

Effect of stakeholders' perspectives on the Front-of-Pack Labeling regulation in Mexico

Regina Durán

Instituto Nacional de Salud Publica Centro de Investigacion en Nutricion y Salud

Edalith Asmitia

Instituto Nacional de Salud Publica Centro de Investigacion en Nutricion y Salud

Juan Rivera

Instituto Nacional de Salud Publica Centro de Investigacion en Salud Poblacional

Simón Barquera

Instituto Nacional de Salud Publica Centro de Investigacion en Nutricion y Salud

Lizbeth Tolentino-Mayo (✉ mltolentino@insp.mx)

Instituto Nacional de Salud Publica Centro de Investigacion en Nutricion y Salud

<https://orcid.org/0000-0003-2400-8675>

Research Article

Keywords: Front-of-Pack labels, nutrition label, Mexico, policy, food warning labels

Posted Date: May 4th, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1527580/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background

In Mexico, the inclusion of a Front-of-Pack Label in the Official Mexican Standard-051 (NOM-051 for its Spanish acronym) has been widely discussed for years by different stakeholder groups. In 2019, the NOM-051 modification project was proposed, which included front-of-pack warning labels. To be modified, it went through a public consultation period where stakeholders sent their comments to be reviewed and considered. The purpose of this study was to analyze the perspectives of key stakeholders during the public consultation of the NOM-051 modification project in order to understand their positions and their effect on the final public policy.

Methods

To analyze perspectives, the 795 comments received on the website of the National Commission for Regulatory Improvement were analyzed. Identity, expectations, and demands were identified from each comment using content analysis in NVivo. In addition, frequencies and percentages were obtained. To identify the public consultation's effect on the modification project, we compared the most significant changes made to the NOM-051 modification project with the outstanding demands of the stakeholders.

Results

56% of the comments were against the NOM-051 modification project. Industry and Business Interest Non-Governmental Organizations were against it, they considered that their revenues and profits would be affected. Public Interest Non-Governmental Organizations, academy and health professionals were in favor, they expected that eating habits would improve and demanded the front-of-pack warning label suggested in the modification proposal be maintained. The published regulation (NOM-051) demonstrates that the stakeholders' main demands were considered in the policy development and their involvement was fundamental for the process.

Conclusions

The comments against the NOM-051 modification project were consistent with the literature, indicating that food industry stakeholders use all possible strategies to interfere in public health policies. The main issues used by the food industry to discredit the NOM-051 modification project coincide with those used in other countries to stop public health policies and with those used by the tobacco industry to avoid market regulations. On the other hand, those in favor looked after the interests of the Mexican population.

Introduction

High consumption of ultra-processed products (UPPs) is associated with an increased risk of obesity and non-communicable diseases (NCDs) [1–3]. UPPs are industrial formulations containing five or more ingredients [4], which are nutritionally unbalanced and have a high content of free sugars, total fat, trans fat and sodium [5] or critical nutrients [6]. During 2016, in Mexico, UPP consumption represented 26.2% of the dietary energy contribution of the adult population and 38.6% of the preschoolers' diet [7]. In addition, obesity and NCDs have become a public health problem that has dramatically increased over the past few years [8]. In 2021, 74.1% of the adult population in Mexico lived with overweight or obesity, 30.2% with hypertension, and 10.6% with diabetes [8].

Front-of-Pack Labeling (FOPL) is recognized as a cost-effective policy to prevent and control obesity and NCDs associated with high UPP consumption [9]. When accepted and understood by the population, FOPL allows them to make healthier and informed decisions at the time of purchase [10, 11]. In Mexico, the food industry voluntarily implemented the Guideline Daily Amounts (GDA) in 2010 [12]. Subsequently, in 2014, the Mexican government included it in the Official Mexican Standard 051 (NOM-051 for its Spanish acronym) for mandatory implementation [13]. However, this decision did not consider the scientific evidence demonstrating its disadvantages [12, 14–16] and the demands and recommendations of academia and civil society [17, 18]. In 2018, an opportunity arose to implement a simple and clear FOPL system of warning labels, based on scientific evidence and generated by researchers who were free of conflict of interest [19, 20].

Front-of-pack warning labels, which are black octagon-shaped labels with text that appear on the front of prepackaged foods and non-alcoholic beverages, inform consumers when a product contains excessive amounts of critical nutrients [21]. For its inclusion in the NOM-051, a modification project was prepared, which had to go through a public consultation process held by the National Commission for Regulatory Improvement (CONAMER Spanish acronym), so that interested parties (who we will call key stakeholders) could make comments (which could be considered or not) [22]. The main changes proposed in the project are shown in Table 1. In January 2020, the regulation was approved with minimal modifications [23].

The change from GDA labeling to front-of-pack warning labels was characterized by a wide participation of different sectors, among them, academia [24], public interest Non-Governmental Organizations (PINGO's), and policymakers. Warning labels were supported through research evidence, activism via social networks [19], and social marketing campaigns [25]. On the other hand, actors from the food industry tried to block it [26, 27] using strategies that have been widely documented [28–30] and used in other countries to interfere in the implementation of public health policies [31–37].

Stakeholder participation in policy development and implementation is important [38, 39]. There is a growing recognition of the need to incorporate their narratives as a component of the broad evidence base required to inform complex policymaking processes. These actors have a critical view of the problem and can build consensus and commitment among many stakeholders [39, 40]. As a result, different countries have analyzed the response of different stakeholders to public health policies [33, 34, 41, 42] and to public consultations [31, 32, 43]. The purpose of this paper is to analyze the perspectives of

key stakeholders during the public consultation of the NOM-051 modification project in order to understand their positions and their effect on the final public policy.

Materials And Methods

We analyzed 795 comments issued during the CONAMER public consultation held from 07 October 2019 to 10 December 10, which were downloaded from the website:

<http://187.191.71.192/portales/resumen/48142>. Repeated comments (n = 69, 8.7%), those that do not apply (one-sentence, incomplete or truncated responses) (n = 38, 4.8%), those that contained only technical or legal aspects (n = 10, 1.3%), and those that did not refer to the NOM-051 modification project (n = 41, 5.2%) were eliminated. A total of 637 comments were taken into account and imported into NVivo 12.

Analysis of comments. A mixed method analysis with a concurrent transformative design was carried out, based on grounded theory and using content analysis as a technique. The stance of the key stakeholders were analyzed according to what Clark defines as perspective, composed of *identity*, *expectations* and *demands* [39]. *Identity* is composed of *judgment* and *justification*; for *judgment*, we identified whether the stakeholder was in favor or against the modification project and for *justification*, one or several reasons were identified to justify the judgment. *Expectations* are what the actor assumed or proposed would happen if the modification project were to go into effect. *Demands* are the actions that were demanded by the key stakeholders.

The characterization of the stakeholders was based on their self-identification; those who did not self-identify were classified as individuals, not professionals. In addition, gender and place of origin were identified. Descriptive statistical analysis was performed. We created a category tree from the analysis conducted by Monterrosa [43] and as the coding process progressed, emerging categories were developed. Next, the team members coded 30 comments, which were randomly selected, and met with another member to verify their harmonization. The team members met periodically to discuss new codes and to review them to ensure harmonization and merged similar codes together. Two categories were created for *judgment*, 27 for *justification*, 21 for *expectations*, and 28 for *demands*.

To analyze stakeholder perspectives, four cross references were created in NVivo, where the codes of interest and types of stakeholders were used (if the aim was to identify *expectations*, the codes corresponding to *expectations* were selected). To obtain results, the coding references were taken into account and percentages were obtained. The cross references were type of actor with: 1) *judgment* (n: 637), 2) *justification* (n: 1088), 3) *expectations* (n: 467), 4) *demands* (n: 865) and each of them was exported as an Excel matrix.

For some stakeholders, it was only possible to code two of the three perspective categories and others had more than one *justification*, *expectation* and/or *demand*, which is reflected in the difference in totals for each category. Codes representing < 2% of the coding references were gathered into a new code with

the name 'Other not defined' for each category. To construct the narrative of the stakeholder groups, quotes were extracted from the main codes.

In order to identify the public consultation's effect on the NOM-051 modification project, every word of it was compared with the final document that was published in the Official Journal of the Federation (DOF, for its Spanish acronym) [44]. The most significant changes were presented and compared with the outstanding *demands*.

Results

Changes made to the NOM-051 modification project

The changes made to the NOM-051 modification project are shown in Table 1. The *demand* with the highest participation was to maintain the proposed warning labels. In addition, most demands included endorsements, advertising, and nutrition content claims. All of them were maintained with minimal modifications in the final version.

Characterization of the type of key stakeholders that participated in CONAMER's public consultation

Table 2 describes the characteristics of the stakeholders. Business interest Non-Governmental Organizations (BINGO's) had a higher participation than those working for the public interest: PINGO's.

Table 2. Description of the stakeholders that participated in the public consultation of the NOM¹-051 modification project

Actor types	Actors	Description
Academia (n = 98)	Institutions (n = 12)	Academic institutions
	Researchers (n = 14)	Self-identified as researchers
	Professors (n = 15)	Self-identified as university professors
	Students (n = 57)	University students
Health professionals (n = 23)		Doctors, nutritionists, psychologists and self-identified as health professionals
NGOs ² (n = 69)	PINGO's ³ (n = 33)	Public Interest Non-Governmental Organizations
	BINGO's ⁴ (n = 36)	Business Interest Non-Governmental Organizations
Industry (n = 113)	Food industry (n = 81)	Producers, buying and selling companies, marketers of juices, carbonated beverages, snacks, candies, chocolates, fruits, vegetables, natural and artificial sweeteners
	Balers (n = 12)	Producers of bags, packaging, plastic and cardboard containers
	Advertising agencies (n = 8)	Creating and advertising agencies
	Retailers (n = 6)	Self-identified as retailers
	Others (n = 6)	Law firms and carriers
Government (n = 9)	Organisms (n = 7)	Governmental entities and agencies
	Government officials (n = 2)	Federal Deputies
Individuals (n = 348)	No professionals (n = 294)	Men and women
	Other professionals (n = 31)	Economists, lawyers and engineers

¹ NOM: Official Mexican Standard

² NGO's: Non-Governmental Organization

³ PINGO: Public Interest Non-Governmental Organizations

⁴ BINGO: Business Interest Non-Governmental Organizations

42% of the comments were issued by women; individuals, industry and academia had the highest participation. Overall, people from 15 countries participated (Table 3).

Table 3. Sociodemographic characteristics of the participants of the public consultation of the NOM-051¹ modification project

	Frequency	Percentage
Sex	No.	%
Female	266	41.8
Male	236	37.0
Not specified	135	21.2
Tipo of stakeholder		
Academia	98	15.4
Health professionals	23	3.6
NGO's ²		
PINGO's ³	33	5.2
BINGO's ⁴	36	5.6
Industry	113	17.7
Government	9	1.4
Individuals	325	51
Place of origin		
Austria	1	0.2
Brazil	3	0.5
Canada	1	0.2
Chile	6	0.9
Colombia	3	0.5
Costa Rica	1	0.2
Ecuador	1	0.2
United States	17	2.7
France	1	0.2
London	2	0.3
Mexico	345	54.2
Nepal	1	0.2
Peru	2	0.3

Uruguay	1	0.2
Vietnam	1	0.2
Not specified	251	39.4
Total	637	100

¹ NOM: Official Mexican Standard

² NGO's: Non-Governmental Organization

³ PINGO: Public Interest Non-Governmental Organizations

⁴ BINGO: Business Interest Non-Governmental Organizations

Perspective of the key stakeholders who participated in CONAMER's public consultation of the NOM-051 modification project

56% of the key stakeholders were against the NOM-051 modification project; the BINGO's and the industry expressed it to a greater extent, arguing that it violated intellectual and industrial property and consumer protection. They considered that their revenues and profits would be affected and demanded a review of the NOM-051 modification project. Academia, PINGO's and health professionals were in favor, stating that the front-of-pack warning labels provided clear and simple information to consumers and improved food choices. They expected that eating habits would improve and demanded the front-of-pack warning label suggested in the modification project be maintained (Table 4 and 5).

Perspectives from academia, health professionals and PINGO's

The main *justifications* given by academia, health professionals and PINGO's were that the NOM-051 modification project improved food choices, and provided more information to consumers, that it was in accordance with human rights (information, food, childhood, and health), and that it was supported by scientific evidence. Some examples of the arguments are presented below:

'...it is a fundamental measure to inform consumers, stop the consumption of these unhealthy food products and address these problems.' (Teacher, Judgment: In favor, Justification: Provides more information and improves food choices)

'[it]... not only seeks to guarantee consumers' right to health, but also the right to food, to information, and a proper application of the principle of best interests for children.' (PINGO, Judgment: In favor, Justification: In accordance with human rights)

Their main *expectations* were that eating habits would improve and obesity and NCD rates would decrease.

'...it would change consumption patterns among Mexicans, discourage the consumption of UPPs and would promote the consumption of less processed or natural foods, which are part of the traditional diet.' (PINGO, Judgment: In favor, Justification: Eating habits would improve)

'Clearly, we would reduce the rates of diseases that affect our Mexico.' (Student, Judgment: In favor, Justification: Obesity and NCDs would decrease)

Their *demands* were to maintain the modifications that were made, including the warning labels, the prohibition of use of advertising on products with a warning label and the use of nutritional facts label that appears on the back of the product.

'I strongly support the use of an octagonal "warning seal" as the format chosen for front-of-food labeling in Mexico.' (Teacher, Judgment: In favor, Demand: Maintain warning labels)

'I consider that the proposal to group sugars, which is stipulated in section 4.2.2.1.8, seems to be the most appropriate, precisely to facilitate reading.'

(Health professional, Judgment: In favor, Demand: Maintain nutritional facts label)

BINGO's and Industry Perspectives

The BINGO's and industry's main *justifications* were that the NOM-051 modification project violated legal principles (of intellectual and industrial property and consumer protection), that it had no scientific support, and that it violated human rights (legal certainty and freedom of expression).

'The system of nutritional front of pack labeling, as it is proposed, lacks scientific rationale of national or international reference.' (Food Industry, Judgment: Against, Justification: It has no scientific support)

'The profiles on which the nutritional front of pack labeling system is based on violates legal principles, such as legal certainty and equality, in addition to being technically incorrect.' (BINGO, Judgment: Against, Justification: Violates human rights)

Their main *expectations* were that their revenues and profits would decrease, product reformulation would decrease, and eating habits would worsen.

'This would ultimately lead to a decrease in investment, both domestic and foreign, as well as a collapse in the exchange of goods and services.' (BINGO, Judgment: Against, Expectation: Less revenues and profits)

'The warning label for natural and artificial sweeteners that is proposed in the project would create a significant disincentive to reformulate sugar products.' (BINGO, Judgment: Against, Expectation: Product reformulations would decrease)

Their main *demands* were related to the revision of the NOM-051 modification project, the elimination or modification of the cut points established for nutritional criteria and the elimination of the sections pertaining to nutrition content claims, endorsements, and warning captions for caffeine and artificial sweeteners. Some of the arguments were:

'Before falling into a legal dispute because of this series of contradictions and excesses, we recommend reviewing the NOM 051 modification project and making the necessary adjustments.' (BINGO, Judgment: Against, Demand: Revision of the NOM-051 modification project)

'It is of vital importance to consider the nutritional profiles endorsed by the Codex Alimentarius since it is the body in charge of labeling and not PAHO.' (Food Industry, Judgment: Against, Demand: Elimination of the cut-off points for nutritional criteria)

Government Sector Perspectives

The main *justifications* of the Government Sector for implementing the front-of-pack warning labels were the high prevalence of obesity and NCDs, human rights (to information, food, health and childhood), and support from scientific evidence. Some examples of the arguments used were:

'According to the Convention on the Rights of the Child (1989), children have the right to enjoy the highest attainable standard of health, and this requires a well-balanced diet, being able to enjoy a protective environment and for their mothers, fathers and other caregivers to provide them with healthy nutrition to ensure their healthy development; therefore, we consider that front of pack warning labeling on food and beverages is urgent.' (Government Sector Organizations, Judgment: In favor, Justification: In accordance with human rights)

'Everything points towards, as the academic literature indicates (Monterrosa, E, et al. 2013) this being the way forward to respond to the public health emergency that we are experiencing nationally and globally.' (Government Sector Agencies, Judgment: In favor, Justification: With scientific evidence support)

On the other hand, the main *expectations* of the Government Sector were largely against the NOM-051 modification project. Among them, they stated that jobs, income and profits would decrease and that the population's eating habits would worsen.

'A measure such as the one proposed would represent a severe drop in the sales of meat, fruit and vegetable products, bakery products, dairy products, edible oils and other products made with inputs produced in Nuevo Leon, which would result in lower demand, lower income and even the loss of decent jobs for families in our region.' (Government Sector, Judgment: Against, Expectation: Less employment)

'The implementation of the modification project may cause doubts and/or confusion in the target population regarding the quality of food that the State is offering.' (Government Sector, Judgment: Against, Expectation: Eating habits would worsen)

Among their main *demands*, they stated that the warning labels should be eliminated and that some terms, definitions and numbering should be adjusted.

'It is suggested to eliminate the paragraph (referring to numeral 4.5.3.4.3). Warning labels [for small packages] that indicate a single number of seals that a product would bear are not informative; they give

an alert, but the consumer has no decision elements beyond a numerical value. It does not indicate which are the ingredients that exceed the recommended dose or in what quantity.' (Government agencies, Judgment: Against, Demand: Elimination or modification of warning labels)

Individuals' perspectives

Within their main *justifications*, a portion of individuals mentioned that the NOM-051 modification project would complicate food choices and that its use is not scientifically supported.

'We believe that the implementation of Mexico's Black Label Regulation is unnecessary because there is no conclusive scientific evidence to establish that the consumption of non-caloric sweeteners can affect health.' (Anonymous, Judgment: Against, Justification: Without scientific evidence support)

Contrarily, within the main *justifications*, we also found comments in favor, where they mention that it improves food choices by providing more information.

'I fully support the proposal to change and improve the labeling to really know the nutritional contribution of the products.' (Professional, Judgment: In favor, Justification: Provides more information and improves food choices)

Their main *expectations* were against it, mentioning that it would worsen eating habits and decrease revenues and profits.

'Responsible consumption is discouraged rather than facilitated.' (Judgment: Against, Expectation: Eating habits would worsen)

'There would be great economic losses for a large part of the country's productive sector.' (Judgment: Against, Justification: Less revenue and profits)

The individuals in favor *demand*ed that the proposed section regarding warning labels and advertising be maintained.

'Health authorities have the duty to protect vulnerable populations such as pregnant women, adolescents and children. For the aforementioned reasons a warning of the sweetener content in food is very pertinent.' (Non-professional individual, Judgment: In favor, Demand: Maintain warning labels)

To the contrary, individuals who were against *demand*ed the removal of the proposed warning labels.

'I would propose to continue with the front sugar content batteries [GDA] and not include octagons, which leads to a misunderstanding of what the product actually contains.' (Non-professional individual, Judgment: Against, Demand: Elimination or modification of warning labels)

In general, the perspectives of academia, health professionals and PINGO's showed interest in protecting the population, considering the high prevalence of overweight, obesity and NCDs. Also, they were

convinced that the modification of the FOPL would facilitate food choices and provide simple information, using expressions such as 'it is clear', 'it is more understandable', 'it is practical and simple'. The perspectives of the industry and the BINGO's were related to human rights, mentioning that it violated the right to information, food and health, but mainly, according to their arguments, that it violated the right to legal certainty and freedom of expression. Another issue they highlighted was that the proposal violated international treaties and legal principles, putting the interests of their brands above population interests. In addition, they were convinced that it provided unclear, misleading, confusing, inaccurate information, and that it was not informative.

The Government Sector and individuals did not adopt a strong position in favor or against. Those who were against were four governmental organizations that have among their objectives, mission or vision to protect some type of economic or market interest. Those in favor were public officials and organizations that look out for human rights, and social welfare. On the other hand, the group of individuals had the highest participation; among their main arguments, 67% of them coincided with the arguments used by the industry.

We observed that academia, health professionals, and PINGO's demanded that the NOM-051 modification project be maintained. On the contrary, BINGO's and the industry demanded that it not be implemented and, if it were to be implemented, to do it gradually in order to have the opportunity to reformulate their products. It is noteworthy that all stakeholder groups demanded social campaigns and nutritional education.

In general, the categories that obtained the highest number of comments in *justification* were directed against the modification and were that: 1) it violated industrial and intellectual property and 2) it provided less information and complicated food choices; with 12.9% and 11.5% respectively, considering the total number of comments issued in justification. The *expectations* that had the highest number of comments were directed against the modification and were that, if it went into effect, then: 1) revenues and profits would decrease; 2) eating habits would worsen and; 3) employment would decrease; with 19.8%, 16.2% and 13% respectively, considering the total comments issued as expectation. Within the *demands*, we found that two of the main categories were issued in favor of the modification: 1) to maintain the warning labels and; 2) to maintain the advertising section; and one of them was issued against: 3) revision of the NOM-051 modification project; with 11%, 8.6% and 10.1% respectively, considering the total comments issued as demands.

Discussion

In our analysis, we found that the perspective of the industry and BINGO's was against the NOM-051 modification project and that they looked out for their economic interests, using arguments such as: 'a severe drop in sales is estimated', 'it will affect our sector', 'it is inadequate and confusing for the population'. Meanwhile, the perspective of academia, health professionals, and PINGO's was in favor, based on scientific evidence, using arguments such as: '92.9% of the population understands the

information communicated by the labels', 'fundamental measure to inform consumers' and 'it will be an important factor in the fight against the prevalence of overweight and obesity'. The Government Sector and individuals did not pronounce themselves in favor or against. However, they highlighted issues that coincided with those made by industry and BINGO's (less revenues and profits, eating habits of the population would worsen) and with those made by academia, PINGO's and health professionals (the modification project has scientific support and is in accordance with human rights of information, food, children and health).

The NOM-051 published in the DOF shows that the demands with the highest participation were taken into account. For example, the stakeholders widely demanded to keep the FOPL system of warning labels, this section had minimal modifications (the warning label of artificial sweetens changed to a warning caption) this may be due the scientific evidence presented to support it. The participation of a wide variety of stakeholders with very different perspectives confirms what the Ministry of Economy stated when it mentioned that it has been the most inclusive regulatory standard [23].

In response to the importance of distinguishing between commercial and public interests, NGOs were divided as PINGO's and BINGO's. The above has gained importance worldwide during the last years [29, 45]. In this project, we found that PINGO's arguments were in favor of population health and BINGO's arguments were in favor of the food industry's interests.

The country with the highest participation after Mexico was the United States, possibly due to its high commercial presence in Mexico [46]. Their main topics were divided and in line with the stakeholder group to which they belonged. The industry and BINGO's emphasized commercial ties between both countries, trade agreements, economic issues, monetary and employment losses; while PINGO's and academy highlighted that the implementation of clear labeling could improve eating habits and have a good impact on the population's health.

44% of the comments issued were in favor, a fact not mentioned in studies from other countries [31, 32]. Those in favor referred to the importance of informing consumers about the excess of critical nutrients in UPPs; in this sense, front-of-pack warning labels guarantee our right to information. They also mentioned that it would improve eating habits and decrease obesity and NCDs rates, based on scientific evidence.

UPPs have a high content of critical nutrients that are associated with the development of NCDs and obesity [1–3]. In Chile, after the first stage of implementation of front-of-pack warning labels, the proportion of foods and beverages considered unhealthy decreased [47]. Products were reformulated, decreasing the total amount of sugar, calories, saturated fat and sodium [48] and the purchase of sugar-sweetened beverages decreased 23.7% [49]. In Mexico, it was estimated that front-of-pack warning labels can reduce obesity [50]. Moreover, it has been shown that they contribute to healthier choices [20, 51].

The participation of key stakeholder groups in favor of public health policy has also been documented in other countries. A study on menu labeling in California, United States, found that the group promoting

public health communicated an informed decision-making message [33], which is in line with the findings in this study, suggesting they prioritize the interests of consumers.

The main arguments issued by the food industry against the front-of-pack warning labels were that the modification project violated international treaties, it would affect their revenues, profits and product reformulation. In terms of violation of commitments and international trade law, the industry's arguments are not necessarily true; according to the World Trade Organization, the Agreement on Technical Barriers to Trade and the Codex Alimentarius, countries must take the necessary measures to protect the health of their population [52–54]. In the case of income and profits, there is no scientific evidence supporting this; on the contrary, an evaluation of Chile's front of pack labeling effects on employment, salaries and gross profits of companies showed that there is no effect on these variables [55]. In addition, an economic evaluation showed the savings in health that this measure will generate [50]. In relation to product reformulation, by the end of 2016, almost 18% of industrialized products had been reformulated in Chile [56].

Recently, Dorlach and Mertenskötter (2020) analyzed industry comments during the public consultation of Chile's front-of-pack warning labels and found a similar topic to that used by the industry in Mexico: violation of international trade law [32]. On the other hand, Ares *et al.* (2020) analyzed the comments from industry and industry associations to the public consultation of Uruguay's front-of-pack warning labels. They found that most of them expressed concern about the high prevalence of obesity and NCDs and the issues they mentioned most were: a) violation of international treaties, creating barriers to trade, 2) stigmatization and generating fear among consumers, 3) lack of validity of the PAHO nutrient profiling model and; 4) it does not stimulate reformulation [31]. The most mentioned issues coincide with those used by the industry and BINGO's in Mexico.

Other countries have analyzed the arguments used by the industry to block public health policies and the arguments are very similar to those found in the present study. In London, the food industry raised concerns about the negative economic consequences of implementing a public policy regulating the marketing of products high in critical nutrients [35]. When the addition of a menu labeling was in play in California and King Country, Washington, the food industry raised concerns about implementation costs [33, 34]. In San Francisco, sugar-sweetened beverage commercials were approved to have a warning label covering 20% of the advertisement, but the legislation was blocked by the industry [36], arguing that it violated free speech rights and unfairly stated that sugar-sweetened beverages are unhealthy [37].

While many conflict-of-interest free studies demonstrate the strengths of adopting front-of-pack warning labels, we noticed that scientific evidence was mostly used by pro-labeling stakeholders. Those against expressed that the NOM-051 modification project lacked scientific evidence to support it (even academics and PINGO's who were against). This is important because during the past years, a transnational soft drink industry operating in Mexico declared to have spent \$118.6 million dollars over 5 years on scientific research and health and wellness associations [57], confirming the industry's efforts to influence scientific findings and organizations [58, 59].

In the industry salient issues, we can identify commonly used arguments as proposed by Mialon *et al.* (2015): 1) stress the number of jobs supported and the money generated for the economy; 2) highlight the potential burden associated with regulation (losses of jobs, administrative burden); 3) shift the blame away from the food industry, e.g. focus on individual responsibility, role of parents, physical inactivity; 4) fund research through academia, ghost writers, own research institutions, and front groups; and 5) litigate or threaten to litigate against governments, organizations or individuals [28]. Likewise, the World Cancer Research Fund International identified common tactics used by industry to interfere with FOPL and categorized them into 4 areas: 1) delay, 2) divide, 3) divert, and 4) deny [30], which were identified as main themes in the industry and BINGO's comments.

On the other hand, the primary themes found in the Government Sector comments are contradictory to each other, which may be due to several factors. First, the number of members in this stakeholder group is very small (n = 9). Second, those who were against the NOM-051 modification project used very similar arguments to those of the industry, this make us think that there may be conflicts of interest within the Government Sector; on the other hand, those who were in favor also publicly supported the process, and apparently, do not present conflict of interest. Third, those who were against, mainly expressed *expectations* and *demands*; those who were in favor only expressed *justifications* and *demands*, without stating their expectations. This third aspect explains why *justification* is shown in favor and *expectations* against.

The main issues expressed by individuals coincided with those of the industry, suggesting the use of another mechanism described by Mialon, *et al* (2015): procure the support of community and business groups to oppose public health measures [28].

The tobacco industry developed a "Playbook" to guide the behavior of those who advocated against regulations in that market. The themes and tactics used to discredit the NOM-051 modification project and public health policies in other countries coincide with those used by the tobacco industry, suggesting that the private sector uses the same strategies to protect its interests [60, 61].

The NOM-051 modification project was approved and published with minimal modifications, despite 56% of the comments against it and efforts by the industry and BINGO's to discredit the front-of-pack warning labels in the public consultation process.

Other studies have detailed the importance of advocacy coalitions in policy processes, and highlighted that a strong coalition is key to advance in the policy-making process [33, 34]. In this case, we were able to recognize those stakeholders from different groups who strongly supported implementation and those who did not. We identified a political leader, academic institutions with great trajectories, recognized researchers and PINGO's leading institutions.

Even after the approval of the NOM-051 modification project, the industry tried to stop its implementation and also used the COVID-19 pandemic as an excuse to delay or suspend its implementation [62]. Despite

this, Mexico went forward in implementing front-of-pack warning labels. Further studies are needed to identify the mechanisms used by key stakeholders involved in the development of public policies.

Limitations And Strengths

One of the limitations of this study is that CONAMER and the Ministry of Economy stated that they received 5200 comments. However, at the time of this study, only 15.3% were publicly available and were the ones that were analyzed. The 5200 comments were published in the DOF in a document that responds to them. Nevertheless, for the purposes of this paper it is necessary to have access to the complete commentary in order to determine judgments, justifications, expectations and demands. In addition, for some stakeholders it was only possible to identify two of the four categories mentioned.

Among the strengths, the methodology used is innovative and has been used little for this purpose in Mexico. In addition, all the stakeholder groups identified in the comments published on the CONAMER web page were considered for the analysis. It should be mentioned that the comments were issued by people who have an interest in the subject, who benefit or are harmed by its implementation, not by subjects selected by the researchers. And finally, it is possible to document, through the open documents, the effect that the comments of the key stakeholders had on the proposal.

Conclusions

Our analysis reveals that those who were against the NOM-051 modification were looking out for their own interests, which is in line with what has been reported by other similar studies. It also shows that the industry used multiple strategies to interfere in public health policies. The comments from academia and PINGO's were based on scientific evidence and demonstrated that they were informed on the topic; however, the participation of these key stakeholders in the process of creating a public health policy has been poorly documented.

The stance of the key stakeholders who participated in the public consultation of the NOM-051 were taken into account, as the demands with the highest participation were those in favor of maintaining the changes suggested in the NOM-051 modification project. The Ministry of Economy, together with the Ministry of Health and COFEPRIS, issued a release stating that after the public consultation, all interested sectors were summoned to hold meetings in order to study and address the comments received. The purpose of these meetings was to make the necessary modifications to benefit the population, always based on technical and scientific support, implying that the comments issued during the public consultation were questioned, taking into account scientific evidence free of conflict of interest.

It is necessary to establish a series of terms and conditions in order to participate in the public consultation, among them: provide truthful data and declare conflict of interest. It is recommended to establish transparency criteria for the data of the people who participate in the public consultation, while

maintaining privacy of personal information. In addition, it is important to improve the dissemination of public consultations to increase participation and diversity of comments.

Abbreviations

BINGO's: Business Interest Non-Governmental Organizations

CONAMER: National Commission for Regulatory Improvement

DOF: Official Journal of the Federation

FOPL: Front-of-Pack Label

GDA: Guideline Daily Amounts

NCDs: Non-communicable diseases

NOM-051: Official Mexican Standard-051

PINGO's: Public Interest Non-Governmental Organizations

UPPs: Ultra-processed products

Declarations

Ethical Approval

The Research Ethics Committee of the National Institute of Public Health of Mexico (in Spanish: Comité de Ética en Investigación (CEI), Instituto Nacional de Salud Pública de México) granted the opinion of Exempt from Review because the research does not involve human subjects and is a public database.

Consent for publication

Not applicable

Availability of data and materials

The datasets analyzed during the current study are available from the corresponding author on reasonable request.

Competing interest

The authors declare that they have no competing interests.

Funding

Bloomberg Philanthropies, Grant/Award Number: 43003; National Council for Science and Technology, Grant/Award Number: 711758.

Authors contribution to the paper

Conception or design of the work: Regina Durán, Lizbeth Tolentino-Mayo

Data collection: Regina Durán, Edalith Asmitia

Data analysis: Regina Durán, Edalith Asmitia

Data interpretation: Regina Durán, Lizbeth Tolentino-Mayo

Drafting the article: Regina Durán, Lizbeth Tolentino-Mayo

Critical revision of the article: Lizbeth Tolentino-Mayo, Simón Barquera, Juan Rivera

Final approval of the version to be submitted - all named authors should approve the paper prior to submission: Regina Durán, Edalith Asmitia, Juan Rivera, Simón Barquera, Lizbeth Tolentino-Mayo.

Acknowledgements

Not applicable

Authors' information

ORCID

Regina Durán <https://orcid.org/0000-0002-2837-3023>

Juan Rivera <https://orcid.org/0000-0003-2586-4908>

Simón Barquera <https://orcid.org/0000-0003-1854-4615>

Lizbeth Tolentino-Mayo <https://orcid.org/0000-0003-2400-867>

References

1. Rauber F, Steele EM, Louzada ML da, Millett C, Monteiro C, Levy CA RB. Ultra-processed food consumption and indicators of obesity in the United Kingdom population (2008–2016). PLoS One [Internet]. Public Library of Science; 2020;15:e0232676. Available from: <https://doi.org/10.1371/journal.pone.0232676>.
2. Monteiro CA, Levy RB, Claro RM, de Castro IRR, Cannon G. Increasing consumption of ultra-processed foods and likely impact on human health: evidence from Brazil. Public Health Nutr [Internet]. 2010/12/20. Cambridge University Press; 2010;14:5–13. Available from:

- <https://www.cambridge.org/core/article/increasing-consumption-of-ultraprocessed-foods-and-likely-impact-on-human-health-evidence-from-brazil/C36BB4F83B90629DA15CB0A3CBEBF6FA>.
3. Crimarco A, Landry MJ, Gardner CD. Ultra-processed Foods, Weight Gain, and Co-morbidity Risk. *Curr Obes Rep* [Internet]. Springer US; 2021;1–13. Available from: <https://doi.org/10.1007/s13679-021-00460-y>.
 4. Monteiro CA, Cannon G, Levy R, Moubarac J-C, Jaime P, Paula Martins A, et al. NOVA. The star shines bright. *World Nutr*. 2016;7:28–38.
 5. Martini D, Godos J, Bonaccio M, Vitaglione P, Grosso G. Ultra-processed foods and nutritional dietary profile: A meta-analysis of nationally representative samples. *Nutrients*. 2021;13:1–16.
 6. Organización Panamericana de la Salud (OPS). Modelo de perfil de nutrientes de la OPS. 2016.
 7. Marrón-Ponce JA, Sánchez-Pimienta TG, Da Costa Louzada ML, Batis C. Energy contribution of NOVA food groups and sociodemographic determinants of ultra-processed food consumption in the Mexican population. *Public Health Nutr*. 2018;21:87–93.
 8. Shamah-Levy T, Romero-Martínez M, Barrientos-Gutiérrez T, Nasu LC, Bautista-Arredondo S, Colchero MA, et al. Encuesta Nacional de Salud y Nutrición 2020 sobre Covid-19. Resultados Nacionales. Cuernavaca: Instituto Nacional de Salud Pública; 2021.
 9. Cecchini M, Warin L. Impact of food labelling systems on food choices and eating behaviours: a systematic review and meta-analysis of randomized studies. *Obes Rev* [Internet]. John Wiley & Sons, Ltd (10.1111); 2016;17:201–10. Available from: <https://doi.org/10.1111/obr.12364>.
 10. Hawkes C, Jewell J, Allen K. A food policy package for healthy diets and the prevention of obesity and diet-related non-communicable diseases: the NOURISHING framework. *Obes Rev* [Internet]. John Wiley & Sons, Ltd (10.1111); 2013;14:159–68. Available from: <https://doi.org/10.1111/obr.12098>.
 11. Grunert KG, Wills JM. A review of European research on consumer response to nutrition information on food labels. *J Public Health (Bangkok)* [Internet]. 2007;15:385–99. Available from: <https://doi.org/10.1007/s10389-007-0101-9>.
 12. Stern D, Tolentino L, Barquera S. Revisión del etiquetado frontal: Análisis de las Guías Diarias de Alimentación. Primera ed. Cuernavaca; 2011.
 13. Diario Oficial de la Federación. MODIFICACIÓN de la Norma Oficial Mexicana NOM-051-SCFI/SSA1-2010 [Internet]. 2014. Available from: https://www.dof.gob.mx/nota_detalle.php?codigo=5356328&fecha=14/08/2014.
 14. Borgmeier I, Westenhoefer J. Impact of different food label formats on healthiness evaluation and food choice of consumers: a randomized-controlled study. *BMC Public Health* [Internet]. 2009;9:184. Available from: <https://doi.org/10.1186/1471-2458-9-184>.
 15. Lobstein T, Landon J, Lincoln P, Ash R, Press V. Misconceptions and misinformation: The problems with Guideline Daily Amounts (GDAs) A review of GDAs and their use for signalling nutritional information on food and drink labels. 2007.
 16. De la Cruz-Góngora V, Villalpando S, Rodríguez-Oliveros G, Castillo-García M, Mundo-Rosas V, Meneses-Navarro S. Use and understanding of the nutrition information panel of pre-packaged foods

- in a sample of Mexican consumers. *Salud Publica Mex.* 2012;54:158–66.
17. Barquera S, Campos I, Rivera JA. Mexico attempts to tackle obesity: the process, results, push backs and future challenges. *Obes Rev* [Internet]. John Wiley & Sons, Ltd; 2013;14:69–78. Available from: <https://doi.org/10.1111/obr.12096>.
 18. Carriedo A, Mena C, Nieto C, Alcalde J, Barquera S. Participation of non-state actors in developing a food labelling policy in Mexico. *Public Heal food Drink Ind Gov ethics Interact Lessons from Res policy Pract*; 2018.
 19. White M, Barquera S. Mexico Adopts Food Warning Labels, Why Now? *Heal Syst Reform* [Internet]. Taylor & Francis; 2020;6:e1752063. Available from: <https://doi.org/10.1080/23288604.2020.1752063>.
 20. Kaufer-Horwitz M, Tolentino-Mayo L, Jáuregui A, Sánchez-Bazán K, Bourges H, Martínez S, et al. Sistema de etiquetado frontal de alimentos y bebidas para México: una estrategia para la toma de decisiones saludables. *Salud Publica Mex.* 2018;60:479.
 21. Organización Panamericana de la Salud. El etiquetado frontal como instrumento de política para prevenir enfermedades no transmisibles en la Región de las Américas. Washington, D.C.; 2020.
 22. Comisión Nacional de Mejora Regulatoria. Estrategia Nacional de Mejora Regulatoria [Internet]. 2019 [cited 2019 Dec 23]. Available from: .
 23. Secretaría de Economía. Fue aprobada la modificación a la NOM 051 sobre etiquetado de alimentos y bebidas [Internet]. 2020 [cited 2020 Jul 16]. Available from: <https://www.gob.mx/se/articulos/fue-aprobada-la-modificacion-a-la-nom-051-sobre-etiquetado-de-alimentos-y-bebidas>.
 24. El Economista. Expertos y empresarios analizan etiquetado frontal de alimentos y bebidas para combatir obesidad [Internet]. 2019 [cited 2020 Jul 18]. Available from: <https://www.economista.com.mx/empresas/Expertos-y-empresarios-analizan-etiquetado-frontal-de-alimentos-y-bebidas-para-combatir-obesidad-20190819-0079.html>.
 25. Esquivel K. Ven resistencia en cambio de etiquetado en alimentos y bebidas [Internet]. 2019 [cited 2020 Jul 16]. Available from: <https://www.publimetro.com.mx/mx/nacional/2019/07/23/ven-resistencia-en-cambio-etiquetado-en-alimentos-bebidas.html>.
 26. Sin Embargo. CARTA revela que Nestlé pidió a proveedores frenar la ley de etiquetado frontal en México [Internet]. 2019 [cited 2020 Jul 15]. Available from: <https://www.sinembargo.mx/21-11-2019/3683128>.
 27. Ramos JL. Poder Judicial frena norma de etiquetado de alimentos [Internet]. *El Sol México.* 2020 [cited 2020 Aug 4]. Available from: <https://www.elsoldemexico.com.mx/finanzas/poder-judicial-frena-norma-de-etiquetado-de-alimentos-4908824.html>.
 28. Mialon M, Swinburn B, Sacks G. A proposed approach to systematically identify and monitor the corporate political activity of the food industry with respect to public health using publicly available information. *Obes Rev* [Internet]. John Wiley & Sons, Ltd; 2015;16:519–30. Available from: <https://doi.org/10.1111/obr.12289>.

29. Marks JH. The perils of partnership: industry influence, institutional integrity, and public health. New York: Oxford University Press; 2019.
30. World Cancer Research Fund International. Building momentum: lessons on implementing a robust front-of-pack food label [Internet]. 2019. Available from: Wcrf.Org/frontofpack.
31. Ares G, Bove I, Díaz R, Moratorio X, Benia W, Gomes F. Argumentos de la industria alimentaria en contra del etiquetado frontal de advertencias nutricionales en Uruguay. *Pan Am J Public Heal* [Internet]. Organización Panamericana de la Salud; 2020;44:e20. Available from: <https://pubmed.ncbi.nlm.nih.gov/32256545>.
32. Dorlach T, Mertenskötter P. Interpreters of International Economic Law: Corporations and Bureaucrats in Contest over Chile's Nutrition Label. *Law Soc Rev.* 2020;54:571–606.
33. Payán DD, Lewis LB, Cousineau MR, Nichol MB. Advocacy coalitions involved in California's menu labeling policy debate: Exploring coalition structure, policy beliefs, resources, and strategies. *Soc Sci Med.* 2017;177:78–86.
34. Johnson DB, Payne EC, McNeese MA, Allen D. Menu-Labeling Policy in King County, Washington. *Am J Prev Med* [Internet]. 2012;43:S130–5. Available from: <http://www.sciencedirect.com/science/article/pii/S0749379712003777>.
35. Lauber K, Hunt D, Gilmore AB, Rutter H. Corporate political activity in the context of unhealthy food advertising restrictions across Transport for London: A qualitative case study. *PLoS Med* [Internet]. 2021;18:1–29. Available from: <http://dx.doi.org/10.1371/journal.pmed.1003695>.
36. Falbe J, Madsen K. Growing Momentum for Sugar-Sweetened Beverage Campaigns and Policies: Costs and Considerations. *Am J Public Health* [Internet]. American Public Health Association; 2017;107:835–8. Available from: <https://doi.org/10.2105/AJPH.2017.303805>.
37. Fracassa D. San Francisco's Warning Labels on Sugary Drinks Blocked by Court [Internet]. *Governing.* 2019 [cited 2020 Jul 24]. Available from: <https://www.governing.com/topics/health-human-services/tns-sf-sugary-drinks-warnings.html>.
38. Riege A, Lindsay N. Knowledge Management in the Public Sector: Stakeholder Partnerships in the Public Policy Development. *J Knowl Manag.* 2006;10:24–39.
39. Clark SG, Yale University Press. The policy process: a practical guide for natural resources professionals. Yale University Press, editor.; 2002.
40. Epstein D, Farina C, Heidt J. The value of words: narrative as evidence in policy making. *Evid Policy A J Res Debate Pract.* 2014;10:243–58.
41. Théodore F, Juárez-Ramírez C, Cahuana-Hurtado L, Blanco I, Tolentino-Mayo L, Bonvecchio A. Barreras y oportunidades para la regulación de la publicidad de alimentos y bebidas dirigida a niños en México. *Salud Publica Mex* [Internet]. 2013 [cited 2020 Feb 2];56:130. Available from: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0036-36342014000800005.
42. Miller CL, Dono J, Wakefield MA, Pettigrew S, Coveney J, Roder D, et al. Are Australians ready for warning labels, marketing bans and sugary drink taxes? Two cross-sectional surveys measuring

- support for policy responses to sugar-sweetened beverages. *BMJ Open*. BMJ Publishing Group; 2019. p. e027962.
43. Monterrosa EC, Campirano F, Mayo LT, Frongillo EA, Cordero SH, Kaufer-Horwitz M, et al. Stakeholder perspectives on national policy for regulating the school food environment in Mexico. *30: Health Policy Plan*. Oxford University Press;; 2015. pp. 28–38.
 44. Secretaría de Economía. MODIFICACIÓN a la Norma Oficial Mexicana NOM-051-SCFI/SSA1-2010, Especificaciones generales de etiquetado para alimentos y bebidas no alcohólicas preenvasados- Información comercial y sanitaria, publicada el 5 de abril de 2010. Ciudad de México, México; 2020.
 45. Calvillo A. El ataque a las OSCs: PINGOS o BINGOS [Internet]. *SinEmbargoMX*. 2019 [cited 2020 Jul 16]. Available from: <https://www.sinembargo.mx/09-04-2019/3563338>.
 46. Usla H. México se consolida como el principal socio comercial de EU por 14 meses consecutivos [Internet]. 2020 [cited 2020 Jul 18]. Available from: <https://www.elfinanciero.com.mx/economia/mexico-se-consolida-como-el-principal-socio-comercial-de-eu-por-14-meses-consecutivos>.
 47. Reyes M, Taillie LS, Popkin B, Kanter R, Vandevijvere S, Corvalán C. Changes in the amount of nutrient of packaged foods and beverages after the initial implementation of the Chilean Law of Food Labelling and Advertising: A nonexperimental prospective study. *PLoS Med*. 2020;17:49–52.
 48. Scarpelli DQ, Fernandes ACP, Osiac LR, Quevedo TP. Changes in nutrient declaration after the food labeling and advertising law in Chile: A longitudinal approach. *Nutrients*. 2020;12:1–13.
 49. Taillie LS, Reyes M, Colchero MA, Popkin B, Corvalán C. An evaluation of Chile's Law of Food Labeling and Advertising on sugar-sweetened beverage purchases from 2015 to 2017: A before-and-after study. *PLoS Med* [Internet]. Public Library of Science; 2020;17:e1003015–e1003015. Available from: <https://pubmed.ncbi.nlm.nih.gov/32045424>.
 50. Basto-Abreu A, Torres-Alvarez R, Reyes-Sánchez F, González-Morales R, Canto-Osorio F, Colchero MA, et al. Predicting obesity reduction after implementing warning labels in Mexico: A modeling study. *PLOS Med* [Internet]. Public Library of Science; 2020;17:e1003221. Available from: <https://doi.org/10.1371/journal.pmed.1003221>.
 51. Jáuregui A, Vargas-Meza J, Nieto C, Contreras-Manzano A, Alejandro NZ, Tolentino-Mayo L, et al. Impact of front-of-pack nutrition labels on consumer purchasing intentions: a randomized experiment in low- and middle-income Mexican adults. *BMC Public Health* [Internet]. 2020;20:463. Available from: <https://doi.org/10.1186/s12889-020-08549-0>.
 52. Organización Mundial del Comercio, Organización Mundial de la Salud. Los acuerdos de la OMC y la salud pública: un estudio conjunto de la OMS y la secretaria de la OMC [Internet]. Ginebra: Organización Mundial de la Salud; 2002. Available from: <https://apps.who.int/iris/handle/10665/42552>.
 53. Organización Mundial del Comercio. Serie de los Acuerdos de la OMC: Obstáculos Técnicos al Comercio. 2003.

54. Food and Agriculture Organization of the United Nations. Principios generales del codex alimentarius [Internet]. 2021 [cited 2021 Feb 10]. p. 1–6. Available from: <https://www.fao.org/3/w5975s/w5975s06.htm>.
55. Paraje G, de Oca DM, Wlasiuk JM, Canales M, Popkin BM. Front-of-Pack Labeling in Chile: Effects on Employment, Real Wages, and Firms' Profits after Three Years of Its Implementation. *Nutrients*. 2022;14.
56. Gobierno de, Chile. INFORME DE EVALUACIÓN DE LA IMPLEMENTACIÓN DE LA LEY SOBRE COMPOSICIÓN NUTRICIONAL DE LOS ALIMENTOS. Y SU PUBLICIDAD [Internet]. Chile; 2017. Available from: <https://www.minsal.cl/wp-content/uploads/2017/05/Informe-Implementación-Ley-20606-junio-2017-PDF.pdf>.
57. Lancet T. Coca-Cola's funding of health research and partnerships. *Lancet* [Internet]. Elsevier; 2015;386:1312. Available from: [https://doi.org/10.1016/S0140-6736\(15\)00397-9](https://doi.org/10.1016/S0140-6736(15)00397-9).
58. Gómez EJ. Coca-Cola's political and policy influence in Mexico: understanding the role of institutions, interests and divided society. *Health Policy Plan* [Internet]. 2019;34:520–8. Available from: <https://doi.org/10.1093/heapol/czz063>.
59. Barlow P, Serôdio P, Ruskin G, McKee M, Stuckler D. Science organisations and Coca-Cola's 'war' with the public health community: insights from an internal industry document. *J Epidemiol Community Health* [Internet]. 2018;72:761 LP – 763. Available from: <http://jech.bmj.com/content/72/9/761.abstract>.
60. Savell E, Gilmore AB, Fooks G. How Does the Tobacco Industry Attempt to Influence Marketing Regulations? A Systematic Review. *PLoS One* [Internet]. Public Library of Science; 2014;9:e87389. Available from: <https://doi.org/10.1371/journal.pone.0087389>.
61. Brownell KD, Warner KE. The perils of ignoring history: Big tobacco played dirty and millions died. how similar is big food. *Milbank Q*. 2009;87:259–94.
62. Alegría A. Prórroga al etiquetado nuevo en los alimentos [Internet]. *La Jornada*. Ciudad de México, México; 2020. Available from: <https://www.jornada.com.mx/ultimas/economia/2020/08/01/prorroga-al-etiquetado-nuevo-en-los-alimentos-1063.html>.

Tables

Table 1 is available in the Supplemental Files section.