

Structural responses to the obesity and non-communicable diseases epidemic: Update on the Chilean law of food labelling and advertising

Camila Corvalán¹  | Marcela Reyes¹  | María Luisa Garmendia¹  | Ricardo Uauy^{1,2} 

¹Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago, Chile

²Department of Pediatrics, School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile

Correspondence

Camila Corvalán, Institute of Nutrition and Food Technology, University of Chile, Av El Líbano 5524, Macul, Santiago, Chile.
Email: ccorvalan@inta.uchile.cl

Summary

Chile approved the law of food labelling and advertising in 2012; this law aims to address the obesity epidemic, particularly in children. The implementation details were published in 2015, and the law was implemented finally in 2016, as described in the current article. Regulated foods were defined based on a specially developed nutrient profiling, which considered natural foods as gold standard. For liquid foods, amounts of energy, sugars, saturated fats, and sodium in 100 mL of cow's milk were used as cut-offs. For solid foods, values within the 90th - 99th percentile range for energy and critical nutrients were selected as cut-off within a list of natural foods. A stop sign stating "High in <nutrient>" was chosen as warning label for packaged regulated foods. Regulated foods were also forbidden to be sold or offered for free at kiosks, cafeterias, and feeding programme at schools and nurseries. Besides, regulated foods cannot be promoted to children under 14 years. A staggered implementation of the regulation was decided, with nutrients cut-offs becoming increasingly stricter over a 3-year period. These regulatory efforts are in the right direction but will have to be sustained and complemented with other actions to achieve their ultimate impact of halting the obesity epidemic.

KEYWORDS

Chilean law of food labelling and advertising, Chilean warning label, nutrition policy, obesity and non-communicable diseases (NCDs) prevention

1 | INTRODUCTION

Chile is one of the countries with the highest prevalence of obesity worldwide (24.6% in 6-7 y school children,^{1,2} and 31.2% in adult population (>15 y).^{3,4} High body mass index and diet-related risk factors are the main cause of premature death and disability in the country.⁵ The last national dietary survey from 2010 indicates that almost a third of total energy consumption of Chileans comes from ultra-

processed foods⁶ and sales of sugar-sweetened beverages are the highest worldwide.⁷

In 2012, Chile approved the law 20 606 of food labelling and advertising that aimed to decrease the intake of unhealthy foods among Chileans. The law established two main actions: flagging unhealthy foods with a clear warning label; decreasing children's exposure to unhealthy foods through restrictions on marketing to children and a prohibition on selling and offering unhealthy foods at schools or nurseries.⁸ The specific aspects allowing the implementation of the regulation were not available in the law and several implementation decrees were discussed during the implementation process. In 2013, we described the regulation and presented the first proposed decree⁹; however, the discussion took two additional years before arriving to

List of abbreviations: FOP, front-of-package; MoH, Ministry of Health; NCD, non-communicable diseases; NP, nutrient profiling; PAE, School Feeding Programme; PAHO, Pan American Health Organization; SEREMI, Sanitary Regulatory Office of the Ministry of Health; WHO, World Health Organization

the final decree in June 2015. Thus, this article aims to report the details of how the regulation finally was implemented in June 2016. We start by describing the nutrient profiling (NP) used for defining unhealthy foods in the regulation, and we then describe the three components of the law: (a) the warning front-of-package (FOP) label, (b) school restrictions, and (c) marketing restrictions (summary of actions in Table 1); we conclude by discussing the unique features of this law and potential loopholes.

1.1 | NP for defining regulated foods under the Chilean law of food labelling and advertising

The law defined that the regulatory process would include energy, sodium, total sugars, and total saturated fats based on the existing recommendations for the prevention of obesity and diet-related diseases.^{10,11} In the case of sugars, total sugars were considered instead of added sugars because the Chilean regulation does not require declaration of added sugars by food producers; thus, it would have been impossible to monitor the regulation. The same applied to the subtypes of saturated fats in which including the assessment of the food source would have been impracticable.¹² Trans fats were not included because Chile had already regulated them allowing less than 2% of weight/volume of fatty ingredients as trans fats. Finally,

the regulation did not include noncaloric sweeteners because the strength of the evidence at that point was still considered not convincing.^{13,14}

At the time of discussion of the implementation of the law (2012–2014), there was no NP system endorsed by the World Health Organization (WHO) /Pan American Health Organization (PAHO) or other international agencies; thus, a local system had to be developed to implement the law. The rationale for the development of the NP was based on key definitions regarding the scope, food base, and thresholds.

It was first decided that the Chile NP applied only to foods in which critical nutrients have been added as part of their processing, excluding foods that have high levels of critical nutrients in their natural form (ie, nuts, avocado, grapes, and bananas). This decision was based on the notion that although natural or minimally processed foods such as fruits, vegetables, legumes, or nuts/seeds can have high levels of critical nutrients, in some cases, they also have a number of positive health effects, and it would not be desirable to discourage their consumption.¹⁵ Thus, dehydrated fruit chips with no added sugars, or peanuts with no added salt nor fats would not be regulated, even if their natural content of energy or critical nutrients exceeded the proposed cut-offs.

For the food base, it was decided to use 100 g/100 ml of food/liquids rather than food servings.¹⁶ It is known that food

TABLE 1 Implementation aspects of the Chilean law of food labelling and advertising

Law 20 606	Decree 13/15
Ministry of Health will define the foods that have high content of calories, fats, sugars, or others to be defined (article 5).	Foods that have an ingredient that increases their natural content of critical nutrients and: <ol style="list-style-type: none"> In the case of solid foods (ie, those labelled in grams), the percentage of their weight is $\geq 0.4\%$ for sodium, $\geq 10\%$ for sugars, $\geq 4\%$ for saturated fats, and their energy density is ≥ 2.75. In the case of liquid foods (ie, those labelled in milliliters), the percentage of their weight is $\geq 0.1\%$ for sodium, $\geq 5\%$ for sugars, $\geq 3\%$ for saturated fats, and their energy density is ≥ 0.7.
Those foods must be labelled "high in ..." or similar (article 5).	Prepackaged foods (packaged before being sold) that fulfill the criteria, must use a black and white stop sign for each one of the four regulated nutrients, stating "high in <nutrient>." Size and location of the warning label is defined according to the area of principal display panel as follows: Area of the main label \rightarrow warning labels' height and width $\geq 300 \text{ cm}^2 \rightarrow 3.5 \times 3.5 \text{ cm}$ $200 < 300 \text{ cm}^2 \rightarrow 3.0 \times 3.0 \text{ cm}$ $100 < 200 \text{ cm}^2 \rightarrow 2.5 \times 2.5 \text{ cm}$ $60 < 100 \text{ cm}^2 \rightarrow 2.0 \times 2.0 \text{ cm}$ $30 < 60 \text{ cm}^2 \rightarrow 1.5 \times 1.5 \text{ cm}$ (warning labels can be located on any panel of the package) $< 30 \text{ cm}^2 \rightarrow$ warning labels should be placed in the bigger container
Such foods cannot be sold, promoted, or marketed inside nurseries and schools (article 6).	Prepackaged and unpackaged foods that fulfill the criteria, cannot be sold (ie, cafeteria or kiosk) or offered (ie, school feeding programme) inside nurseries nor schools.
Such foods cannot be given for free or marketed to children under 14 years old (article 6).	Prepackaged and unpackaged foods that fulfill the criteria, cannot use advertisement targeted to children <14 years old, which is defined as: <ol style="list-style-type: none"> Regarding exposure characteristics of the advertisement: Published in programmes, websites, or other vehicles self-defined as targeted to children (ie, circus), or that have more than 20% of the audience composed from children <14 years old. Regarding power characteristics of the advertisement: Use of interactive application, games, contests, or similar items; use of gifts, toys, accessories, adhesives or similar; be offered for free to children; use of characters and child-like figures, toys, people, or animals that pique the interest of children, statement, or fantastic arguments about the product or its effects, voices, children's own expressions or language, or situations that represent the daily life of children, such as schools or playground.

producers use different portion sizes in products even of the same category; thus, using food servings as food base required the definition of standard portion sizes.¹⁷ Defining standard servings for some foods can be controversial (ie, pastries or other processed foods), and recommendations vary by age group, sex, physiological states such as pregnancy, among others. Thus, several recommended portion sizes would have had to be defined with their corresponding limits in critical nutrients, and this was considered difficult to implement and monitor.^{18,19} Moreover, it was considered that the high rates of obesity and non-communicable diseases (NCDs) in the country indicate a disconnection between recommendations and actual dietary intake and therefore, using servings as the food base would have required not only defining recommended/standard portion sizes but also educating the population to eat based on the recommended servings.²⁰

Natural foods were considered the gold standard for deciding the actual thresholds of the NP. In the case of liquids, the levels of energy, sugars, saturated fats, and sodium identified in 100 mL of cow's milk were used as cut-off values (2019, cut-off in Table 2). In the case of solid foods, values between the 90th and 95th percentile of energy and critical nutrients of a list of natural foods (99th percentile in the case of sodium, see Supporting Information) were used to identify the cut-off values (2019, cut-off in Table 2). Foods with a squeezing, grounding, or drying process were excluded from the list, in order to avoid the increase of the natural energy density or nutrient content due to that processing; data were obtained from the United States Department of Agriculture.²¹ Once cut-offs were identified, they were contrasted against other existing proposals of nutritional cut-offs to make sure they aligned with those references, such as the definition of energy-dense foods according to World Cancer Research Fund for energy,¹⁰ national agreements with local bread manufacturers for sodium, and cut-off in the United Kingdom's traffic light system for sugars and saturated fats.²²

Underlying notions that guided the process of NP development dictated that the NP needed to be as clear and simple as possible to make it easy to monitor and enforce under the Chilean legislation and that the NP needed to be in line with other health and nutrition policies in place in the country (such as the dietary guidelines or the "5 per day" campaign).

TABLE 2 Staggered cut-offs for defining regulated foods and beverages in the Chilean law of food labelling and advertising

	2016	2018	2019
Per 100 g of solids			
Energy (kcal)	350	300	275
Sodium (mg)	800	500	400
Total sugars (g)	22.5	15	10
Saturated fats (g)	6	5	4
Per 100 mL of liquids			
Energy (kcal)	100	80	70
Sodium (mg)	100	100	100
Total sugars (g)	6	5	5
Saturated fats (g)	3	3	3

1.2 | FOP labelling for prepackaged regulated foods

A stepwise study was conducted (2012) including a literature review, a qualitative phase (lay audience and expert group meetings), a graphic design phase, and a subsequent quantitative phase (two sub studies, using point-of-sale questionnaires). The target population included women and adolescents from low to middle socio-economic status neighbourhoods in Santiago, Chile. The main outcomes were visibility of the prototype, understanding, and the ability to change purchase behaviour (self-reported). Briefly, the literature review and qualitative phase provided information on the potential elements of success of warning labels and identified important characteristics to be tested further (ie, amount of information to be provided, shape, and color). A design phase considered those results and provided 15 prototypes that were tested in a quantitative phase with 600 women in charge of grocery shopping, at the entrance of supermarkets from middle-income neighbourhoods using a made-up yoghurt package. Point-of-sale questionnaires included questions on general participant demographics and several questions allowing the assessment of prototypes' visibility, ability to be understood, and ability to modify purchase behaviour, which were considered as outcomes. Two black and white prototypes providing simple information were preselected for subsequent comparison in a second and larger quantitative sub study (similar methodology applied on 700 women and 300 adolescents from middle-income neighbourhoods, and 300 women from low-income neighbourhoods). A label with the shape of a stop sign stating "Excess of <nutrient>" showed the best performance regarding visualization, understanding, and ability to change purchase behaviour. The second sub study also tested the best way to display warning labels when more than one nutrient of concern was exceeded, identifying that using independent labels for each nutrient performed better than using one larger warning label that included every nutrient that exceeded the cut-offs. (Figure 1)

Health authorities finally implemented the FOP label according to the results of the 2012 study, using a black and white stop sign for each threshold that the food product exceeds (up to four black and white stop sign labels), only changing the wording from "Excess of <nutrient>" to "High in <nutrient>." This change of wording was done because some concerns were stated during the public consultation process regarding the misinterpretation of the word "Excess" and because "High in" was used in the original specification of the law, and the general controller's department asked to keep the exact wording as in the law.^{8,23}

The decree indicated that the label was applied only to foods that were packaged before they were sold and thus, it excluded bulk foods. Natural ingredients such as table sugar, table salt, or table oil also did not include warning labels because they were not considered regulated products based on the Chile NP. Food products considered under the Codex Committee on Nutrition and Foods for Special Dietary Uses were also excluded from the regulation (ie, infant formula (<12-month-old)); processed-cereal based foods and other baby foods, unless that they have added sugars; foods for special medical purposes; foods for weight control; food supplements; and sport foods or drinks). Food products with added sugars or saturated fats were labelled if they exceeded thresholds of that single nutrient as well as



FIGURE 1 Chilean warning labels used as front-of-package labels. Stating from left to right: High in sugars, high in saturated fats, high in sodium, high in calories; all octagons display “Ministry of Health” at the bottom

for energy, whereas food products with added sodium only were evaluated for sodium thresholds (ie, if peanuts had added sodium would be evaluated for sodium thresholds but not for energy or saturated fats). Health authorities created a list of food compounds that were considered with added sugars, saturated fats, and sodium to help implementation and monitoring. There were some food products in which the application of these criteria was particularly difficult because they were ingredient mixtures and therefore, based on the Chilean legislation, it was impossible to define which ingredient was the base and which one was the addition. In these cases, it was decided that both ingredients were added and therefore, subject to warning labels if exceeding the thresholds. For example, thresholds for energy, saturated fats, and sodium would be checked in the case of salted butter, in which the Chilean regulation does not specify if the salt was added to the cream or vice versa; conversely, unsalted butter would be considered a natural ingredient and therefore unregulated. Warning labels were applied to both nationally produced goods as well as for imported products.

Size and location of the warning labels were also specified in the decree; a key aspect was that size and location were defined based on the area of the package label and not based on the area of the principal display panel of the package (ie, in a soda, this would imply that the size and location of the warning label was based on a smaller area because the area of the label is smaller than the principal display panel of the bottle). The height and width of the warning labels were also specified, as described in Table 1. The warning label can be placed on any panel of the package if the surface is between 30 and 60 cm², and in the case of food items having the principal display panel smaller than 30 cm² (ie, chewing gum and small candies), the warning label can be put on the main container package instead of the food package.

Design-related aspects such as specifications for fonts and distances between labels are also included in the decree.²⁴ Stickers with warning labels are allowed for use among imported and locally produced foods to facilitate the implementation. Small and very small companies were given three extra years for implementation because it was decided that these companies require more time to adapt to the new regulation.

Health authorities held several technical meetings and offered support throughout the process to help food industries with implementation, especially for medium-small companies; in cases of dispute, the Ministry of Health (MoH) formed an advisory committee. Monitoring of implementation was given to the sanitary regulatory office of the MoH (SEREMI), and sanctions were defined for the venue in which food products were offered (ie, retailers) rather to food companies themselves; the latter was critical for ensuring timely implementation of the regulation.

1.3 | School-related regulations

To protect children, the regulation included restrictions to ensure healthier school environments as well as restrictions in marketing to children for all regulated foods, including unpackaged foods such as hot dogs and pizza slices that exceed the limits.

The restrictions for ensuring healthier school environments included the prohibition to sell or give regulated foods (both prepackaged and bulk) for free at cafeterias, kiosks, vending machines, or any other retail sale inside schools or nursery schools, whether public or private. Kiosks were allowed to sell any food products, either bulk or prepackaged, that did not exceed the thresholds such unflavored milk, fruits and boiled eggs.

The law included the School Feeding Programme (PAE) that provides free breakfast, snacks, and lunch to more than 50% school-age children (belonging to the most disadvantaged families) from public and private subsidized schools.²⁵ This means that PAE cannot include in its menu those foods that exceed the critical nutrient limits such as sugary-sweetened milk, processed chicken nuggets, dressings, or mixed-dishes with the addition of critical nutrients that exceed the stated thresholds. Therefore, all PAE menus were reviewed in detail to eliminate the use of regulated food products and adapt the mixed dishes recipes to ensure that they were below the recommended thresholds. PAE is provided by private providers that are selected through a 3-year public consultation and therefore, a 2-year delay was given for the full implementation. The regulation did not apply to foods bought away from school that are brought to the school, such as snacks that children bring to the school from home; it also did not include the surroundings of the schools or nursery schools.

Health authorities created a guide for adapting school kiosks and held technical meetings to help providers to adapt to the new guidelines²⁶; PAE also formed an expert committee to review their menus and revise them to fulfill the new requirements. Monitoring of implementation was given to the SEREMI, and sanctions were defined for the venue in which food products were offered rather than to the food companies themselves (ie, to the kiosk's owner where regulated foods were sold and to the cafeteria's provider); it was understood that a longer period of implementation was needed for the school regulations given their complexity, and the fact that some contracts were in place before the beginning of the implementation of the law.

1.4 | Marketing regulations for children under 14 years old

The set of marketing restrictions implemented were very comprehensive, addressing both the exposure and power of marketing strategies

and including all types of vehicles such as television (TV; ads and placement), cinema, internet, radio, books or copybooks, magazines, billboards, flyers, shop window, food packages, and point-of-sale boards; however, advertisements at sport or cultural events remained unregulated.

Bulk and prepackaged regulated foods could not be advertised to children under 14 years old; this age was defined to be aligned with other existing regulations in the country such as the age that the penal law established for penal responsibility or the age for deciding organ donations, among others. In order to define which advertisements are targeted to children under 14 years old, two approaches were used: based on exposure and based on power. Exposure-based definition said that an advertisement would be considered targeted to children under 14 years old if (a) it uses vehicles that are self-identified as targeted to children (ie, advertisement shown on a children's TV channel or as part of a cartoon movie and flyer given in a circus theater); or if (b) it uses vehicles that have more than 20% of their audience composed of children under 14 years old (ie, TV shared data). The power-based definition stated that an advertisement would be considered to be targeted to children under 14 years old if (a) it uses interactive applications, games, contests, or other similar items directed to children; (b) uses gifts such as toys, accessories, adhesives, or other similar consumer incentives; (c) is offered for free to children; (d) uses characters and child-like figures, animations, cartoons, children's music, toys, people, or animals that pique the interest of children under 14 years of age, statements or fantastic arguments about the product or its effects, voices, children's own expressions or language, or situations that represent the daily life of children (ie, school, the recess, or playground). Based on those definitions, packages of regulated food products no longer could display characters or other child-directed strategies for marketing purposes (Figure 2 illustrates this with a made-up yoghurt package). In Chile, child-directed strategies concentrate in less healthy food/beverages.²⁷ The regulation included companies' brand characters such as Tony the Tiger or Ronald MacDonald because they could be used as child-directed marketing strategies. Conversely, family brands not related to specific regulated products would be allowed (ie, regulated product "A" from the brand "XY" could not be advertised, but brand "XY" could be advertised if not directly referring to product "A"). Regulated food products could also not use other children-targeted strategies such as offering gifts

or toys or inviting participation in contests. This was particularly relevant in the case of fast-food meals targeted to children, such as "the Happy Meal", that usually offers gifts or toys for free, or for regulated food products that are themselves a gift, such as the "Kinder Surprise Eggs". The law did not regulate food product shapes unless they were visible from outside of the package (either because there was no package or because the package had the same form of the food product); thus, a chocolate with Santa or Eastern bunny shape could continue to use its form inside a package that does not allow them to be seen from the outside. Health claims from the same regulated nutrient were forbidden, but other types of health claims were allowed; thus, a dairy product with a warning label for high in total sugars could not claim that it is reduced in sugars but could say that it is fortified by vitamin D. Marketing restrictions applied yearlong and daylong, including national holidays.

Monitoring the implementation of marketing restrictions was also given to the SEREMI; however, there was also a call for the civil society to report cases of noncompliance because it was acknowledged that it would be impossible to monitor marketing strategies thoroughly across different vehicles particularly on the internet. Thus, special attention was given to food groups considered a priority because they were highly consumed by children.

1.5 | New total ban marketing regulation

In May 2018, a new regulation launched that extended marketing restrictions of regulated foods in cinema and TV to a 6 AM to 10 PM time frame, expanding the scope of the original law.²⁸ Additionally, starting in June 2018, any marketing done for "High in" foods or beverages must also show the following statement: "Choose foods with less warning labels" and then "Ministry of Health," which needs to be placed next to the MoH logo. This applies to marketing done in billboard, TV, cinema, and other vehicles but food packages.²⁹

2 | DISCUSSION

The Chilean law of food labelling and advertising is one of the most comprehensive regulatory efforts to date to halt the obesity epidemic. The law considers actions for increasing people's awareness

FIGURE 2 Made-up yoghurt package illustrating changes in packages after the implementation of the marketing restrictions in the Chilean law of food labelling and advertising. The left picture shows a made-up yoghurt package before the regulation was implemented. The right picture shows a made-up yoghurt package after the implementation, with the warning label and without children-targeted strategies. Approval for using real products was not obtained, but images with the current packages can be found on companies' websites



of unhealthy foods through the use of warning FOP labels, restrictions on unhealthy food provisions at schools to ensure healthier school environments, and restrictions on the marketing of unhealthy foods to children.

The process of discussion of the law took about 10 years, and the process of implementation took another 4 years. In the meantime, obesity rates increased from 21.8% to 24.6% in 6- to 7-year-old school children,^{1,2} and from 25.1% to 31.2% in the adult population (>15 years old),^{3,4} especially among lower socio-economic status groups.^{3,4} Several advancements have taken place since the implementation of the Chilean law, suggesting that similar actions could now be taken by other countries in shorter periods. First, PAHO launched an NP system in 2015, which is based on WHO dietary goals. This NP allows the definition of unhealthy foods based on an expert-defined system, and thus, it speeds up any regulatory efforts in the region.³⁰ Unpublished analyses from our group show that the use of PAHO NP versus Chile NP results in approximately 20% more regulated products, particularly among beverages. Another important difference between the PAHO and Chilean models is that PAHO included noncaloric sweeteners, whereas in Chile it was defined that there was not enough evidence, and certainly less than for the other critical nutrients to regulate them, at least for now. Second, countries such as Peru, Uruguay, and Israel have approved the implementation of warning FOP labels whereas several others such as Canada, Brazil, India, and Philippines have begun the discussion of their implementation.³¹⁻³⁵ Experimental evidence from Uruguay, Brazil, United States of America, and New Zealand showing warning labels performing better than different labelling alternatives (including Guidelines Daily Amount (GDA), or traffic lights) also support the use of simple and directive options, considering cultural particularities when defining the final design (shape and color).³⁶⁻⁴⁰ Several international agencies also now are discussing principles and guidelines for FOP label development (ie, WHO and Codex.). In the case of marketing, there is convincing evidence of the need of marketing regulations⁴¹⁻⁴⁶; several countries have already taken action (Chile, Norway, Brazil, Mexico, Canada, United Kingdom, United States, Finland, Thailand, Ireland and Uruguay⁴⁷); however, some of these actions would have to be strengthened and extend to other vehicles and when considering the power of marketing strategies to achieve expected outcomes. Finally, legal and trade evidence has started to emerge that allows considering potential trade issues and other disputes when designing regulatory efforts.⁴⁸

The food industry and the private sector were not part of the technical committees that were involved in the decision-making process (ie, development of the NP system, study and deciding on the FOP label to be used as warning label, or specifying the marketing restrictions). Nevertheless, industry actively participated during the process of public consultation for the decree. They also played a very active role when discussing implementation issues of the law such as timing and feasibility. Some aspects of the implementation were made more flexible as a result of these discussions. For example, a 1-year time period was provided before the implementation of the regulation to allow the industry to respond (either reformulating their products or getting ready to start with the warning labels or removing child-targeted marketing strategies). It was also agreed that the cut-offs

for identifying regulated foods would become increasingly stricter during a 4-year time period; thus, the law will be finally fully implemented in 2019. Moreover, small and very small food industries were given a 3-year delay for the process, and thus these companies implemented warning labels based on the first-phase thresholds only in June 2019.

Despite the innovative and comprehensive approach of the Chilean law, there are some potential loopholes important to be noted; some of these aspects were in fact components of the original law, but they were eliminated during parliamentary discussion or adapted in the implementation process. First, the law was very general in its definition and therefore, the decree of implementation had to define a number of aspects that could importantly affect the ultimate impact of the law; moreover, specifications of the decree could potentially be changed in the future. In the case of the NP, a staggered implementation was agreed with intermediate thresholds defined based partially on the United Kingdom traffic light, but not based on an attributable risk assessment or a clear prioritization strategy. The fact that some unhealthy food products would therefore become regulated only in later stages of the implementation (in some cases also because small companies had a longer implementation period) could create confusion among consumers. The law allowed the coexistence of FOP labels with health claim messages, if they were related to other nutritional properties of the product; the coexistence of conflicting messages on the same product can cause a halo effect and predispose consumers in a different way as that originally intended with the warning label.⁴⁹ In the case of the school regulations, neither what is brought to the school from home nor what is sold in the surroundings of the school could be regulated; stricter monitoring also would have to look at the possibility of "black market" sales from students and teachers themselves. Moreover, checking the nutrient composition of mixed dishes can be tedious and time-consuming and therefore, difficult to enforce. Finally, the PAE provides other benefits to beneficiaries such as cash transfers, which were not considered in the law and that allows children to consume regulated food products. Regarding the marketing regulations, the original law aimed to regulate marketing target to children⁵⁰ under 18 years old, instead of 14 years old, what would have avoided some of the ambiguity of defining whether a marketing strategy or use of a character, people, or language is targeted to less than 14 years old. Moreover, in the case of TV, using audience thresholds or self-definition of programmes as children-directed for regulating marketing exposure may exclude programmes that are watched tremendously by children, such as soap operas or sports competitions; thus, the new 2018 marketing law should contribute to effectively decreasing marketing exposure for children.²⁸ Finally, another difficult aspect was how to monitor the implementation of the law in social networks and the internet, given the speed of change of digital marketing campaigns, and how they can be tailored specifically to each of the users.

Funding was very limited for additional components of the law, such as dissemination campaigns and process and outcome evaluations. In the case of the communication campaigns, promotion was especially targeted to children and schools, given that the law had the original intent of ensuring healthier diets for children. In the case of evaluations, only a process evaluation was considered 6 months after the implementation of the law and therefore, it only would be

able to provide information on self-reported compliance and people's self-reported perceptions.⁵¹⁻⁵³ More detailed evaluations considering consumer understanding of the warning label, changes in food purchases and dietary intake, and the industry responses through food reformulation currently are being conducted by national and international scholars.⁵⁴⁻⁵⁸ Given the multifactorial and complex nature of the obesity epidemic, it is expected that obesity trends will not immediately level off; therefore, it becomes crucial to measure intermediate outcomes such as consumer's behaviours to make sure that regulatory actions are achieving their intended impact. Moreover, it is important that these efforts are sustained over time and are accompanied by other complementary actions, such as improvements in school environments,⁵⁹ including the prohibition of unhealthy food sales around schools and mandatory physical activity,^{60,61} taxes on unhealthy foods, and subsidies for fruits and vegetables,^{62,63} among others.

3 | CONCLUSIONS

Obesity and related NCDs are complex and dynamic problems with multifactorial origins. Ensuring healthier food environments for the population is one of the recommended actions to halt the ongoing epidemic. Chile recently has implemented one of the most comprehensive regulatory efforts with actions for increasing people's awareness of unhealthy foods through the use of warning FOP labels, restrictions on unhealthy food provision at schools to ensure healthier school environments, and restrictions on the marketing of unhealthy foods to children. Efforts will have to be sustained in the next years and strengthened with complementary actions to ensure healthier behaviours among the population in order to observe the intended impact on health and the economy.

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CONFLICT OF INTEREST

We have no conflict of interest to disclose.

ORCID

Camila Corvalán  <https://orcid.org/0000-0003-3766-7709>

Marcela Reyes  <https://orcid.org/0000-0002-4601-7663>

María Luisa Garmendia  <https://orcid.org/0000-0002-0589-6091>

Ricardo Uauy  <https://orcid.org/0000-0002-3058-4268>

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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