

Food commercialization in schools: analysis of the regulatory process in Brazil

Comercialização de alimentos em escolas: análise do processo de regulamentação no Brasil

Aline Yukari KURIHAYASHI¹  0000-0001-8163-2664

Claudia Nery Teixeira PALOMBO²  0000-0002-0651-9319

Luciane Simões DUARTE³  0000-0001-9173-607X

Elizabeth FUJIMORI⁴  0000-0002-7991-0503

ABSTRACT

Objective

To identify and to describe the legal provisions that regulate the sale of food in Brazilian schools.

Method

Documentary analysis carried out in 2019, on the websites of the State, capital and Federal District Legislative Assemblies, via e-mail and/or telephone contact and publications on the subject review. The data were grouped by geographic region and a descriptive analysis was carried out.

¹ Universidade Federal do Rio de Janeiro, Instituto de Nutrição Josué de Castro, Observatório de Epidemiologia Nutricional. Av. Carlos Chagas Filho, 373-Bloco J2, Cidade Universitária, 21941-590, Rio de Janeiro, RJ, Brasil. Correspondence to: AY KURIHAYASHI. E-mail: <alinyukari@alumni.usp.br>.

² Universidade Federal da Bahia, Escola de Enfermagem, Programa de Pós-Graduação em Enfermagem e Saúde. Salvador, BA, Brasil.

³ Secretaria de Estado da Saúde de São Paulo, Coordenadoria de Controle de Doenças do Centro de Vigilância Epidemiológica, Divisão de Doenças Crônicas Não Transmissíveis. São Paulo, SP, Brasil.

⁴ Universidade de São Paulo, Escola de Enfermagem, Departamento de Enfermagem em Saúde Coletiva. São Paulo, SP, Brasil.

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Results

Data were obtained from 96% of the federative units (25 States and the Federal District). 62 legal provisions were found: 60% current, 11% revoked and 29% draft bills. Current legislation was found in 67% of States: 100% of the States in the South, Southeast and Center-West regions, 56% in the Northeast and 43% in the North. Most of the legal provisions prohibit the sale of ultra-processed foods and encourage the sale of fruits and fresh foods in the public and private school network.

Conclusion

Progress is observed in the school food regulatory process in this country, considering its coverage in the States and in the public and private school network, but still restricted to the South, Southeast and Midwest regions.

Keywords: Food legislation. Health policies. Legal standards. Nutrition.

RESUMO

Objetivo

Identificar e descrever os dispositivos legais que regulamentam a comercialização de alimentos em escolas brasileiras.

Método

Análise documental realizada em 2019, nos sites das Assembleias Legislativas dos Estados, Capitais e Distrito Federal, via e-mail e/ou contato telefônico e publicações sobre o tema. Os dados foram agrupados por região geográfica e procedeu-se análise descritiva.

Resultados

Obteve-se dados de 96% das unidades federativas (25 Estados/Capitais e Distrito Federal). Foram encontrados 62 dispositivos legais: 60% vigentes, 11% revogados e 29% projetos de lei. Regulamentação vigente foi encontrada em 67% dos Estados brasileiros: 100% dos Estados das Regiões Sul, Sudeste e Centro-Oeste, 56% no Nordeste e 43% no Norte. A maioria dos dispositivos legais proíbe a comercialização de alimentos ultraprocessados e incentiva a venda de frutas e alimentos in natura, na rede pública e privada.

Conclusão

Constata-se avanço no processo de regulamentação no país, considerando abrangência nos estados/capitais e na rede pública e privada, porém ainda restrito às Regiões Sul, Sudeste e Centro-Oeste.

Palavras-chave: Legislação de alimentos. Políticas de saúde. Normas jurídicas. Nutrição.

INTRODUCTION

School is considered as an important influencing factor of eating habits and a strategic place for the development of actions to promote food and nutrition education and to prevent future diseases [1,2].

In this context, the relevance of environments that favor the choice of healthy foods is highlighted [3]. Especially given the high consumption of ultra-processed foods, soft drinks and sugary drinks by adolescents and schoolchildren in the school setting and the debate around the implementation of legislative, regulatory and fiscal policies on the food sale in schools [3]. This measure has been recommended as a priority action in order to provide environments that favor the choice of healthy foods and to control the growing trend of overweight and obesity among children and adolescents [3-5].

In Brazil, the Interministerial Ordinance nº 1,010, published in 2006 by the Ministry of Health in partnership with the Ministry of Education, established guidelines for the fostering of healthy eating in public and private schools including kindergarten, elementary and high schools, throughout the national

territory. Besides ratifying school as a favorable space for the development of healthy habits, the Ordinance also includes normative rules, such as restricting trade and advertising of foods with a high content of saturated fat, trans fat, free sugar and salt [6].

Few studies have investigated the regulation of food marketing in schools in Brazil [7,8]. These publications cover the legal provisions issued only until 2010 and indicate that this is a recent process, still under construction, with a predominance in municipalities in the South and Southeast regions of the country [7,8].

In view of the above, this study aimed to identify and to describe the legal provisions that regulate the marketing of food in schools, at the State/capital level in Brazil, in order to enhance the understanding of the relevant policy and provide support actions to make it effective in Brazilian schools, in addition to contributing to the promotion of health and nutrition of schoolchildren.

METHODS

This is an exploratory, descriptive, document review study. A survey was performed on the legal provisions, in force and revoked, related to the regulation of food marketing in the school environment.

The legal provisions included were: Ordinances (administrative act that details how a law should be executed and is exclusively intended for public sectors); Laws (general legal rule, binding for everyone); Decrees (secondary normative acts, which provide details of the laws); and Resolutions (legislative acts with internal effect) [9-11]. Legislation that referred only to school feeding was excluded.

Data collection was carried out by the actual surveyor, from June to December 2019 and updated in March 2020, through a search on the official websites of the Legislative Assemblies of the States, capitals and the Federal District, by sending e-mails and/or by telephone contact. We also used existing publications on the subject [7,8,12].

On the websites, the search was carried out with the *Sistema de Apoio ao Processo Legislativo* (Legislative Process Support System), using the words: "school"; "canteen", "food", "school food", "caloric food" and "processed food", without filters of year of publication or type of legal provision. An electronic form (Google Forms) was further distributed, via institutional email from the *Universidade de São Paulo*, to the Legislative Assemblies of all the federation States, with questions regarding the existence of legal provisions on the marketing of food in the school setting and its details, type (law, resolution, decree, ordinance), legislation number and access link. The Legislative Support, Laws Bank, and the Legislative Library sectors were contacted by telephone if information was not found on the websites of it there was no response, or the e-mails returned due to an invalid address or were not answered. Out of the 27 federative units, only information from *Amapá* (State/capital) was not obtained.

Legal provisions regulating food sold in the school environment and referring to the quality of food sold, advertisements and food and nutrition education actions were included. Those that did not address any aspect of food marketing or that only regulated the food offered by the National School Feeding Program were excluded.

For analysis, legal provisions were grouped by geographic region (States/capitals and Federal District), in decreasing hierarchy of the legal provision and in ascending order of year of publication. The content of the material was synthesized, presented in Tables and the results were described using absolute and relative numbers.

This study was approved by the *Universidade de São Paulo* Research Ethics Committee (Process nº 3,301,488/2019).

RESULTS

The search identified 62 legal acts related to the regulation of food sales in Brazilian schools, with 60% in force (n=37), 11% revoked (n=7) and 29% in the form of bills (n=18). Data were obtained from 96% of the country's federative units (25 States/capital and Federal District).

Chart 1 to 5 present a description of the legal provisions, both in force and revoked, by geographic region, States and/or capitals and the Federal District, year of publication, amendment, prohibited and

Chart 1 – Legal provisions on the sale of food and beverages in schools in the Southern Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Paraná-PR</i> (State)	2004	Law 14,423 [16] – Provides that snack services in public/private educational units that serve basic education, located in the state, must comply with nutritional quality standards.	Prohibits: beverages with any alcohol content, candies, lollipops and chewing gum, soft drinks and artificial juices, processed snacks, fried snacks, processed popcorn. Additional: provide two types of seasonal fruits.
	2005	Law 14,855 [17] – Provides for technical standards of nutritional quality, to be followed by cafeterias and similar establishments, installed in elementary and high schools, private and public. Note: ABIR-Brazilian Association of Soft Drinks and Non-Alcoholic Beverage Industries filed a direct action of unconstitutionality of the referred law, justified by: violating the guarantee of free commercialization of food products and the inexistence of any link between the consumption of soft drinks and human obesity, health risks, especially for children and adolescents.	Prohibits: Candies, lollipops, chewing gum, chocolates, sweets based on gum/caramels, artificial juices, soft drinks based on processed powders, soft drinks, snacks/processed popcorn, stuffed cookies, snacks/fried sweets, foods with more than 3g of fat/100 kcal of the product, foods with more than 160mg of sodium/100kcal of the product, foods containing artificial dyes/antioxidants, foods with no indication of origin, nutritional composition or expiration date. Allows the sale of: bread in general (potato, cheese, honey, jam stuffed with fruit/jelly); biscuits ('Maria', cornstarch, cream cracker, water and salt, flour, sweet biscuit without filling), simple pastry cakes with fruit filling, jellies, whole grains (flakes/bars), natural popcorn, fresh fruit /dried, fruit popsicle, white cheese, ricotta, chicken, turkey breast, tuna, boiled egg, cottage cheese, soy paste, vegetables, butter, margarine, vegetable cream, low-fat baked snacks, juice natural fruits, dairy drinks, fermented milk, chocolate drinks, yogurt, coconut water, tea, mate, coffee.
<i>Rio Grande do Sul-RS</i> (State)	2008	Law 13,027 [18] – Provides for the sale of snacks and beverages in public and private schools in the State of <i>Rio Grande do Sul</i> .	Prohibits: Display of posters advertising candies, chewing gum, snacks and soft drinks; commercialization of beverages with any alcohol content, foods/beverages that contain nutrients proven to be harmful to health. Additional: fruits, salads, natural juices and sandwiches will be offered more evidently in schools.
	2018	Law 15,216 [19] – Provides for the promotion of healthy eating and prohibits the sale of products that contribute to obesity, diabetes and hypertension in canteens and similar establishments installed in public and private schools in the State of <i>Rio Grande do Sul</i> .	Prohibits: Candies, lollipops, chewing gum, stuffed cookies, soft drinks and artificial juices, snacks, fried foods in general, processed popcorn, alcoholic beverages, foods that contain nutrients that are proven to be harmful to health. Nutrient restriction: processed foods with a percentage of calories from saturated fat greater than 10% of total calories, with a high sodium content and prepared with hydrogenated vegetable fat. Additional: offer at least 2 varieties of fresh seasonal fruit, whole/in pieces/in the form of juice.

Chart 1 – Legal provisions on the sale of food and beverages in schools in the Southern Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Porto Alegre</i> -RS (Capital)	2007	Law 10,167 [20] – Establishes rules to control the sale of food and beverages in bars and canteens of public and private schools located in the city of <i>Porto Alegre</i> .	Prohibits: Display of advertising posters for candies, chewing gum, snacks and soft drinks, sale of: beverages of any alcohol content, foods and beverages containing nutrients that are proven to be harmful to health.
<i>Santa Catarina</i> -SC (State)	2001	Law 12,061 [21] – Provides for criteria for concession of snacks and beverage services in public and private educational units in the State of <i>Santa Catarina</i> .	Prohibits: Commercialization of: beverages with any alcohol content, candies, lollipops and chewing gum, soft drinks and artificial juices, processed snacks, fried snacks, processed popcorn. Additional: provide two types of seasonal fruits.
<i>Florianópolis</i> -SC (Capital)	2001	Law 5,853 [22] – Provides for criteria for concession of snacks and beverage services in public and private educational units in the city of <i>Florianópolis</i> . Note: <i>ABIA-Associação Brasileira das Indústrias da Alimentação</i> filed a direct action of unconstitutionality of the referred law, justified by violating the guarantee of free commercialization of food products. However, the action was dismissed.	Prohibits: Alcoholic beverages, candies, lollipops and chewing gum, soft drinks and processed juices, processed snacks, fried snacks, processed popcorn. Allows the sale of: hot dogs, biscuits and cookies, natural and/or concentrated sandwiches, chocolate drinks, baked snacks, dairy drinks and yogurt, popcorn (corn), simple cake, fruit.

permitted foods and highlights. It was found that 67% of the 27 federative units in Brazil (n=18) had some type of legal provision in force, with 27 laws, 2 resolutions, 3 decrees and 5 ordinances.

Chart 2 – Legal provisions on the sale of food and beverages in schools in the Southeast Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Espírito Santo</i> -ES (State)	2010	Ordinance 038-R [23] – Establishes rules for the operation of canteens in the establishments of the state education network.	Prohibits: Candies, lollipops, chewing gum, chocolates, gum-based sweets, caramels, soft drinks, artificial juices, processed powder-based soft drinks, processed snacks/popcorn, stuffed cookies, fried snacks/sweets, sausages (hams, bologna, salami, sausages, hot dogs), foods with more than 3g of fat/100kcal of the product, with more than 160mg of sodium/100kcal of the product, foods containing artificial dyes/antioxidants, without indication of origin, nutritional composition/expiration date. Allows the sale of: bread (whole, brioche, French, sliced, Arabic); sandwiches (stuffing: white cheese, ricotta, chicken, turkey breast, tuna, curd, soy paste, vegetables and greens); cream cracker, water and salt, cornstarch and marie biscuits; plain dough cakes; whole grain flakes/bars; non-fat natural popcorn; fresh fruits; fruit popsicles; long-life whole milk; natural fruit juice; fruit smoothie with milk; fermented milk, chocolate milk, fruit yogurt; Coconut Water.
<i>Minas Gerais</i> -MG (State)	2004	Law 15,072 [24] – Provides for the promotion of food and nutrition education in public and private schools of the state education system.	Prohibits: Supply and marketing of products and preparations with high levels of calories, saturated fat, trans fat, free sugar and salt, or low in nutrients.
	2009	Law 18,372 [25] – Adds provision to Law 15,072- Regulates marketing in public and private schools in the State.	Additional: Snacks and drinks provided and sold in public and private schools in the State will be prepared according to nutritional quality standards consistent with the promotion of student health and the prevention of childhood obesity.

Chart 2 – Legal provisions on the sale of food and beverages in schools in the Southeast Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Minas Gerais</i> -MG (State)	2010	Resolution 1,511 [26] – Guides the application of Law 18,372/2009 within the schools of the state education system.	Prohibits: Fried foods: potatoes, cookies, dumplings, drumsticks, stuffed rolls, skewers, pastries, kebabs and fried foods in general, savory and sweet with puff pastry, biscuits (stuffed, coated, wafer-like, savory and others with high fat and calorie content), sweets (candies, pastilles, lollipops, chocolates, bonbons, meringues, <i>maria-mole</i>), ice cream (pasta, popsicles, covered, <i>chup-chup</i>), cotton candy, chewing gum and sweets in general, caloric sauces (ketchup , mayonnaise, mustard, sauces such as mayonnaise and others with a high content of fat and calories), artificial drinks (common, light and zero soda, soft drinks, alcoholic drinks, energy drinks and the like), snacks and processed popcorn, sandwiches and pizzas that have ingredients such as bacon, straw potatoes, mayonnaise and fatty/caloric sauces, fried eggs, fatty cheeses, sausages and high fat/calorie ingredients.
	2018	Decree 47,557 [27] – Regulates Law 15.072 of 2004, which provides for the promotion of food and nutrition education in public and private schools of the state education system. Suspended in July/2019 for study and analysis regarding the applicability of the Decree.	Prohibits: High calories foods, saturated fat, trans fat, free sugar and salt, or low in nutrients; display of advertising material intended to encourage the consumption of foods prohibited under the regulation. Additional: offer at least 2 varieties of fresh seasonal fruit, whole/pieces/in the form of juice, juices and fruit crushes must be prepared without adding sugar or sweetener, which must be made by the consumer.
	2003	Law 8,650 [28] – Provides for the prohibition, in schools in the municipal public education system, to acquire, manufacture, distribute and market the products it mentions and other measures.	Prohibits: Candy, caramel, lollipop, candy based on gum and chewing gum, alcoholic beverage.
<i>Belo Horizonte</i> -MG (Capital)	2008	Law 9,530 [29] – Institutes guidelines for the promotion of health and healthy eating in municipal schools for Kindergarten, Elementary and High School, and other measures. Revoked in September/2009: Mayor filed a lawsuit claiming the law's unconstitutionality, justified by the fact that it was not issued by the Executive power and for increasing administrative duties and costs.	Prohibits: foods with high amounts of fat, sugar and salt and creating healthy food and meal options to be offered at school;
	2004	Ordinance 2 [30] – Disciplines food consumption in public and private schools in the city of <i>Rio de Janeiro</i> . Revoked in October/2004	Prohibits: Soft drinks and artificial soft drinks, drinks based on guarana/ currant syrup, mate tea and black tea-based drinks, isotonic drinks, fried preparations in general (potatoes, eggs, savory, dream, etc.), pies/puffs, stuffed biscuits, savory appetizer-type biscuits, savory/sweet peanuts, ham, ham, mortadella, blanket, salami and pate of these products, bacon, hamburger, sausage, sausage, sausage and pate of these products, candies, caramels, chewing gum, lollipops and the like, popsicles (except fruit), creamy ice creams, sweet toppings (caramel, chocolate, strawberry, etc.), processed sauces (sauce based on the one shown, ketchup, mayonnaise, ready-made sauces, Worcestershire sauce, etc.) available for be added to snacks. Nutrient restriction: maximum 30% and 10% of calories from total and saturated fats; maximum 10% of calories from sugar; maximum 2g of sodium/day (equivalent to 80mg of sodium per 100Kcal in a 2500Kcal diet); restriction of energy-rich and micronutrient- and fiber-poor foods; specific restriction on the intake of artificial soft drinks and juices.

Chart 2 – Legal provisions on the sale of food and beverages in schools in the Southeast Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Rio de Janeiro</i> -RJ (State)	2005	Law 4,508 [31] – It prohibits the sale, acquisition, manufacture, and distribution of products that contribute to childhood obesity, in bars, canteens and similar installed in public and private schools in the State of Rio de Janeiro.	Prohibits: Snacks, candies, chocolates, gum-based sweets, chewing gum, lollipop, caramel, processed powdered soft drinks, soft drinks, any food handled at school or in an unaccredited environment for food preparation, alcoholic beverages, foods with more than 3g of fat/100kcal of the product, with more than 160mg of sodium/100kcal of the product and foods containing artificial colorings, preservatives or antioxidants (observing the nutrition labeling available on the packaging), foods without labeling, nutritional composition and expiration date.
<i>Rio de Janeiro</i> -RJ (Capital)	2002	Decree 21,217 [32] – It prohibits, within the school units of the public education network, the purchase, manufacture, distribution and consumption of the products mentioned.	Prohibits: candy, gum-based sweets, chewing gum, lollipop, caramels, processed powdered soft drinks, alcoholic beverages, foods with high amounts of sodium or saturated fat and artificial colorings.
<i>São Paulo</i> -SP (State)	2005	Joint Ordinance COGSP/CEI/DSE [33] – Standards for the operation of school canteens in public schools.	Prohibits: Alcoholic beverage, tobacco, medicine or chemical-pharmaceutical product. Allows the sale of: fruits, vegetables/vegetables, sandwiches, breads, cakes, pies, baked snacks/sweets, open/closed esfiha, baked coxinha and risoles, potato bread, rolled up, pie, quiche, baked fogazza, among other similar products, fiber products (bar/breakfast cereals, brown rice), breads, cakes, pies, biscuits, chocolate bars smaller than 30g or mixed with fruits and fibers, fruit/natural pulp juice, dairy drinks (flavor chocolate, strawberry, coconut, cappuccino, oat, fruit smoothie, and similar products), extract-based or fermented beverages/foods (soy, milk, among others).
	2006	Law 12,283 [34] – Institutes the Policy to Combat Obesity and Overweight “São Paulo Lighter” in the State.	Promotion and development of programs, projects and actions to combat childhood obesity in the school network, offering basic information on adequate nutrition, through informative and institutional materials.
	2013	Decree nº 58,861 [35] – Establishes, together with the Department of Education, the Healthy Eating Program’ in the state public network	Expanding the supply of fruits and vegetables, and reducing salt consumption Implementation of the “Healthy Cantina” pilot project”
<i>São Paulo</i> -SP (Capital)	2001	Ordinance 11 [36] – Provides for the prohibition of commerce and sale of food to students of the Municipal Education Network, and other measures.	Prohibits: Marketing and sale of any food and treats.

Chart 3 – Legal provisions on the sale of food and beverages in schools in the Midwest Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Distrito Federal</i> -DF	2005	Law 3,695 [37] – Provides for the promotion of healthy eating in public and private schools in the Federal District education system. Revoked in October/2007. The Governor of the Federal District, through the Federal District Attorney, filed a direct action of unconstitutionality of the law, justified by not having been issued by the Executive power (Governor) and by increasing administrative attributions and costs.	Prohibits: Candies, lollipops, chewing gum, stuffed cookies, soft drinks and artificial juices, popcorn and processed snacks, fried foods in general, alcoholic beverages, processed foods whose percentage of calories from saturated fat exceeds 10% of total calories; foods in which hydrogenated vegetable fat is used; Prohibited foods extend to street vendors located around the school, advertising products listed as prohibited. Additional: offer, daily, at least one variety of seasonal fruit, <i>in natura</i> , whole/in pieces/in the form of juice; in fruit juices and dairy drinks, the addition of sugar is optional and will be offered for addition or not, according to consumer preference and not to exceed 2 sachets of 5g/200mL portion; insert nutritional education content into the pedagogical agenda.

Chart 3 – Legal provisions on the sale of food and beverages in schools in the Midwest Region (State/capital), year of publication and description. São Paulo, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Distrito Federal-DF</i>	2013	Law 5,146 [38] – Establishes guidelines for the promotion of healthy eating in public and private schools in the <i>Distrito Federal</i> .	Prohibits: Candies, lollipops, chewing gum, stuffed cookies, soft drinks and artificial juices, processed snacks, fried foods in general, processed popcorn, alcoholic beverages, processed foods with a percentage of calories from saturated fat greater than 10% of total calories. Additional: offer at least 2 varieties of fresh seasonal fruit, whole/ in pieces/in the form of juice; juices and fruit crushes must be prepared without adding sugar/sweetener, which must be made by the consumer; add food education themes in the pedagogical content.
	2013	Law 5,232 [39] – Disciplines the economic activity of commercial school canteens in the Federal District's public-school system and makes other arrangements.	Prohibits: Beverages containing taurine/inositol, alcoholic beverages and non-alcoholic beer, foods accompanied by toys or gifts. Additional: offer two fruit options including banana, orange, tangerine, apple, pear, guava.
	2015	Decree 36,900 [40] – Regulates Law 5.146, dated 08/19/2013, which establishes guidelines for the promotion of adequate and healthy food in public and private schools in the Distrito Federal.	Allows the sale of: fruits, vegetables and greens, natural juice/fruit pulp (100% fruit), dairy drinks, yogurt and natural fruit smoothies, extracts/fermented beverages/foods (soy, milk and similar) with fruits, natural sandwiches (without mayonnaise), wholegrain breads, cakes made with fruits, tubers, cereals or vegetables, baked pies and snacks, fiber-rich products (whole-wheat biscuits, chocolate-free cereal bars and similar products). Additional: defines the food environment up to 50m around the school.
<i>Goiás-GO</i> (State)	2015	Ordinance 1,606 [41] – Prohibits in state schools, the trade of any type of product, especially food, either by servers or third parties.	Prohibits: Commerce of any kind of product in schools.
<i>Mato Grosso-MT</i> (State)	2007	Law 8,681 [42] – Regulates the food offered in school units, public and private, that attend to early childhood and basic education in the State of <i>Mato Grosso</i> .	Prohibits: Alcoholic beverages, soft drinks, candies, lollipops, chewing gum and the like, processed foods with high levels of saturated fats, trans fats and salt, fried snacks, foods containing nutrients proven to be harmful to health, under the terms of the regulation.
	2008	Law 8,944 [43] – Changes wording of Article 2 of Law 8.681/2007.	Changes the paragraph on prohibitions in canteens, now restricting only the sale of alcoholic beverages and cigarettes.
<i>Cuiabá-MT</i> (Capital)	2003	Law 4,382 [44] – Provides for the criteria for concession of snacks and beverage services in public and private educational units located in the Municipality of <i>Cuiabá</i> .	Prohibits: Alcoholic beverages, candies, lollipops and chewing gum, soft drinks and artificial juices, fried snacks; (NR), processed snacks, processed popcorn. (NR), fried snacks, processed popcorn. Allows the sale of: hot dogs, biscuits and cookies, sandwiches, natural and/or concentrated juices, chocolate drinks, baked snacks, dairy drinks and yogurts, popcorn (corn), simple cake, fruit.
	2004	Law 4,589 [45] – Revokes the wording of items V and VI and rewords items III and IV of the sole paragraphs of article 2 of Law 4.382 dated 07/17/03.	Restricts the list of prohibitions to: alcoholic beverages, candies, lollipops and chewing gum, fried snacks, processed popcorn. Now allows the sale of: sugary drinks and packaged snacks.
<i>Mato Grosso do Sul-MS</i> (State)	2013	Law 4,320 [46] – Prohibits the commercialization, manufacture and distribution of products that contribute to pose risks to the health or food safety of consumers, in canteens and similar establishments installed in public schools located in the State. Revoked in August/2013. The Federation of Commerce of the State of <i>Mato Grosso do Sul</i> – FeComércio filed a direct action of unconstitutionality of the referred law, justified by increasing administrative attributions and costs to the Executive power (Governor).	Prohibits: candies, caramels, lollipops, chewing gum, gum-based candy, stuffed cookies, savory appetizer-type cookies, creamy ice cream, fried foods in general, puff pastries, processed snacks/popcorn, processed sugary drinks, soft drinks, syrup-based drinks, guarana/currant, isotonic drinks, alcoholic beverages, foods with more than 3g of fat/100kcal of the product, with more than 160mg of sodium/100kcal of the product, foods containing artificial colors/preservatives/antioxidants, observing the nutritional labeling available on the packaging. Additional: provide foods with a fat content of less than 30% and saturated fat less than 10% of the total energy value, rich in micronutrients and fiber, with low/intermediate energy density such as natural fruit juices, milk, yogurt, beverages based on soy, coconut water, snacks with vegetable fillings, vegetables, cheeses,

Chart 3 – Legal provisions on the sale of food and beverages in schools in the Midwest Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Mato Grosso do Sul</i> -MS (State)	2013		cheeses, lean meats, baked snacks, simple cakes, wholegrain breads, cereal bars, raw salads, fresh/dried seasonal fruits to offer a healthy diet.
<i>Campo Grande</i> -MS (Capital)	2011	Law 4,992 [47] – Defines standards for the sale of food in commercial canteens of the Public Network and Private Basic Education Institutions in Campo Grande, MS, and other measures. The Federation of Commerce of the State of <i>Mato Grosso do Sul</i> – Fecomércio filed a direct action of unconstitutionality to repeal the Law, justified by increasing attributions and administrative costs to the Executive power, but it was dismissed.	Prohibits: Candies, lollipops, chewing gum, stuffed cookies, soft drinks and artificial juices, processed snacks, fried foods in general, processed popcorn, alcoholic beverages, processed foods with a percentage of calories from saturated fat that is greater than 10% of total calories, foods in which preparation is used hydrogenated vegetable fat. Additional: daily offering of at least one fresh variety of seasonal fruit, whole/in pieces/in the form of juice; fruit juices, dairy drinks and other preparations, whose addition of sugar is optional, will be offered for consumption according to the consumer's preference, whether or not they are added, which cannot exceed 2 sachets of 5g/200ml serving.

Chart 4 – Legal provisions on food and beverage regulation in schools in the Northeast Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Maranhão</i> -MA (State)	2014	Ordinance 703 [48] – The Secretary of State for Education, in the use of its legal attributions, considering the School Feeding Program.	Prohibits: acquisition of beverages with low nutritional value such as soft drinks and processed sugary drinks, beverages or concentrates based on guarana syrup or currant, ready-to-drink teas and other similar beverages, canned foods, sausages, sweets, compound foods (two or more packaged foods separately for joint consumption), semi-ready or ready-to-eat preparations or concentrated foods (powdered or dehydrated for reconstitution), with high amounts of sodium or saturated fat, with a maximum of 30% of the funds transferred to purchase school food, for the purchase of these foodstuffs.
	2019	Law 11,196 [49] – Provides for the promotion of healthy eating and determines the exclusion of ultra-processed and sugary foods in public and private schools within the State.	Prohibits: Ultra-processed and sugary foods.
<i>São Luis</i> -MA (Capital)	2004	Law 378 [50] – Establishes the “Healthy Cantina” Program within the public elementary schools in the Municipality of <i>São Luis</i> .	Prohibits: display of advertising posters that encourage the purchase and consumption of foods that contain trans fats, saturated fats, foods with no nutritional value and with excessive sugar and sodium content. Additional: display a menu, highlighting healthy and fresh foods, make available the varied sale of fruits, including seasonal ones, offered whole, in pieces or in the form of fruit crushes and juices.
<i>Paraíba</i> -PB (State)	2011	Law 9,483 [51] – It institutes the Saber Comer é Saber Viver Campaign, which promotes healthy eating in public and private schools in the State of <i>Paraíba</i> .	Prohibits: Display of advertising posters that encourage the consumption of candy, chewing gum, stuffed cookies, processed snacks, soft drinks and other artificial drinks.
	2015	Law 10,431 [52] – Prohibits canteens and cafeterias installed in public and private schools of kindergarten, elementary and high school, from selling beverages with low nutritional content, such as soft drinks.	Prohibits: Soft drinks sale.

Chart 4 – Legal provisions on food and beverage regulation in schools in the Northeast Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

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Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Piauí</i> -PI (State)	2005	Law 5,463 [53] – Provides for the obligation of the public and private network that sells school lunches, makes fruit and natural juices available to consumers.	Mandatory availability of fruits and natural juices.
	2017	Law 7,028 [54] – Provides for the obligation to inform consumers about ingredients used in the preparation of food supplied by restaurants, school canteens, hospitals and similar.	Obligation to inform about the ingredients used in the preparation of food offered to consumers in school canteens.
<i>Rio Grande do Norte</i> -RN (State)	2006	Law 245 [55] – Provides for technical standards of nutritional quality, to be followed by canteens and similar establishments, installed in elementary and High Schools, private and public schools, and other measures.	Prohibits: Snacks, candies, chocolates, gum-based candies, chewing gum, lollipop, caramel, processed powdered soft drinks, soft drinks, any food handled at school or in an unaccredited environment for the preparation of food preparation, alcoholic beverages, foods with more than 3g of fat/100kcal of the product, with more than 160mg/100kcal of the product and foods containing official dyes, preservatives or antioxidants (observing the nutritional labeling available on the packaging).
<i>Sergipe</i> -SE (State)	2010	Law 3,814 [56] – Provides for the food offered in canteens and cafeterias located in public and private educational institutions within the municipality of <i>Aracajú</i> and other measures.	Prohibits: Savory pasta or puff pastry, fried foods in general, stuffed biscuits, snacks or processed popcorn, soft drinks and processed juices, processed or homemade sweets, candies, lollipops, chewing gum and the like, any food that is high in calories and rich in trans fat, as well as those with low nutritional content.
<i>Maceió</i> -AL (Capital)	1999	Law 4.897 [13] – Prohibits the installation of stalls and carts for the sale of foodstuffs in the vicinity of public and private schools in <i>Maceió</i> . Revoked by Law 6.622 dated 2017 [57].	Prohibits: Installation of points of sale of consumable products by students, at a distance of less than 100m from the area of Teaching Establishments.

Chart 5 – Legal provisions on the sale of food and beverages in schools in the Northern Region (State/capital), year of publication and description. *São Paulo*, 2019-2020.

Location	Year	Identification/Menu	Prohibited/allowed marketing and highlights
<i>Acre</i> -AC (State)	2016	Law 3,134 [58] – It institutes the <i>Saber Comer é Saber Viver</i> Campaign, in public and private schools in the State.	Prohibits: Display of advertising posters that encourage the consumption of foods such as candies, chewing gum, stuffed cookies, processed snacks, soft drinks and other artificial drinks.
<i>Amazonas</i> -AM (State)	2016	Law 4,352 [59] – Provides for the sale, acquisition and distribution of products that contribute to childhood obesity, in canteens and similar establishments installed in public and private schools in the State of <i>Amazonas</i> .	Prohibits: candies, lollipops, chewing gum, snacks, stuffed cookies, chocolates, caramels, soda, popcorn and processed juices, alcoholic beverages, foods with more than 3g of fat/100kcal of the product, foods with more than 160mg of sodium/100kcal of the product, foods that contain artificial colorings, preservatives or antioxidants (observing the nutritional labeling available on the packages); advertise any product on the blacklist.
<i>Rondônia</i> -RD (State)	2002	Law 1,104 [60] – Provides for criteria for concession of snacks and beverage services in public and private educational units in <i>Rondônia</i> . Revoked in November/2002.	Prohibits: Beverages with any alcohol content, candies, lollipops and chewing gum, soft drinks and artificial juices, processed snacks/popcorn, fried snacks. Additional: offer, daily, two types of seasonal fruits.
<i>Roraima</i> -RR (State)	2012	Resolution 001/12/SECD/CEAE/RR [61] – Provides for snack services in public educational units that serve Basic Education located in the State.	Prohibits: Drinks with any amount of alcohol content; candies, lollipops, chewing gum and chocolates; artificial soft drinks and juices; processed snacks/popcorn; fried snacks.

The regional distribution showed that all States/capitals in the South, Southeast and Midwest regions had legal provisions in place; however, the same was not true in the other regions, where legislation was present in 5 of the 9 States/capitals of the Northeast region (56%) and 3 out of 7 in the North region (43%).

More than half of the legal provisions in force were created in the first decade of the 2000s (n=21); however, until 2005 the laws instituted in the states and capitals of the South and Southeast regions stood out. As for coverage, 73% of the legislation referred to public and private educational institutions (n=27).

A general analysis shows that 57% (n=21) of current legal provisions prohibit the sale of a list of food, basically consisting of ultra-processed foods, such as candies, lollipops, chewing gum, chocolates, gum-based candies, caramels, artificial juices and soft drinks, cookies and stuffed biscuits, snacks and packaged popcorn and processed sausages. Some laws specify a maximum limit for nutrients such as fat, sugar and sodium in commercialized foods.

A quarter of the legal provisions highlights the offer of fresh season fruits and 16% prohibit food advertising. Only two mentioned the surroundings of the schools: Law n° 4,897, dated 1999, from *Maceió* (AL); this was the oldest date of a law issuance found in this study; the law prohibited the sale of food within a boundary of 100 meters from educational establishments [13]. However, despite the concern with the school environment in a broader way, the law was revoked in 2017; as well as the Federal District Law n° 3,695, dated 2005, which was repealed in 2007, but the new legislation dated 2013 continued to define the neighborhood of educational establishments as a school environment [14].

Regarding the Bills retrieved, two-thirds were issued by the State of *São Paulo* (n=12), dating back to 2002 (Bill n° 170) to 2016 [15]; four from the Northeast region, two in progress in *Bahia* (from 2003 and 2010) and two in *Ceará* (both from 2019); and two from the State of *Mato Grosso*, practically all with a list of prohibited foods, addressing the network of public and private schools for the fostering of healthy eating and prevention and control of obesity and other non-communicable chronic diseases.

DISCUSSION

The findings of the present study showed that in Brazil, the process of regulating food marketing in the school environment is still under construction and is heterogeneous, considering its distribution by geographic regions. Although the first law was created in 1999 in *Maceió*, most of the current legal provisions, issued in the following years, until 2005, are concentrated in the South and Southeast regions, where all States have issued a specific legislation (Charts 1, 2, 3, 4 and 5).

This result reiterates what the analysis of Brazilian experiences with food regulation in the school environment in 2006 and other surveys carried out on popular and official electronic search sites found: coverage in 100% in the Southern region States and all capitals in the South, Southeast and Center-West regions [7,8,62]. Thus, despite the advance found in the level of coverage of Brazilian States/capitals (67%), the regulation is still restricted to the most developed geographic regions, which concentrate the greatest prevalence of overweight and obesity among adolescents [62,63] and the highest consumption of sweets and soft drinks, which could partially justify the institution of legal provisions to regulate the sale of food in the school setting [64].

However, this reflection leads to the question that arises about the impact of school feeding and nutrition policies on improving nutrition and reducing obesity. A systematic literature review carried out over the past decade showed that some policies were effective in improving the food environment and food intake in schools, but there was little impact assessment on body mass index [65].

Regarding the general aspects of the legislation, there was no change during the 20 years of the issuance of the first legislation, that is, the legal provisions do not consider the changes in the way of life of students and families, highlighted in the Food Guide for the Brazilian Population, which reinforces the need to involve the academic community and scientific evidence in the development and revision of regulations [66].

The *Programa Nacional de Alimentação Escolar* (PNAE, National School Feeding Program) has the *Centros Colaboradores de Alimentação e Nutrição do Escolar* (Collaborating Centers for School Feeding and Nutrition), which are linked to universities that carry out ongoing evaluations of the program and contribute to the regulatory process following recommendations and needs [67].

Besides the nutritional aspects of the food served in public schools, the PNAE encourages family farming and the use of organic food, being defined as a Healthy Public Policy that covers several areas that determine the health of the population, aspects that could be taken into account in the legislation that regulates the commercialization of food in the school setting [68,69].

Studies that assessed compliance with legislation show controversial results, but in general, they show that the laws do not prevent the sale of unhealthy foods. Only in *Florianópolis*, prohibited items were no longer sold or suffered a strong reduction in the 105 public and private schools that were evaluated five years after the institution of State Law nº 12,061 of 2001 [70]. In *Belo Horizonte*, the sale of foods with excess sugar, fat and sodium continued in 50% of schools, in an assessment carried out three years after the institution of Law nº 18,372, dated 2009, which prohibited the sale of low-nutritional snacks and beverages in State schools [71]. In *Curitiba*, practically all 111 canteens of public and private educational establishments sold foods prohibited by Law nº 14,855, dated 2005 [72]. In *Porto Alegre*, among the foods sold in canteens, the highest frequency was snacks, processed foods, stuffed biscuits, sweets, chocolate and soft drinks [73]. Thus, although 50% of the legal provisions establish a list of prohibited foods for sale, and two thirds of the country's federative units have appropriate legislation in place, there is no evidence that such legislation is effective in regulating the marketing of unhealthy products in the school setting.

Some changes in legal provisions are noteworthy. In the State of *Mato Grosso*, for example, Law nº 8,681, dated 2007 [42] which prohibited the sale of different foods was amended in the same year and began to restrict only the sale of alcoholic beverages and cigarettes in school canteens [43]. In the capital Cuiabá, Law nº 4,382, dated 2003 followed the same line of regulation as in *Florianópolis*, with a wide list of foods and beverages which sale was prohibited in schools, but a year later it was revoked, allowing the sale of sugary drinks and packed snacks [44,45]. In the State of *Minas Gerais*, the regulatory process began in 2004 with Law nº 15,072 which prohibited the sale of products with high levels of calories, saturated fat, trans fat, free sugar and salt, or with few nutrients, but only in 2018 a Decree was issued to regulate the 2004 Law, which had expanded the list of prohibited foods, but the Decree was suspended in 2019 for study and analysis [24].

The search on official websites raises the hypothesis that food industry associations and trade federations exert successful pressure on the legislative and executive powers, yet also find resistance. The State of *Mato Grosso do Sul* had Law nº 4,320, dated 2013 [46] revoked in the same year, following a lawsuit filed by the Federation of Commerce of the State of *Mato Grosso do Sul*, which also filed a lawsuit to revoke Law nº 4,992 of *Campo Grande* [47] which, however, was dismissed and the law remains in force. The same occurred in *Florianópolis*, where the Association of Food Industries filed a lawsuit in an attempt to suspend and revoke Law nº 5,853 [22], with the justification that it hinders the free trade guarantee. In Paraná, the Brazilian Soft Drinks and Non-Alcoholic Beverage Industries Association, in addition to the

claim that the law hinders the guarantee of free trade, claimed that there was no relationship between soft drink consumption and obesity and health risks for children and adolescents, but the lawsuits were not considered grounded in the different appeals filed.

In addition to having encouraged changes and repeals in legal provisions, with success in some places that made the sale of unhealthy food items more flexible, the pressure exerted by such entities may also explain the high number of bills. This is a common problem in many countries when it comes to regulatory policies aimed at changing food habits for health promotion and obesity prevention [75]. Due to the economic contribution and influence in the generation of jobs, the industry lobby exerts a strong pressure on the government, causing legislations to match their interests [75,76].

In fact, a qualitative study carried out with members of different government departments in Australia revealed the difficult dialogue between government and industry, especially in the economic aspects; however, it revealed that the decisions taken regarding the legislation did not always favor the interests of the food industries [75].

The role of the community in supporting legislation should also be considered, as the growing concern with obesity makes the population aware and concerned and can contribute to the acceptance of the legal provisions that seek alternatives to control this problem [76-77].

The diversity in the websites of the State's legislative assemblies and the way in which legislation can be drafted and implemented in the different State and municipal secretariats made it difficult to search for existing legislation, which is a limitation of this study. Nevertheless, this study represents an advance in the information updating about existing legal provisions in the country.

In addition, the evidence found enhances the need to implement legislation at the national level, with a focus on the *Escola Promotora da Saúde* (Health Promoting School) to promote healthy eating and food and nutrition education.

CONCLUSION

The results showed that in Brazil, the process of regulating food sales in the school setting is still under construction. Despite the fact that regulating laws began to be issued in 1999, 20 years later, only three quarters of the Brazilian States had enforced legal provisions, all of them in the States/capitals of the South, Southeast and Center-West regions.

Even with such regional disparities, the scenario shows an advance with regard to the legislation aimed at improving the food conditions in schools, an essential measure for the promotion of healthy eating and for the prevention and control of obesity. However, it is essential that legal provisions be effectively implemented, monitored and evaluated.

Although the legislation is necessary to favor healthy food consumption in schools, food and nutrition education and the dissemination of healthy eating within society stand out as fundamental for the promotion of health and adequate and healthy eating.

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CONTRIBUTORS

AY KURIHAYASHI and E FUJIMORI participated in the project design and fieldwork design. AY KURIHAYASHI performed the data collection and the writing of the final manuscript. CNT PALOMBO, E FUJIMORI and LS DUARTE participated in the analysis and interpretation of data, in the writing and critical analysis of the final text.

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