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Complementary nutritional information on sugary drinks consumed by teenagers and children

Informação nutricional complementar em bebidas açucaradas consumidas pelo público adolescente e infantil

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ABSTRACT

Introduction: The labeling has a fundamental role for the consumer, supporting the choice of foods and being able to help in the prevention of obesity and overweight in children and adolescents; which are important public health problems in Brazil and worldwide. The declaration of nutrients and energy value on food labels is mandatory. The declaration of complementary nutritional properties is optional for the manufacturer, but once declared, it requires compliance with current legislation. **Objective:** The objective of the study was to evaluate the labels of sugary drinks widely consumed by adolescents and children; analyzed at the Municipal Public Health Laboratory in Rio de Janeiro. **Method:** The data being extracted and analyzed from the Harpya Sample Management System. The evaluation of the labels considered items of the Collegiate Board Resolution of the National Health Surveillance Agency nº 54/2012. 226 sugary drinks were analyzed: powdered chocolate, soft drinks and tea with lemon, soy-based drink, milk drinks, fruit nectars, powdered drinks, natural guarana drinks, soft drinks, juices and blackcurrant syrup. **Results:** It was observed that 29.20% of the labels did not meet the criteria established in the legislation, and that the number of unsatisfactory labels was expressive mainly in juices (85.11%), with 97.50% of the non-conformities related to sugar declarations (attributes and expressions used). **Conclusions:** The work points to the relevance of the continuous monitoring of products on the market, contributing to the promotion of health and to an adequate diet in children and adolescents, in addition to avoiding the dissemination of misleading information to consumers.

KEYWORDS: Labeling; Foods; Sugary Drinks; Complementary Nutritional Information

RESUMO

Introdução: A rotulagem tem papel fundamental para o consumidor, apoiando a escolha dos alimentos e podendo auxiliar na prevenção da obesidade e sobrepeso em crianças e adolescentes, importantes problemas de saúde pública no Brasil e no mundo. A declaração de nutrientes e do valor energético nos rótulos dos alimentos é obrigatória. Já a declaração de propriedades nutricionais complementares é opcional para o fabricante, mas, uma vez declarada, exige cumprimento da legislação vigente. **Objetivo:** Avaliar rótulos de bebidas açucaradas amplamente consumidas pelo público adolescente e infantil, analisadas no Laboratório Municipal de Saúde Pública do Rio de Janeiro. **Método:** Os dados foram extraídos e analisados do Sistema de Gerenciamento de Amostras Harpya. A avaliação dos rótulos considerou critérios da Resolução de Diretoria Colegiada da Agência Nacional de Vigilância Sanitária nº 54/2012. Foram analisadas 226 bebidas açucaradas: achocolatados em pó, refrescos e chá com limão, bebida à base de soja, bebidas lácteas, néctares de frutas, refrescos em pó, refrescos de guaraná natural, refrigerantes, sucos e xarope de groselha. **Resultados:** Observou-se que 29,20% dos rótulos não cumpriram os critérios estabelecidos na legislação, e que o número de rótulos inadequados foi expressivo principalmente em sucos (85,11%), sendo 97,50% das não conformidades relacionadas às declarações de açúcares (atributos e

expressões utilizadas). **Conclusões:** O trabalho aponta para a relevância do monitoramento contínuo dos produtos no mercado, contribuindo para a promoção da saúde e para uma alimentação adequada na idade infantil e da adolescência, além de evitar difusão de informações enganosas ao consumidor.

PALAVRAS-CHAVE: Rotulagem; Alimentos; Bebidas Açucaradas; Informação Nutricional Complementar

INTRODUCTION

In recent decades, transformations of different natures have changed the epidemiological and nutritional profile in Brazil and worldwide[1]. A greater consumption of processed foods in the family diet, rich in sugars and fats, to the detriment of staple foods, sources of complex carbohydrates and dietary fiber is a striking feature of the evolution of the dietary pattern of the general population[1].

Children and adolescents have shown a high prevalence of overweight and obesity[2,3,4], and part of this public health problem is related to the ultra-processed foods consumed, rich in sugars, salts, fats, and food additives[5,6,7,8,9,10,11].

The regular intake of so-called sugary drinks by this public represents a net source of sugars in the diet and the great variability, availability, and accessibility of these commercially appealing drinks further contribute to this situation[3,4,12,13,14,15,16].

Intake of free sugars in the form of sugary drinks increases overall caloric intake and can reduce intake of foods that contain more nutritionally adequate calories, leading to weight gain and an increased risk of noncommunicable diseases[15].

The free sugars conveyed by these products include monosaccharides and disaccharides added to beverages by the manufacturer, cook, or consumer, in addition to sugars naturally present in honey, syrups, fruit juices, and fruit juice concentrates[15].

According to the Brazilian Institute of Geography and Statistics (IBGE), almost a third of children under two years of age already drink soda and artificial juices containing sugar[17] and data show that the consumption of soda has increased 400% from 1975 to 2003 and 16% from 2003 to 2009 in household food purchases by Brazilians[18]. In addition to overweight and obesity, these drinks are also related to the occurrence of dental caries or primary tooth extractions, type 2 diabetes, dyslipidemia, and arterial hypertension[12,13,14,15,16].

In the international literature, articles on the subject include soft drinks, sweetened juices, powdered juices, carton juices, sports drinks, water, sweetened teas, and energy drinks[14]. The national literature mentions soft drinks, artificial juices[12], powdered or ready-to-drink juices and ready-to-drink teas[15], fruit-flavored drinks, tea and coffee, flavored milks, sports drinks, energy drinks, and any other drinks with added sugar[11].

In 2013, the Ministry of Health implemented the National Food and Nutrition Policy (PNAN)[1] with the objective of improving the conditions of food, nutrition and health of the Brazilian population, through the promotion of adequate and healthy eating practices, food and nutritional surveillance and the prevention and comprehensive care of diseases related to the care networks of the Unified Health System (SUS)[1].

Some of the PNAN guidelines are the control and regulation of food, which through monitoring, contribute to the supply of safe and nutritionally adequate food to the population, respecting the individual's right to choose and decide on the risks to which the individual will be exposed; nutritional labeling being a primordial instrument to achieve this purpose[1].

Brazil was one of the first countries to adopt mandatory nutrition labeling as part of the strategy to promote adequate and healthy eating and to combat excess weight, through regulatory actions conducted by the Brazilian National Health Surveillance Agency (Anvisa)[19].

Nutritional labeling in Brazil is defined as any description intended to inform the consumer about the nutritional properties of a food and comprises the declaration of energy and nutrient value[20] and the statement of complementary nutritional properties (complementary nutritional information – CNI)[21].

The presentation must be clearly and precisely on food labels so that consumers can understand their characteristics, and some mandatory requirements must be declared, as well as meeting font size, color, visibility, and legibility[20,21,22].

Some countries that adopt the voluntary nutrition labeling system require that it be made mandatory when CNI is used on the label: Venezuela, Turkey, Switzerland, Morocco, Lebanon, Jordan, Singapore, Brunei, Vietnam, Burma, Kenya, Mauritius, Nigeria, and South Africa[23,24,25].

Internationally, the CNI is not considered a part of nutritional information, as in Brazil, but a type of nutritional claim, with the *Codex Alimentarius* being one of the main international references used in the preparation of the Brazilian regulation, due to its international relevance in the food area[25].

The *Codex Alimentarius* states that claims should be allowed if they are consistent with national health policies, based on scientific evidence, and cannot suggest that the food encourages unhealthy dietary practices[25].

In Brazil, the nutritional claims established by Resolution of the Collegiate Board (RDC) of Anvisa No. 54, of November 12, 2012[21], called CNI, incorporated into the national legal system a harmonization between Argentina and Brazil, Paraguay, and Uruguay, in addition to specifications being made to the industries.

The declaration of complementary nutritional properties of foods[21] is not mandatory, but, if used, it must meet the established criteria.

The CNI corresponds to any representation that states, suggests, or implies that a food has particular nutritional properties, in relation to its energy value and/or its content of proteins, fats, carbohydrates, and dietary fiber, as well as its content of vitamins and minerals[21].

Its identification can usually be found prominently on the main food panel and is presented in the form of claims made up of a qualitative descriptor, which can lead consumers to perceive foods as healthier than they really are.

The aim of this study was to evaluate the INC in sugary drinks labels widely consumed by children and adolescents sold in the city of Rio de Janeiro.

METHOD

Type of study

This is an observational and descriptive study, with collection and analysis of quantitative and qualitative data on the CNI on sugary drink labels.

Data collection

The data survey from the Labeling Sector of the Municipal Public Health Laboratory (LASP) - Rio de Janeiro (RJ) included the period from January 2014 to September 2018, with samples coming from a program to monitor the quality of marketed foods in the municipality of RJ and collected in different modalities (fiscal and/or guidance), with the purpose of identifying inadequacies in relation to current legislation and intervening when necessary.

This monitoring program had as a criterion for choosing the foods to be collected those with the presence of CNI on the label, and the criterion adopted to define sugary drinks in this study was the presence of sugars and/or sugar source ingredients in their composition, whether they are added or not.

The following beverages were included in the study: chocolate drinks, soft drinks, lemon teas, soy-based drinks, dairy drinks, fruit nectars, powdered soft drinks, soft drinks, juices, and blackcurrant syrups.

Through Harpya[26], Sample Management System used by public health laboratories in the country, the data from the analyzes performed were collected.

Data analysis

Data extracted from Harpya[26] were analyzed using Microsoft Excel 2010 program. The information on the labeling was compared with that of the reference legislation. The evaluation of the labels considered the conformity and non-conformity related to parameters of the Technical Regulation on Complementary Nutrition Information[21].

The nutritional properties analyzed were: energy value, content of proteins, fats, carbohydrates and dietary fiber, vitamins, and minerals, according to the characteristic of the food and the statement on the label. The attributes and authorized terms relating to the absolute nutrient content, which describe the level and/or the amount of one or more nutrients and/or energy value in the food and the comparative content, which compares these levels with the reference food, were evaluated[21] (Chart 1).

The criteria and conditions (Chart 2) for CNI statement regarding nutrient content were also evaluated in the study samples.

RESULTS

From January 2014 to September 2018, 835 food samples that had statements on nutritional properties declared on the label were collected and analyzed by LASP-RJ, and the 226 sugary drinks were selected for this study.

Fruit nectars (31.00%), juices (21.00%), and powdered chocolate drinks (18.00%) were the most analyzed products. Of this total, it was observed that 66 (29.20%) did not meet the criteria established by RDC No. 54/2012[21].

The number of inappropriate labels in relation to the CNI was expressive mainly in juices (85.11%), followed by soft drinks and teas with lemon (33.3%), powdered soft drinks (21.74%), and chocolate drinks (19.51%). Figure 1 presents these results.

The labels of the soy-based beverages, soft drinks, and blackcurrant syrup evaluated did not show results in disagreement with any parameter of that resolution. Non-compliant samples according to food categories and parameters of RDC No. 54/2012[21] evaluated in the work are summarized in Figure 2.

The “Criteria for using the CNI” determine how the CNI declaration must be present on the product labels, considering their nutritional composition and the way in which permitted expressions are conveyed, in addition to providing clarifications. These non-conformities were found in five of the six categories of analyzed products (83.30%).

All categories of non-compliant products (100.00%) did not comply with the “Conditions for declaration of the CNI”, which establishes how the declarations of nutritional properties must be published considering their attributes (absolute content and comparative content).

Only one powdered chocolate product (12.50%) out of all those considered non-compliant did not comply with the terms authorized by the CNI. The Table specifies each parameter of RDC No. 54/2012[21] not complied with according to food categories.

Out of 66 non-compliant samples (Table), juices are part of the category with the highest number of non-compliant parameters (n = 82 parameters in n = 40 non-compliant samples), representing more than one non-compliant parameter per sample. This fact also occurs with chocolate drinks (n = 12 parameters in n = 8 non-conforming samples).

Chart 1. Attributes and terms authorized on food labels for complementary nutrition information (CNI) of nutrient content (absolute content and comparative content).

	Nutritional properties	Attributes	Authorized terms
Absolute content	Energetic value	Low	low in/little//light in
		Does not contain	does not contain, free of, zero (0 or 0%) without, exempt from
	Sugars	Low	low in/little//light in
		Does not contain	does not contain, free of, zero (0 or 0%) without, exempt from
		No added sugars	without addition of, zero addition of, without, added
	Total fats	Low	low in/little//light in
		Does not contain	does not contain, free of, zero (0 or 0%) without, exempt from
	Saturated fats	Low	low in/little//light in
		Does not contain	does not contain, free of, zero (0 or 0%) without, exempt from
	Trans fats	Does not contain	does not contain, free of, zero (0 or 0%) without, exempt from
	Proteins	Source	source of, with, contains
		High content	high content, rich in, high content
	Dietary fiber	Source	source of, with, contains
		High content	high content, rich in, high content
	Vitamins and minerals	Source	source of, with, contains
		High content	high content, rich in, high content
Comparative content	Energetic value	Reduced	reduced in, less, less of, *light*
	Sugars		
	Total fats		
	Saturated fats		
	Cholesterol		
	Proteins	Increased	Increased in, more
	Dietary fiber		
	Vitamins and minerals		

Source: Adapted from Anvisa[21].

Among the non-conformities identified, the nutritional declarations related to the sugars present in the juices stand out, which represented 97.50%.

Claims about the amount of sugars without indicating their amount below carbohydrates in the nutritional information table was identified in 62.50% (n = 25) of the non-compliant juices, in 100.00% (n = 7) of the fruit nectars, and in 75.00% (n = 3) of soft drinks, tea with lemon.

Failure to comply with conditions for the declaration of CNI related to absolute sugar content was found in 70.00% (n = 28) of non-compliant juices, in 100.00% of powdered soft drinks and soft drinks, tea with lemon (n = 5; n = 4, respectively) and in a chocolate drinks (12.50%).

The phrase "Does not contain lactose", only allowed for lactose-restricted foods, was found in one (12.50%) chocolate drink and one (25.00%) soft drink and tea with lemon incorrectly, not being allowed by the RDC No. 54/2012 the CNI declaration on specific sugars.

The attributes "Does not contain" and "No added sugar" were the most representative in terms of non-compliance with powdered soft drinks (80.00%), soft drinks and teas with lemon (75.0%), and juices (67.00%).

In 50.00% (n = 4) of non-conforming powdered chocolate drinks (n = 8) the nutritional information of the prepared food was not declared, as recommended in foods with CNI that need to be reconstituted with the addition of other ingredients. In one chocolate drink (12.50%), a disallowed term related to nutrient content (absolute content) was used.

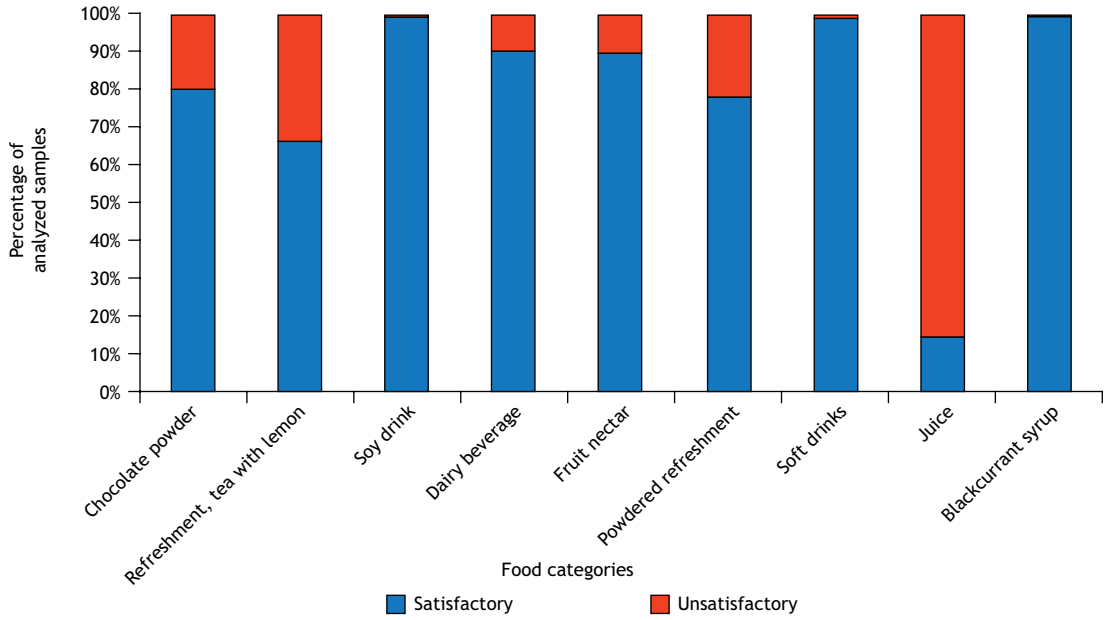
Nutritional claims about the content of vitamins and minerals stood out in chocolate drinks (50.00%) and were related to the attributes "source" and "high content", presenting a misleading indication, as the amount in the nutritional information table did not correspond to the values of the established conditions. Nutritional claims about protein content were also present in the chocolate drink (n = 1; 12.50%).

One of the dairy beverages (50.00% of non-compliant products) failed to comply with three criteria related to the presentation of the comparative CNI, as there was no indication of the reference food to be compared, thus making it difficult to verify the information provided on the nutritional property.

Chart 2. Criteria for the use of complementary nutritional information (CNI) authorized on food labels according to RDC No. 54, of November 12, 2012.

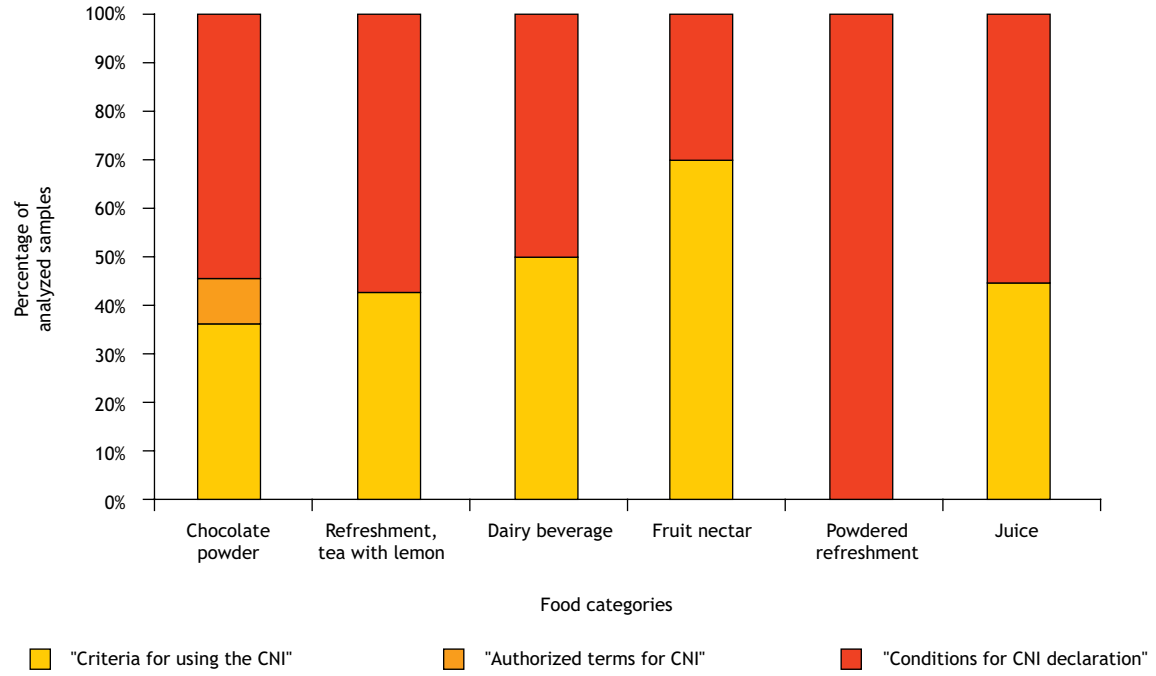
The CNI declaration is optional for foods in general, and compliance with this Regulation is mandatory when it is used.
Every food that has CNI must contain mandatory nutritional information.
The CNI must refer to the ready-to-eat food, prepared, when applicable, in accordance with the preparation instructions indicated by the manufacturer, provided that these properties are not lost.
The CNI must be met in the established food portion corresponding to portions for nutritional labeling purposes.
Foods with CNI may not be presented in a way that could lead to misinterpretation or consumer deception, encourage excessive consumption of certain foods, and suggest that they are nutritionally complete.
The Conditions for Declaration of CNI* (amount of nutrient related to attributes that can be declared) are set out in this Regulation.
When the CNI is based on characteristics inherent to the food, a clarification that all foods of this type also have these characteristics should be included**.
When there is a legal obligation to modify the nutritional composition of a food due to specific nutritional situations, the use of CNI must comply with the provisions of this regulation.
When a food fulfills more than one attribute, each of the corresponding CNIs may appear on the label.
The use of comparative CNI should be compared to the reference food.
In case the reference food does not exist, comparative CNI cannot be used.
The portion sizes compared should be the same considering the ready-to-eat food.
In the case of prepared dishes, the comparison must be carried out per 100 g or 100 ml of the product.
The identity of the food(s) being compared must be defined. Foods with comparative CNI must indicate on the label/advertisement that the food was compared with an average of the market reference foods or with the reference food from the same manufacturer, as applicable.
The difference in the attribute being compared (energy value and/or nutrient content) must be expressed quantitatively on the label in percentage, fraction, or absolute quantity.
The comparison must correspond to what is established in this Regulation.

Source: Adapted from Anvisa[21].
CNI: Complementary nutritional information.
*The conditions for declaration by the INC are described as the amount of nutrient per serving, which corresponds to the average amount of food that should be consumed by healthy people, older than 36 months, on each occasion of consumption, in order to promote a healthy diet[20].
** With the same font as the CNI, with at least 50% the size of the CNI, with a contrasting color to the background of the label and ensuring the visibility and legibility of the information.



Source: Elaborated by the authors, 2020.

Figure 1. Analysis of the labeling of sugary drinks in relation to RDC No. 54, of November 12, 2012[21] (n = 226).



Source: Elaborated by the authors, 2020.

Figure 2. Percentage of non-compliant samples according to food categories and parameters of RDC No. 54, of November 12, 2012[21].

Table. Parameters of RDC No. 54, of November 12, 2012[21] not complied with according to food categories in disagreement (n = 66 products).

			Chocolate powder	Refreshment, tea with lemon	Dairy beverage	Fruit nectar	Powdered refreshment	Juice	Total
Criteria for using the CNI	When an INC is carried out on the amount of sugars, the amount of sugars below carbohydrates must be indicated in the nutritional information table.		0	3	0	7	0	25	35
	It does not additionally present the nutritional information of the ready-to-eat food.		4	0	0	0	0	0	4
	The food with comparative CNI should be compared to the reference food. In case there is no reference food from the same manufacturer, the average value of the content of three reference foods marketed in the country of processing and/or marketing must be used. In case the reference food does not exist, comparative CNI cannot be used.		0	0	1	0	0	0	1
Total - Criteria for using the CNI			4	3	1	7	0	25	40
Authorized terms for CNI	Authorized terms for CNIs relating to nutrient content (absolute content).		1	0	0	0	0	0	1
Total - Authorized terms for CNI			1	0	0	0	0	0	1
Conditions for CNI declaration	Absolute content	Sugars	1	4	0	0	5	55	65
		Proteins	1	0	0	0	0	0	1
		Vitamins and minerals	5	0	0	0	0	2	6
		Dietary fiber	0	0	0	3	0	0	3
		Total	7	4	0	3	5	57	76
	Comparative content	Total fats	0	0	1	0	0	0	1
Total - Conditions for CNI declaration			7	4	1	3	5	57	77
Total			12	7	2	10	5	82	118

Source: Elaborated by the authors, 2020.
CNI: Complementary nutritional information.

In the comparative content of dairy drinks in relation to total fat, there was non-compliance for the attribute "reduced" (n = 1; 50.00%). Insufficient information on the label made it impossible to analyze the other product, not ensuring a decrease in the amount of the nutrient.

The conditions recommended for the attribute "rich in fiber" were not met in 42.80% of the fruit nectars.

DISCUSSION

The CNI statement, although optional to the manufacturer, is essential to improve access to relevant information about the nutritional content of foods, in order to properly guide consumers and not mislead them. The availability of information on product labels in Brazil seeks to guarantee the right to information, established in the Consumer Defense Code[27] and in the Federal Constitution[28].

Consumers around the world are increasingly looking for information about the foods they consume[29] and labels often display data that link their consumption with health benefits.

Gomes et al.[30] evaluated the habit of reading and understanding food product labels and the technical terms present on them by the 240 supermarket customers. More than 60% of respondents read the labels and 70% claimed to know the technical terms, but when asked, they do not know what they mean, showing the excess of technical language on the labels and little disclosure about the food components.

Although the INC of labels has the potential to bring statements that facilitate the choice of more suitable foods, it is observed that the industry uses the labeling of nutritional claims as marketing to encourage consumption; mainly those that deal with foods more directed to children and adolescents, such as sugary drinks, focus of the present study[30,31,32].

In Florianópolis, a study showed that, although parents recognize ultra-processed foods aimed at children as unhealthy, the presence of the nutritional claim worked for some as another stimulus for the purchase of such foods, together with the practicality and good acceptance of children[31].

In a study carried out in Paraná with the objective of evaluating the understanding of university students at the Federal University of Technology - Paraná (UTFPR), Londrina *campus*, about the nutritional labeling of foods, the terms "reduced", "high/increased content", and "no calories" were understood by most students. However, the terms "light/diet"; total fats, saturated fats, and cholesterol; low sodium content and "source" and "high content" were not so well understood, which is noteworthy due to the level of education of the studied group[32].

One of the factors that reinforce this statement is that RDC No. 54/2012[21] – similar to Canadian and European Union regulations – does not mention the need to warn on food labels with INC about high concentrations of nutrients such as total and saturated fats, sugars, and sodium. Thus, the qualities attributed through the claims of the INC may stand out from the unhealthy characteristics of some foods, as demonstrated in an international study[33].

When comparing the nutritional composition of foods aimed at children with and without CNI, Rodrigues[31] observed that the nutritional composition of foods with and without CNI was similar for most of the components evaluated, with the exception of sodium, which was higher in foods with CNI. The same study categorized more foods with CNI as less healthy[31].

In the present work, the results obtained allowed to identify the non-compliance with parameters of the Brazilian legislation regarding the declaration of the CNI, mainly in juices and related to sugar declarations (97.50%), whether unforeseen sentences or non-compliance with recommended conditions.

A similar situation was described by Mello et al.[34]: 18 categories of foods for children marketed in the city of São Paulo had high percentages of phrases not provided for in technical regulations, in addition to pictures, symbols, and illustrations and/or drawings (85.00% and 63.30%, respectively).

Although some categories of beverages, such as soft drinks, did not present inadequacies in this study regarding RDC No. 54/2012[21], it is important to highlight their potential for non-positive effects on health[12,13,14,15,16].

Due to the lack of studies on the topic evaluation of sugary beverage labels, results related to the evaluation of CNI in other foods were highlighted in this discussion.

Zucchi e Fiates[35] analyzed labels of 535 foods packaged with marketing strategies for children and 220 (46.60%) presented one or more nutrition claims on their front panel (n = 321), being 73.50% related to the presence or increased amount of vitamins and minerals[35], including in juices. In the present study, the claim of vitamins and minerals was present in juices (5.0%) and more significantly in powdered chocolate drinks (36.30%).

The most common claim of exemption/reduction was related to the trans-fat content (n = 48) in the work of Zucchi e Fiates[35], and it had an important influence on children, who considered it important to be highlighted in packaging, but expressed confusion as to their content and focus[35]. The claim of total fat was found in a product (dairy drink) in the present work.

Silva et al.[36] evaluated labels of 30 whole-wheat breads sold in the city of Caxias do Sul, noting that 50% had inadequate results in the terms used to describe the CNI.

Miranda et al.[37] analyzed 23 loaf bread labels with INC sold in the metropolitan region of Belo Horizonte (MG) and found that 82.60% of the products evaluated presented non-conformities in relation to RDC No. 54/2012.

The irregularities identified in the products analyzed in this study constitute violations of federal health legislation, in which sanctions are established[38]. The analysis reports issued by the LASP-RJ are subsidies for decision-making by the municipal Sanitary Surveillance service, which can culminate in a warning;

traffic ticket; product seizure; product disabling or interdiction; suspension of sales and/or product manufacturing; product registration cancellation; partial or total ban of the establishment.

The present work refers to the results of a program to monitor the quality of commercialized foods, having as products collected those with the presence of CNI on the label. The information collected refers to irregularities found in the products, which is the purpose of the program, aiming to intervene when identified. Thus, it was not possible to identify the frequency of CNI in the products, which would demonstrate the magnitude of the use of this type of information in these foods. More studies on this topic are needed, including identifying the frequency of use of CNIs in marketed products.

Sugar declaration, regulation, and health impact

Because it is the nutritional property in which the labels of juices and other products showed the highest number of non-conformities, some aspects of the regulation of sugars are part of the discussion in this work.

RDC Nº. 54/2012[21] encompasses both sugars naturally present in foods and added sugars, and the CNIs transmitted on packaging do not differentiate between added sugars and those naturally present in the product's composition.

The World Health Organization (WHO) advises limiting the consumption of added sugars by adults and children for life, limiting it to less than 10.00% of the total caloric intake and suggesting an even greater reduction in the intake of free sugars to less than 5.00% or 25 g per day of the total caloric intake[11,39,40]. As there is no obligation to label the amount of added sugars in the nutritional information for these foods in Brazil, the list of ingredients is the only way to identify them.

In a study carried out in Florianópolis, 4,539 foods were analyzed, of which 70.00% had added sugars or ingredients likely to contain them in their list of ingredients, identifying 262 different nomenclatures to designate them. The most frequent types of added sugars were: sugar, followed by maltodextrin, and glucose syrup[41].

Given this concern, Anvisa presented in 2018 the Preliminary Report on Regulatory Impact Analysis on Nutrition Labeling, providing technical support to reinforce the priority of regulatory intervention in the review of nutrition labeling and facilitate its use to make food choices by Brazilian consumers[42].

The main recommendations were in relation to the presentation of the nutrition information table, front labeling for mandatory warning of the high content of added sugars, saturated fats and sodium, and nutritional claims[42].

Regarding nutrition claims, it was recommended that this information not be displayed for nutrients that were subject to frontal nutrition labeling or displayed on the top of the main panel of foods with frontal nutrition labeling[42].

This measure is intended to prevent consumers from having difficulty in understanding the nutritional value of the food or from having this information stand out more than information with greater health relevance[42].

All these recommendations were consolidated in the new nutritional labeling standards, through RDC No. 429, of October 8, 2020[43] and Normative Instruction (NI) No. 75, of October 8, 2020[44], published by Anvisa during the submission process of this journal to the Journal.

Regarding the implementation of the regulations, the adoption of a staggered deadline was recommended, to allow the food production sector to make necessary adjustments in the formulations and labeling of its products and for Anvisa to conclude complementary measures.

In compliance with these recommendations, the RDC only takes effect 24 months after its publication (2022). Furthermore, after the entry into force of the regulation, products that are already on the market have an additional period of 12 months for adaptation (2023)[43,44].

It is important to highlight that the analyzes carried out in this study do not have limitations when compared to the determinations present in the new rule, since, during this period, the RDC No. 54/2012[21] remains as a reference regarding the evaluation of the labeling of nutritional claims on foods by the Sanitary Surveillance and public health laboratories in the country. In addition, the results of the present work will serve as a parameter to compare market practices[43,44].

The most relevant changes in the new nutrition labeling rule were in relation to the composition criteria of the nutrients selected as the most critical for health, and new conditions were established for framing the nutritional attributes[44].

The limits (quantity) of added sugars, saturated fats, and sodium were determined for frontal labeling purposes, impacting the form of presentation of nutritional claims about these nutrients in order to avoid conflicts of information[44].

There was no change in the attributes and authorized terms. However, for total fats, the attribute "no addition" was included, and for dietary fiber, vitamins, and minerals the conditions are applied to the daily reference values (%DRV)[44]. It can be said that the new rule has become stricter regarding the declaration of sugars on the labels of products[44].

Another important action being carried out is the reduction of sugars in industrialized products, an agreement proposed by the Ministry of Health in 2018[45] that includes the following food categories: cakes, cake mixes, dairy products, chocolate drinks, sugary drinks, and stuffed biscuits.

A similar initiative that has already been carried out in relation to sodium[46] aims to improve nutritional quality and contribute to the offer of healthier foods to consumers, being essential for the control of non-communicable chronic diseases.

The established criteria aim to reduce the levels of free sugars without increasing the energy value, total or partial replacement by sweeteners. The replacement of sugar by sweetener is one of the goals that must be carefully monitored, since the use of sweetening additive for children is limited, and its consumption is indicated only in the diagnosis of diabetes[3,4,7].

One of the challenges for monitoring the sugar content in foods sold in the country is the execution of analyzes by the laboratories of the National Network of Health Surveillance Laboratories, which includes the analysis of the declaration of the sugar content on the label and its determination in foods.

According to the Analytical Profile of the Laboratory Network carried out by Anvisa[47], of the 26 state laboratories, 25 (96.00%) carry out the labeling test and 12 (46.15%), the determination of the sugar content, being essential to create strategies to support this monitoring.

CONCLUSIONS

The analysis of the labeling of sugary drinks indicates that the information contained in the labels of soft drinks, lemon teas, powdered soft drinks, and juices were the ones with the highest number of inadequacies in relation to nutritional claims about sugars, with the juice category being the most relevant.

The continuous monitoring of the labels of these products and the strict performance of inspections to adapt the manufacturers to the legislation in force in the city of Rio de Janeiro have been fundamental factors for the safety and quality of these foods, in order to protect the health of the consumer and avoid the dissemination of potentially misleading information.

The adequacy of non-compliant labels by the regulated sector under the legislation, thus bringing correct and clear statements for a better understanding and understanding of the information on the nutritional content of foods, contributes to the promotion of health and adequate nutrition for children and adolescents.

The CNI has been used as a marketing strategy by companies and its use may not be related to the actual nutritional quality of the product, as shown by more recent studies in Brazil.

It is believed that the updating of the Brazilian nutrition labeling regulations can contribute to safe and quality consumption, with a more direct and precise communication to the consumer.

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Author's Contributions

Mendes KDF – Conception, planning (study design), acquisition, analysis, data interpretation, and writing of the work. Guerra AN, Reis AM, Domingues J - Acquisition, analysis, data interpretation, and writing of the work. Doria SR, Lopes RGA – Conception, planning (study design), and writing of the work. All authors approved the final version of the work.

Conflict of Interests

The authors inform that there is no potential conflict of interest with peers and institutions, politicians, or financial in this study.