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REFLECTION

Towards a healthy, socially just and ecologically sustainable diet in Colombia: the NOVA food classification system

Hacia una alimentación saludable, socialmente justa y ecológicamente sustentable en Colombia: Sistema NOVA de clasificación de los alimentos

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Abstract

The concept of adequate diet is moving towards a broader vision in which its relationship with health, social justice and environmental care is considered. However, the accelerated increase of food industrialization processes poses a threat to this idea. In this context, the NOVA food classification system emerges as a proposal that allows grouping foods in 4 categories according to the extent, nature and purpose of industrial processing: 1) unprocessed or minimally processed foods, 2) processed culinary ingredients, 3) processed foods, and 4) ultra-processed food and drink products.

Worldwide, it has been demonstrated that there is an association between increased consumption of ultra-processed products, mainly due to socially unfair and ecologically unsustainable marketing practices, and the deterioration of diet quality, which implies an increased risk of chronic diseases. In Colombia, it is necessary that different sectors join efforts to build a food system that guarantees the human right to food with natural or minimally processed foods and avoid, as much as possible, ultra-processed products. Consequently, the objective of this reflection is to discuss the basics of the NOVA proposal and its importance in working towards a healthy, socially just, and ecologically sustainable diet in the country.

Resumen

El concepto de alimentación adecuada está avanzando hacia una visión más amplia donde se contempla su relación con la salud, la justicia social y el cuidado medioambiental. Sin embargo, el aumento acelerado de los procesos de industrialización de los alimentos representa una amenaza para esta visión. En este escenario, el sistema NOVA de clasificación de alimentos surge como una propuesta que permite agrupar los alimentos según la extensión, naturaleza y propósito del procesamiento industrial en 4 categorías: 1) alimentos naturales o mínimamente procesados, 2) ingredientes culinarios procesados, 3) alimentos procesados y 4) productos comestibles ultraprocesados.

A nivel mundial se ha demostrado que hay una asociación entre el aumento del consumo de productos comestibles ultraprocesados, principalmente por prácticas de comercialización socialmente injustas y ecológicamente insustentables, y el empeoramiento de la calidad de la dieta, lo que implica un mayor riesgo de enfermedades crónicas. En Colombia se requiere aunar esfuerzos desde diferentes sectores para construir sistemas alimentarios que garanticen el derecho humano a la alimentación con alimentos naturales o mínimamente procesados y eviten, en lo posible, los productos comestibles ultraprocesados, por lo que el objetivo de esta reflexión fue discutir los fundamentos de la propuesta NOVA y su importancia para trabajar hacia una alimentación saludable, socialmente justa y ecológicamente sustentable en el país.

Introduction

The accelerated increase in the industrialization of food systems is a social reality that does not guarantee the human right to healthy, solidary and sustainable food for the Colombian population. Moreover, the establishment of corporate models based on purely commercial interests and principles that prioritize the accumulation and reproduction of capital is one of the most problematic issues within these processes, as they break the evolutionary bond between humans and nature, their culture, and health achieved through food. Therefore, a food crisis with serious consequences for human health and social and environmental stability could occur.[1,2]

The intensive industrialization of the food system in the so-called modern era has resulted in the increased availability of ultra-processed food products (UFP) in different food environments (which has been related to the presence of chronic diseases)[3-8] and the decrease in the consumption of natural foods and traditional culinary preparations made with these foods with which we have bioculturally coevolved. This is a very alarming situation in Colombia as it is a country with a very rich culinary heritage and the second most biodiverse in the world.[9-12]

Recent reports have demonstrated the negative socio-environmental effects of the commercialization of UFPs due to the increase in greenhouse gas emissions, water and ecological footprint, etc.[13,14] At the same time, the UFP industry, through corporate political activity, has interfered in the design of public policies that defend the human right to food using maneuvers of biopower, oligopoly, and monopoly within the food industry in the country.[1,15] The above suggests the need to implement a new way of studying and designing public policies related to healthy eating and its relationship with socio-environmental issues.[16]

Thus, in order to develop appropriate public food policies, several studies have been carried out that have yielded useful results to achieve this objective. One of them is the NOVA food classification system,[17] which was created in response to the need to study food and nutritional events depending on the extent, nature, and purpose of industrial food processing.

In view of the foregoing, the objective of this reflection was to discuss the foundations of the NOVA classification system and its importance in working towards a healthy, socially just, and ecologically sustainable diet in Colombia.

Shifting paradigms in the relationship between diet and public health

Paradigms on the interpretation of the impact of food on health have undergone several changes since the inception of the science of food and nutrition.[18] Therefore, the concept that food is reduced only to the presence of nutrients and health to the absence of disease (nutritionism theory)[19] is insufficient to explain the current epidemiological problems related to the multiple forms of malnutrition[20] and the high prevalence of chronic diseases associated with nutrition, both globally and nationally.[21-23]

The nutrient-disease approach pioneered by nutritional science had positive effects in solving problems of specific nutrient deficiencies in the early and mid-20th century. However, at present, this approach is not yielding the expected results with regard to chronic diseases and, on the contrary, the problem continues to increase and is accelerating in low- and middle-income countries.[18] This situation leads to propose a paradigm shift regarding the role played by dietary phenomena in this type of disease, replacing the purely biomedical and anthropocentric view of food with a wider vision that includes

environmental, commercial, social, economic, and cultural factors in the interpretation of food and nutritional problems.[2]

Accordingly, the sectors of academia and civil society committed to public health propose the construction of a social structure that aims to guarantee a healthy, supportive and sustainable diet in which the different vital agents of the food system are interrelated. In this manner, the objective is to protect the biocultural evolution of foods while promoting human health, environmental protection and socio-cultural stability, and ensuring the availability of natural foods in harmony with the environment.[24]

Importance of classifying foods according to their nature, extent, and industrial processing purpose

The corporate food regime, through the massive increase in the industrial production of UFPs in Colombia, has boosted the availability of these products in different food environments, affecting the social functions of traditional cuisine and partially disengaging the consumer from their culinary biocultural universe.[11,25] These food industrialization models interfere in the relationship between consumers and their meals, introducing industrial UFP formulations that are characterized by having little or no natural foods. This is associated, among other things, with the deterioration of the quality of the diet and the presence of obesity and chronic diseases,[3-8] also affecting the commercialization of natural foods produced by the farming community[1] and the environment due to the use of products with highly polluting industrial ingredients and materials.[13,14]

This problem highlights the importance of differentiating between foods obtained from nature, with which we have evolved bioculturally for thousands of years, and UFPs created by the food industry a couple of decades ago, which have the characteristics of a commodity that can be marketed to generate economic profits using monopoly strategies and neglecting the health and environmental effects it may have.[24]

According to the Codex Alimentarius, *food* means "any substance, whether processed, semi-processed or raw, which is intended for human consumption, and includes drinks, chewing gum and any substance which has been used in the manufacture, preparation or treatment of 'food' but does not include cosmetics or tobacco or substances used only as drugs".[26] This definition suggests that the significance of industrial processing and the methods and ingredients developed by modern food science and technology, as well as the significance of the nature of food in human health, have been underestimated and need to be reconsidered. Fortunately, Law 2120 of 2021 (better known as the junk food law), which regulates food environments in Colombia through different strategies such as front-end warning labeling,[27] clearly states the importance of nutrient profiling on food products based on their degree of processing. This approach was established based on scientific evidence, which is free of conflicts of interest and avoids industry interference.[1]

When the first food guidelines were designed and published in the first half of the 20th century, most foods were natural and combined in the form of traditional dishes or consumed as provided by nature. However, since the second half of the century, the use and consumption of processed and ultra-processed ready-to-eat, ready-to-drink or ready-to-heat products available in food supply chains and dietary trends have increased alarmingly. Therefore, processed and ultra-processed products have replaced traditional food patterns based on fresh culinary preparations using natural or minimally processed foods, whose consumption is related to better food quality and fair and environmentally friendly ways of marketing.[28]

As mentioned above, several proposals, such as the NOVA classification system, have emerged to move from nutritionism to addressing healthy and sustainable dietary patterns and to differentiate between natural foods (related to better health) and UFPs (related to the deterioration of dietary quality). This system has been widely recognized by international organizations such as the Food and Agriculture Organization of the United Nations[29] and the Pan American Health Organization (PAHO),[30] and has been established as a useful tool in the implementation of public food policies in countries such as Brazil and Uruguay.[31,32]

NOVA classification system: theoretical aspects

The NOVA classification system was proposed by a group of researchers at the University of Sao Paulo in Brazil.[16] It was developed with the aim of associating the change in the extent, nature and purpose of industrial food processing with the deterioration of the food system and the increase in the prevalence of obesity and chronic diseases.[29] According to the NOVA system, food processing involves the physical, chemical or biological processes that occur after food is separated from nature and before it is consumed or used in the preparation of fresh dishes. This classification system does not take into account methods used to prepare food in domestic or restaurant kitchens, including the elimination of inedible parts or the portioning, cooking, seasoning and blending of various foods.

Foods can be consumed in their natural form (fruits, nuts, milk, etc.), in culinary preparations as main ingredients (vegetables, grains, flours, meats, and eggs), as culinary ingredients in various recipes (oils, salt, sugar, herbs, and spices), or as processed or ultra-processed foods ready to eat or heat (bread, cheeses, ham, packaged snacks, sweetened beverages, frozen ready meals, etc.). Thus, the NOVA classification system categorizes foods and food products, including individual food items and culinary preparations obtained from recipes, into four categories, which are presented and described below:

Group 1. Natural or minimally processed foods

Natural foods can originate from plants (vegetables, seeds, fruits, leaves, stems, roots, etc.) or animals (fish, seafood, beef, poultry, native animals, as well as eggs, milk, etc.). In turn, minimally processed foods are natural foods altered by processes such as removal of inedible parts, drying, grinding, milling, portioning, filtering, roasting, boiling, pasteurization, refrigeration, freezing, placing in containers, vacuum packaging, or non-alcoholic fermentation. These are processes in which substances such as salt, sugar, oils, or fats are not added to the original food.

The main purpose of the processes used in the production of foods of this group is to extend their shelf life and allow their storage, as is the case of cooling, freezing, drying, and pasteurization. Another purpose is to facilitate or diversify food preparation.

This group also includes foods prepared with two or more natural foods, such as granola and trail mix without adding culinary ingredients (sugar, honey, salt, or oil). These foods may (rarely) contain additives used to preserve the properties of the original food (such as milk with stabilizers), as well as minerals and vitamins added to replace nutrients lost during minimal processing (such as corn or wheat flour fortified with folic acid or iron).

Group 2. Processed culinary ingredients

This group is composed of substances extracted directly from natural foods or from nature by processes such as pressing, refining, grinding, drying, and pulverizing. The

purpose of this processing is to elaborate products (culinary ingredients) to prepare, season and cook natural or minimally processed foods through handmade preparations, such as soups, broths, breads, canned foods, salads, beverages, desserts, etc.

Culinary ingredients, which are rarely consumed in the absence of natural or minimally processed foods, include mine or sea salt, sugar and molasses obtained from sugarcane or beets, honey extracted from honeycombs or syrup from maple trees, vegetable oils from olives or seeds, butter or lard obtained from milk or pork, and starches extracted from corn or other plants. This group also includes products consisting of two culinary ingredients, such as butter with salt and items with added vitamins or minerals, such as ionized salt and vinegar made with acetic fermentation.

Culinary ingredients may contain additives used to preserve the original properties of the products, such as vegetable oils with added antioxidants, salt with added humectants, and vinegar with added preservatives that prevent the proliferation of microorganisms.

Group 3. Processed foods

This group mainly includes natural or minimally processed foods (Group 1) that are combined with sugar, oil, salt, or other processed culinary ingredients (Group 2). Most processed foods have two or three ingredients and the processes used to obtain them include culinary methods of preservation and non-alcoholic fermentation, as is the case of breads and cheeses.

The main purpose of manufacturing processed products is to increase the shelf life of Group 1 foods or to modify or improve their sensory qualities. Typical examples of processed foods are canned vegetables, fruits or legumes; salted or sweet nuts and seeds; cured or smoked meats; canned fish; fruits in syrup; and fresh, unpackaged cheeses and breads.

Processed foods may contain additives used to preserve the original properties of the products and resist microbial contamination. Beer, cider and wine are identified as processed foods as they are obtained from the fermentation of Group 1 foods.

Group 4. Ultra-processed food products

Products from this group are industrial formulations with various ingredients that often include salt, sugar, oils, fats, antioxidants, preservatives, stabilizers, and ingredients only found in UFPs. Their purpose is to mimic the sensory qualities of natural or minimally processed foods and culinary preparations, or to mask undesirable qualities of the final product. Natural foods are present in small proportions or absent from UFPs.

The main purposes of industrial ultra-processing are to create ready-to-eat, ready-to-drink or ready-to-heat products, and to replace fresh preparations and natural or minimally processed foods that are naturally ready-to-eat. Common attributes of UFPs are hyper-palatability, sophisticated and attractive packaging, aggressive marketing to children and adolescents, “health claims”, and high profitability, as well as the fact that they are usually produced by transnational corporations.

Some examples of UFPs are: carbonated beverages; sweet or salty snacks; confectionery products (ice cream, chocolates, candies); industrial breads; margarine and spreads; cookies, pastries, and cakes; breakfast bars (cereals); energy drinks; milk drinks; yogurts and fruit drinks; cocoa drinks; meat and poultry extracts; instant sauces; infant formulas and other baby products; healthy and slimming products used as meal replacements

and fortified powdered preparations; and many ready-to-heat products, including pizza, sausages, hamburgers, and hot dogs.

According to Monteiro *et al,*[33] the best way to identify whether a product is ultra-processed is to check if its ingredient list includes at least one element typical of Group 4, i.e., additives whose function is to make the final product more palatable or more attractive (cosmetic additives) and food substances rarely used in cooking, and which appear at the beginning or in the middle of the ingredient lists. Said ingredients include hydrolyzed proteins, soy protein isolate, gluten, casein, whey protein, fructose, high fructose corn syrup, fruit juice concentrate, invert sugar, maltodextrin, dextrose, lactose, soluble or insoluble fiber, and interesterified or hydrogenated fat. These substances also include other sources of protein, carbohydrates or fats that are not Group 1 or 3 foods, nor Group 2 processed culinary ingredients. It should be noted that cosmetic additives are found at the end of the UFP ingredient lists, along with other additives.

When products made solely from Group 1 or 3 foods also contain cosmetic or sensory additives, such as plain yogurt with added artificial sweeteners and breads with added emulsifiers, they are classified in Group 4. Similarly, products obtained from the fermentation of Group 1 foods that undergo a process of distillation of the resulting alcohol (whiskey, gin, rum, and vodka) are also classified in Group 4.

The issue with UFPs

Food processing is not an issue, as almost all foods and beverages, to some extent, have always been processed. The issue is the nature, extent and purpose of processing, and in particular the proportion of ultra-processed meals, dishes, foods, beverages and snacks included in diets.[33]

Currently, the food system in high-income countries is dominated by the UFP industry, which is responsible for the largest proportion of energy consumption worldwide: almost 60% in the United States[34] and the United Kingdom[35] and close to 50% in Canada,[36] while middle- and low-income countries are on the same path, with consumption close to 30% in countries such as Mexico, Chile, Brazil, and Colombia.[9,10,37-39] This situation is worrisome given that UFPs, consequently, not only affect the food system by harming dietary quality, health, production and the acquisition of socially just food, but also damage the environment.

Studies conducted in several countries with different levels of industrialization and dietary patterns have shown that increased consumption of UFPs is associated with a dietary nutrient profile that is related to the presence of chronic diseases.[9,10,34-39] Moreover, observational studies and controlled trials have shown that the consumption of ultra-processed foods is associated with obesity, metabolic syndrome, hypertension, cancer, diabetes, and mortality.[3-8]

Furthermore, at the societal level, the proportion of UFPs has been found to increase within food systems, as has been the case worldwide in recent decades, as food system contestation intensifies. On the one hand, we have those systems with which we have evolved bioculturally as a species, interacting with nature to produce natural foods with socially fair exchange dynamics and in harmony with the environment. On the other hand, there are food systems characterized by a significant degree of technification of raw materials, producing food products that disrupt the food matrix and the link with nature, which are based on corporate policies with market dynamics that prioritize productivity and economic gains that are socially unjust, disruptive of food culture, and harmful to the environment.[17]

In this context, some sectors of civil society and academia working for the right to food have made efforts to install public policies that advocate for the reduction of UFP intake by means of regulation and control, and to change the concept of adequate food, associated merely with the presence of nutrients, for a healthy and sustainable diet for the entire population.[40]

The environmental consequences of replacing minimally processed foods or fresh culinary preparations with UFPs are reflected in the large amounts of waste produced by this industry (bottles, containers, wrappers, and other packaging), much of which is non-biodegradable and not properly disposed of. For example, in the United States, packaging of food products accounts for more than half of the total packaging waste used in the country.[41-44] Although some countries such as Brazil have designed dietary guidelines that have an environmental focus and seek to avoid the consumption of UFPs,[14] a recent study conducted in that country by da Silva *et al.*[13] shows how over the last three decades the effects of UFPs have increased on both consumers and the environment, which means that dietary patterns in Brazil are potentially becoming more harmful to human and planetary health.

Evidences of the NOVA classification system in Colombia

Table 1 shows examples of foods consumed in Colombia according to the NOVA classification. The most consumed items in Group 1 are cereals, grains, bananas, roots, tubers, milk and meats; in Group 2, sugar and vegetable oils; in Group 3, cheese and fresh bakery products; and in Group 4, industrialized bakery products, sweet and salty snacks, sweetened beverages, confectionery, and processed meats (sausages).

Table 1. Proportion of total energy intake according to the NOVA food classification system in Colombia.

Food groups		Total * (1.835 kcal)	Example of food items per subgroup †
Natural or minimally processed foods (63.3%)	Cereals, grains (including flours)	14.2%	Rice, oats, barley, corn, quinoa, wheat bran, sorghum, and beans
	Plantains, roots, and tubers (includes flours)	9.0%	Plantain, *arracacha*, potato, cubes, yam, radish, and cassava
	Culinary preparations (ready-to-eat)	7.1%	Sweet or salty culinary preparations that cannot be broken down into their ingredients (combination of ingredients mainly from Group 1: soups, pastas, pies, etc.).
	Milk, yogurt (plain)	5.5%	Cow's milk (raw, boiled, whole, semi-skimmed, pasteurized, liquid, or powdered), goat's milk, and plain yogurt
	Red meat	5.1%	Beef, pork, goat, *armadillo*, tapir, iguana, rabbit, calf and turtle offal and meats
	Fruits (including juices and pulps)	3.9%	*Açaí*, banana, *borojó*, breba, carambola, cherry, cherimoya, *chontaduro*, chayote, plums, coconut, peach, *feijoa*, strawberries, granadilla, currants, *guama*, soursop, guava, fig, kiwi, lime, lemon, *mamey*, *mamoncillo*, mango, mangosteen, apple, passion fruit, melon, blackberry, orange, loquat, papaya, *papayuela*, pear, pineapple, pitahaya, rose-apple, grapefruit, watermelon, tamarind, tree tomato, grapefruit, cape gooseberry, and grapes.
	Beans, pulses, legumes (including flours)	3.5%	Beans, chickpeas, lentils, soybeans, lima beans, common beans, turnips, and basul
	Eggs	2.5%	Chicken, quail, iguana, duck, and turtle eggs
	Poultry	2.2%	Turkey, chicken, and duck
	Vegetables	1.6%	Chard, chili, garlic, artichoke, alfalfa, celery, peas, pumpkin, eggplant, broccoli, broccoli flower, zucchini, squash, onion, mushrooms, coriander, cabbage, cauliflower, kohlrabi, spinach, lettuce, turnip, cucumber, parsley, paprika, beet, cabbage, tomato, carrot, zucchini, and *guasca*
	Seafood	0.8%	Clam, catfish, squid, shrimp, crab, sea snail, caviar, prawn, limpet, hake, grouper, oyster, snapper, mackerel, snook, red snapper, *bocachico, capaz,* captain, nibbler, trout, sardine, shark, carp, sea bass, *mojojoy,* octopus, and salmon.
	Other minimally processed foods	0.9%	Cocoa, insect meat, coconut milk, soymilk, nuts, coffee, tea, and tofu

Table 1. Proportion of total energy intake according to the NOVA food classification system in Colombia. (Continued)

Food groups		Total * (1.835 kcal)	Example of food items per subgroup †
Processed culinary ingredients (15.8%)	Sugar	8.9%	Sugar (powdered, granulated, brown), maple syrup, honey, and unrefined whole cane sugar
	Vegetable oils	6.1%	Canola, sesame, safflower, coconut, wheat germ, sunflower, corn, peanut, soybean, cottonseed, palm and olive oils and blends of vegetable oils
	Animal fats	0.8%	Fats (mutton, lamb, duck, turkey, chicken, and beef), lard, and butter
	Other culinary ingredients	0.0%	Table salt, pepper, vinegar, vinaigrette, yeast, vanilla extract, unflavored gelatin
Processed foods (4.9%)	Cheeses	1.9%	Curd, ricotta and fondue cheese, gouda, mozzarella, parmesan, Swiss, and cow's milk, buffalo, and goat's milk cheeses
	Bakery (fresh unpackaged)	1.7%	*Almojábana* from Bogotá and fresh bread, oat bran bread, and Arab pita bread
	Meats (canned and smoked)	0.2%	Canned tuna, canned sardines, canned salted meats, blood sausage, and canned shrimp
	Canned fruits and vegetables	0.1%	Dehydrated coconut with sugar, fruit cocktail, murrapo banana and olives, green peas, palm hearts, and canned peaches, cherries and pineapples
	Wine and beer	0.1%	Beers, wines and fermented alcoholic beverages
	Other processed foods	0.0%	Condensed milk and salted nuts and seeds, sweetened or with oil
Ultra-processed food products (15.9%)	Industrialized bread	5.0%	Breadcrumbs, *mogolla*, commercial white bread, commercial whole wheat bread, commercial toast, *mantecada, pandero, roscón, lengua,* croissant, almojábana, and commercial raisin bread
	Snacks (sweet and savory)	2.5%	Industrial crackers and cookies, wafers, corn chips, *chicharrón*, potato chips, doritos, bacon chips, snacks, banana chips, and cassava snacks
	Sweetened beverages	2.5%	Industrial fruit juices, energy drinks, industrialized flavored freeze pops, sodas of all kinds, powder to prepare sweetened soft drinks, fruit nectar, instant tea and sweetened water, industrial flavor and aroma enhancers
	Confectionery (chocolate, candy, sweets)	1.5%	Cotton candy, wafers, granulated bars, brownies, chocolate candies, chocolate bars, chocolate cakes, doughnuts, candies, industrial jams, and packet cakes
	Processed meats	1.3%	Botifarra, kabanos, chorizo, beef small intestine, roasted stuffed pig, mortadella, sausages, nuggets, salami, salami, saucisson, and bacon
	Ready-to-eat preparations ("junk food")	0.6%	Frozen pizza, packaged soups, precooked pastas, sandwiches, hamburgers, hot dogs, and tacos
	Commercial desserts	0.5%	Caramel custard, jellies, industrialized three-milk desserts, chocolate, and pudding
	Industrial breakfast cereals	0.3%	Commercial ready-to-eat oatmeal, and industrialized, sweetened, chocolate puffed rice cereals
	Industrial milk drinks	0.2%	*Natilla*, flavored yogurts, milkshakes, flavored milks, ice creams, and industrialized popsicles
	Other ultra-processed foods	1.4%	Margarines, bouillon cubes, sauces, commercial baby foods, and distilled spirits

* Data obtained from the 2005 ENSIN analysis carried out by Parra *et al.*[9]
† Information obtained from the 2005 and 2015 ENSIN and the Antioquia Food and Nutrition Security Profile 2019.[45]
Source: Own elaboration.

In this regard, Parra *et al.*[9] established that in 2005, UFP accounted for an average of 16.0% of the total daily calories consumed in Colombia, and that individuals who consumed more UFPs had diets with a high content of nutrients related to chronic diseases (free sugar, total fat, and saturated fat) and a low content of nutrients that protect against these diseases (fiber and protein). These results are consistent with those presented in 2019 by the Governor's Office of Antioquia in the Antioquia Food and Nutrition Security Profile.[45]

On the other hand, based on data from the 2005 ENSIN, Khandpur *et al.*,[10] found that the residents of Bogotá, Colombia, under 19 years of age and of high socioeconomic status are the main consumers of UFPs, and among them, children are the most vulnerable

group for the consumption of these foods, which is particularly worrisome considering the long-term health implications of their consumption. These authors also reported that rural residents and older adults are likely to have more traditional cooking and eating practices, as well as more stable dietary patterns, and to resist marketing practices that appeal to younger generations, who have less stable dietary patterns and are therefore more likely to experiment with UFPs.

In Colombia, changes in market regulation and the introduction of free trade agreements with UFP exporting countries ensure an ever-increasing supply of these products. In this regard, PAHO[46] reported that UFP sales in the country increased by 7.7% between 2009 and 2014. This trend suggests that the Colombian population is vulnerable to a dramatic increase in the consumption of UFPs, thus making it necessary to create policies to regulate this activity, for example, Law 2120 of 2021,[27] in which measures are adopted to promote healthy food environments and prevent noncommunicable diseases, and the Ten-Year Food and Nutrition Security Plan 2020-2031, in which targets have been set to reduce consumption of UFPs to less than 10% of total caloric intake.[40]

Likewise, academia and society in general, without conflicts of interest, have been working together to ensure that the text becomes a reality and thereby stop the problem of consumption of UFPs and promote the consumption of natural foods through traditional preparations. In this way, the human right to food can be guaranteed while protecting the health of the population and the environment.

Conclusion

The socio-environmental and health impacts of replacing minimally processed foods or fresh culinary preparations with UFPs have been evidenced in different contexts globally. In Colombia, studies suggest that the use of the NOVA classification system by society in general and in the different academic and public policy decision-making spaces is critical to promote a food system that guarantees the human right to food with natural and minimally processed foods and avoids an increase in the commercialization and consumption of UFPs.

Conflicts of interest

None stated by the author.

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