationship directly linked to *marketing* is semiotics, and semiology is the science that studies the life of signs within social life (CALEGARI, COLOMÉ, JACQUES, 2016) In this work, the introduction to semiotics was used to understand the perceptions generated around the shapes and symbols of packaging and their effects on people's perception.

In color psychology, the study of colors, which seeks to understand human behavior in relation to colors, was used in this work in order to obtain a deepening of the perceptions generated not only by the symbology present in food labels, but also by the colors together with this imagery and its influence at the time of purchase.

The exaggerated consumption of processed foods generates a vicious cycle due to sugars in childhood that accompanies adult life, bringing risks to the health of the consumer. The uncontrolled habit due to the preference for fatty and processed foods is directly related to obesity, both in children and adults, hypertension, diabetes and cardiovascular diseases. The change in eating habits is necessary not only to improve the physical conditioning of children and adults, but also to prevent these diseases from becoming common in modern and industrial society, and to reduce the obesity rate of the population (LINHARES, et al, 2016).

A balanced diet consists of balancing all the nutrients ingested, preventing one from overpowering the other and maintaining the proper functioning of the body. When we look at the ingredients of the products consumed by most children daily, we can notice a high presence of carbohydrates, salt, sugar and fat. These ingredients are present in all foods presented and, when consumed in excess, cause irreversible damage to health (SILVA, LATINI, TEIXEIRA, 2017).

The ingredients that are most found in infant foods are: sugar, carbohydrates (flours), hydrogenated vegetable fat and sodium. Most of the children who consume this type of food in excess are children from low social classes because it is a cheaper option, but not very nutritious. Few industrialized infant foods contain calcium and iron, essential nutrients for child growth, so they are not foods indicated to constitute the food base (MARRA, FERNANDES, ABREU, 2016).

It is important to highlight the presence of trans fat, which, even present in foods, is not included in the labels, due to a loophole in the Brazilian legislation, which says that a product is considered free of containing trans fat, when the portion established for each food product has 0.1g or less of trans fat. Therefore, when the amount of trans fat does not reach the minimum limit recommended in the legislation, the company is not obliged to expose this on the label (PROENÇA, SILVEIRA, 2012).

This work aims to analyze the packaging of some industrialized products generally consumed by children, in order to allow a greater reflection and more conscious and correct choices regarding children's health.

2 MATERIAL AND METHODS

For the development of this work, some foods most consumed by the children were used, such as: nesfit – cocoa and cereals, chocolate trakinas and Ana Maria vanilla flavored cake. The choices of the products were made through a perceptual analysis in the cafeteria of private schools in the city of Cabo Frio, where the products with the highest incidence in the children's daily snacks were used. The

analyses were carried out on the labels of the products, as well as the ingredients and according to their nutritional table.

3 RESULTS AND DISCUSSION

The construction of the discussion about the packaging of children's products took place through an introduction to semiotic analysis, where it was sought to understand the messages that the aesthetic look of the packaging conveys through marketing strategies capable of influencing choices at the time of purchase. The psychology of the colors that make up the shapes on the packaging and their influences was also addressed, together with the semiotic analysis. For the study of colors, the color wheel and its harmonic combinations were used as a basis, which help in the different perceptions generated from a game of aesthetically attractive colors.

The packaging of Nesfit (see Figure 1) is presented with a cylindrical shape, using the rounded on the biscuits themselves to bring a more natural, organic and less industrialized idea.

Figure 1. Image of the packaging of the Nesfit biscuit.

Source:https://www.magazineluiza.com.br/biscoito-seco-e-doce-cacau-e-avela-integral-delice-nesfit-140g/p/226783000/me/bisb/

The letter used on the packaging has a long and slender shape, referring to a handwritten letter, bringing the ideal of lightness to the packaging. It is worth noting that the morphological component "Fit" (radical of the lexical composition Nesfit) is written within the design of the female body, making a balanced game between the body and the name, reinforcing the ideal of natural. Discarding chocolate, in no other visual element do we find edges, we soon realize that all elements have rounded shapes, thus trying to convey the idea of a product that is as unindustrial as possible.

White, along with brown and green, are linked to an idea of nature. White comes to the background reinforcing the ideal of purity, since one of the marketing strategies is to use color in its original products and white in its light, diet and zero versions. Brown is the strong color of the packaging, it was used in particular to be associated with natural and organic. It is worth noting that this is the color of chocolate, but that, in this case, it evokes earthy nuances related to the idea of natural, healthy. The green on the side reinforces this symbolic notion, conveying the idea of health and is

easily associated with the natural once again. Blue is present in the letters to cause a highlight and make it easier to read and, of course, convey the ideal of peace and balance.

It can be seen from the nutritional information and ingredients (see Table 1) that a serving of approximately 5 biscuits is composed of 65% carbohydrates, 15% fats and 5% dietary fiber and 4% of the daily sodium intake values (101 mg). From this point of view, we can see that this product does not have the characteristics of a healthy product as its packaging does.

Table 1. Nutritional information and ingredients of the Nesfit biscuit.

INFORMAÇÃO NUTRICIONAL/ INFORMACIÓN NUTRICIONAL/ NUTRITIONAL INFORMATION Porção/ Porción/ Portion 30g (5 ½ biscoitos/ galletas/ biscuits)		
Quantidade por porção/ Cantidad por porción/ Quantity per portion		%VD(*)/ DV(*)
Valor energético/ Caloric value	131 kcal = 550 kJ	7%
Carboidratos/ Carbohidratos/ Carbohydrates	20 g	7%
Proteínas/ Proteins	3,0 g	4%
Gorduras totais/ Grasas totales/ Total Fat	4,5 g	8%
Gorduras saturadas/ Grasas saturadas/ Saturated Fat	1,2 g	5%
Gorduras trans/ Grasas trans/ Trans fat	não contém/no contiene/ none	**
Gorduras monoinsaturadas/ Grasas Monoinsaturadas/ Monounsaturated fat	0,9 g	**
Gorduras poli-insaturadas/ Grasas Polinsaturadas/ Polyunsaturated fat	2,1 g	**
Colesterol/ Cholesterol	0 mg	0%
Fibra alimentar/ Fibra Alimentaria/ Dietary fiber	1,7 g	7%
Sódio/ Sodio/ Sodium	101 mg	4%

Ingredients: Whole wheat flour, wheat flour enriched with iron and folic acid, sugar, vegetable fat, rolled oats, cocoa, cereal mix, starch, whole rye flour, barley flour, salt, chemical yeasts, ammonium bicarbonate, sodium bicarbonate and disodium pyrophosphate, caramel coloring, flavorings, emulsifiers, soy lecithin, antioxidant TBHQ and acidulant citric acid.
Source:https://www.magazineluiza.com.br/biscoito-seco-e-doce-cacau-e-avela-integral-delice-nesfit-140g/p/226783000/me/bisb/

It should be noted that the amount of fiber present in this cookie could be obtained by eating an apple, for example. The list of its ingredients mostly includes: whole wheat flour, wheat flour enriched with iron and folic acid, sugar, vegetable fat, ingredients that contribute to weight gain, which does not make it that healthy.

This product emerged to supply a niche market where people in general have been looking for a healthier diet, assembling in this universe products with the appeals of: "fit", rich in fiber, wholemeal, but which nevertheless nutritionally resemble the others in the market such as: the social club cookie and the hobby cookie.

The trakinas biscuit (see Figure 2), unlike the Nesfit biscuit already analyzed, has a more square physical shape. We did not observe the concern of associating the product with organic forms, since being associated with a natural product is not exactly the proposal.

We say that the packaging speaks for itself when the design of the cookie is smiling, conveying the idea of positivity, showing the product as something beneficial, which the consumer should take home, as it will give him great joy (satisfaction).

Figure 2. Image of the packaging of the chocolate trakinas biscuit.

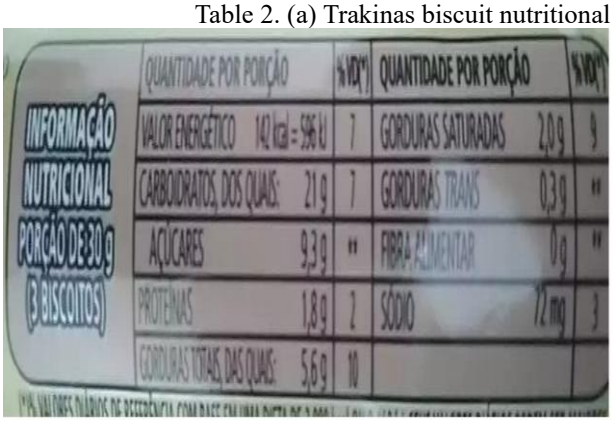
Source 1:https://www.caboclodistribuidor.com.br/biscoito-trakinas-recheado-chocolate-126g

The color of the letters catches the consumer's attention and brings the notion of joy and was also used to facilitate reading, standing out from the warmer color of the background (brown) and using the color to highlight the letters.

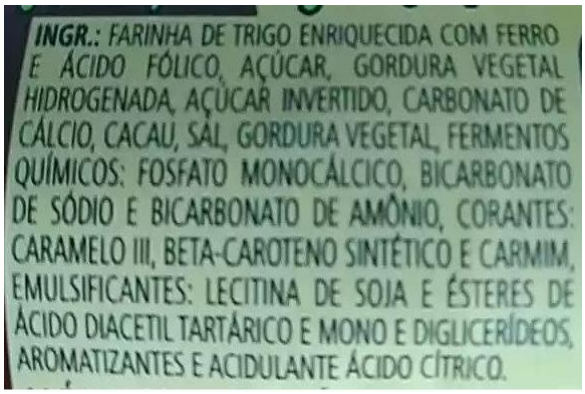
It can be seen (see Table 2) that, like Nesfit, it is a product (3 units) with a high content of carbohydrates (73%) and fats (18%), and with 3% of the daily values of sodium intake (60mg). As far as the sodium content is concerned, the amount found in 3 units of this cookie seems small, but we cannot fail to consider the fact that the general population consumes more than that.

Table 2. (a) Trakinas biscuit nutritional information; (b) Trakinas biscuit ingredients.

(a)



(b)



Source 1:https://www.caboclodistribuidor.com.br/biscoito-trakinas-recheado-chocolate-126g

Sodium is present in practically all industrially processed products, because the chemical additives added to foods are in the form of salt for better homogenization with the other ingredients. In this way, the population has increasingly increased the intake of sodium, whether voluntary or not.

If we compare the data from the nutritional information and the ingredients of the two products analyzed, there is a very close comparison of their products, especially in relation to the percentage of carbohydrates, fats and sodium, which leads us to conclude that both are harmful to health, and what we really have is the eye-catching for specific audiences: Nesfit conveying the image of a natural, healthy and adult product, and trakinas with a nutritional appeal to children.

In the Ana Maria cake (see Figure 3), we can highlight the appeal to children on the packaging with the striking blue color of the label and the presence of an illustrative doll that draws the child's attention to the product by associating it with a toy.

Figure 3. Image of the packaging of the Ana Maria biscuit.

Source:https://www.paodeacucar.com/produto/63809/bolinho-ana-maria-vanilla-70g.

In nutritional terms (see Table 3), we can see that the ingredients are similar to the others already analyzed here. Again, flours, sugars, vegetable fats and sodium are present, not to mention the myriad of additives added to ensure that no changes occur to the product during its shelf life.

Wheat flour is the base ingredient of both the Ana Maria cake and the two other products presented, Nesfit and Trakinas. This shows us how much the food industry deceives the consumer who when buying these products thinks that they are three different foods, while in fact they will be consuming the same mixture of sugar and fat and sodium, and additives that give them different flavors and tastes, but the nutritional basis is very similar in all three.

Table 3. Nutritional information and ingredients of the Ana Maria biscuit.

Porção 60g (2 unidades)		
Quantidade por porção		% VD(*)
Valor energético	241 kcal = 1012 kJ	12
Carboidratos	33g, dos quais:	11
Açúcares	21g	**
Proteínas	2,8g	4
Gorduras totais	11g	20
Gorduras saturadas	3,1g	14
Gorduras *trans*	não contém	**
Fibra alimentar	0,4g	2
Sódio	140mg	6
*% Valores Diários com base em uma dieta de 2.000 kcal ou 8.400 kJ. Seus valores diários podem ser maiores ou menores dependendo de suas necessidades energéticas. **VD não estabelecido.		

Ingredients: Wheat flour fortified with iron and folic acid, sugar, vanilla flavored filling, egg, sunflower vegetable oil, inverted liquid sugar, dehydrated egg white, salt, modified starch, potassium chloride, humectant: glycerin, emulsifiers: mono and diglycerides of fatty acids, sorbitol, propylene glycol and polyglycerol esters of fatty acids, chemical ferments: calcium acid pyrophosphate, monocalcium phosphate and sodium bicarbonate, preservatives: calcium propionate and sorbic acid, thickeners: xanthan gum and acacia gum, acidulant: citric acid and flavoring.

Source:https://www.paodeacucar.com/produto/63809/bolinho-ana-maria-vanilla-70g

These ingredients do not make up a healthy eating base for a growing child who needs nutrients such as iron, calcium, and fiber in their diet. The nutrients necessary for the healthy development of a child are not present or appear in small amounts that are not able to meet the daily requirement.

High cholesterol has affected children, most of them obese, because they often consume fried foods rich in fats, especially trans fats. This increase in cholesterol in the body is directly associated with the consumption of trans fat, present in processed foods, especially for children, since this fat decreases HDL (good fat) and increases LDL (bad fat) (ARENHART et al, 2009).

In the nutritional tables of the products, the amounts of sugars, fats and salts are measured over a portion, which does not always reflect the total amount of the package where, in this way, the values may even be low in the nutritional table, but however, in the whole of the package, it reflects in a large accumulation of sugars, fats and salts, thus reflecting on the increase in children's health problems.

The habit of opening packages, packaging and practically consuming foods that do not contribute to children's health is on the rise and the peeling of healthy and beneficial foods has been left aside by parents, largely due to the rush of daily life. The habit of healthy foods should begin in childhood, in order to influence the child with foods with less sugar, less industrialized fats, lower sodium content, and lower amounts of chemical additives (SILVA et al, 2019).

The reflection of a healthy diet in childhood is a balanced life, physical disposition, low cholesterol, low risk of cardiovascular diseases and diabetes, and a healthy adult life.

In addition to diet, a sedentary lifestyle is reflected in the rate of childhood obesity. Most children only exercise once a week in physical education classes promoted by the school, with an average workload of two hours per week. A number far below the ideal to ensure good physical conditioning for a growing child (ORFEI, TAVARES, 2009).

4 CONCLUSION

We can observe that, in the vast majority of the products offered to children, have a high caloric value, which can cause several adverse impacts on health, very different from the image conveyed by the packaging. At the same time, there is a set of symbolic constructions on the packaging and labels, which evoke in the consumer's imagination ideas that are far removed from what is materially consumed by the human organism. Thus, it can be seen that the packaging of these products assumes a function of semiotic language and starts to communicate the personality of the product with the intention of seducing the consumer. It is not intended here to throw barbs at the appeals of advertising language in its different aspects, but to underline the need that, in a literate society, the citizen is effectively prepared to read the world that is presented to him. Therefore, it is evident that there is a need for education for reading and informative actions aimed at the whole society, which should be implemented in order to promote the development of healthy lifestyle and eating habits, especially in the early years of children's lives, where the habits will be carried into adulthood.

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