Position Paper

Consensus Statement on Front-of-Pack Nutrition Warning Labels on the High Fat, Sugar & Salt Food/Drink Products in India

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Abstract

India is facing a growing epidemic of non-communicable diseases (NCDs) such as obesity, diabetes and cardiovascular illnesses, which is driven largely by the consumption of unhealthy diets containing ultra-processed and high-fat, sugar and salt (HFSS) food and beverage products. Consumption of such products is rising sharply via aggressive advertising and misleading labels. Overwhelming scientific evidence from India and globally supports mandatory front-of-pack warning labels (WLs) on food products found high in fats/sugars or salt. WLs are proven to be more effective than proposed Health Star Rating (HSR), which in India has been adopted as Indian Nutrition Rating (INR) in reducing unhealthy food purchases and consumption. It gathers support from national policy commitments, economic survey, Supreme Court directive for urgent regulatory action and the Prime Minister's call to halt obesity. This consensus statement provides concrete recommendations, especially for replacing the proposed Indian Nutrition Rating (or Health Star Rating) system with WLs, restricting marketing to children and ensuring trade agreements do not undermine public health policy. This position paper is endorsed by 29 national organisations from the fields of public health, agriculture, environment, medicine, nutrition, consumer issues etc.

Keywords: **Front of the pack nutrition labelling, FOPNL, HFSS, India, Non-communicable diseases, Ultra-processed food**

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Introduction

India is facing a public health crisis of the non-communicable diseases (NCDs) such as obesity, diabetes, cancers, hypertension, cardiac diseases, renal disease and mental health, It is estimated that In India, nearly 5.8 million people die from NCDs every year out of total deaths of about 9 million, contributing to about 60% of annual deaths.[1] The Comprehensive National Nutrition Survey 2016 shows that more than half of the 5–19-year-olds show biomarkers of NCDs.[2] The recent Indian Council of Medical Research (ICMR) report shows prevalence of diabetes to be 11.4%, (1 in 9 individuals),

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pre-diabetes–15.3% (1 in 7 individuals), hypertension–35.5% (1 in 3 individuals), generalised obesity–28.6% (1 in 4 individuals, abdominal obesity–39.5% (1 in 3 individuals) and hypercholesterolemia–24%(1 in 4 individuals).[3]

There is substantial scientific evidence showing that increased consumption of ultra-processed unhealthy food/drink products is associated with high risks of NCDs and all-cause mortality.[4] According to the Indian Council of Medical Research - National Institute of Nutrition (ICMR-NIN) Dietary Guideline for Indians, 56.4% of the total disease burden in India is due to unhealthy diets.[5] Higher consumption of ultra-processed food (UPF) products (>4 servings daily) was independently associated with a 62% relatively increased hazard for all-cause mortality[6] and a recent meta-analysis showed that compared to low consumption, high consumption of UPF increased death risk by 29%.[7] Findings from a recent study from eight countries indicate that with each 10% increase in UPF contribution to total energy intake, there is a corresponding 2.7% rise in the risk of all-cause mortality.[8]

These industrially processed, pre-packaged food products are usually high in fats , sugar & salt, (HFSS), which are detrimental to health. At the same time, evidence shows that ultra-processing itself is detrimental to the health of people, independent of the nutrient content.[9] According to the World Heart Federation, '*Poor diet is responsible for more deaths worldwide than any other risk factor and is a leading cause of obesity, type 2 diabetes and cardiovascular disease*'.[10] Studies show an association with renal function decline.[11] In a narrative review in 37 of the 43 studies examined, dietary exposure to ultra-processed foods was linked to overweight, obesity, cardio-metabolic hazards, cancer, type 2 diabetes and cardiovascular illnesses, irritable bowel syndrome, depression, frailty problems in adults and all-cause mortality. Cardio-metabolic risks and asthma were two of the most common among children and adolescents.[12] Artificial sweeteners (particularly aspartame and acesulfame-K), commonly used in several food products, are linked to an increased cancer risk.[13]

In this consensus statement, signatories focus on the front-of-the-pack nutrition labelling (FOPNL), which means key information to be provided to the consumer upfront as a matter of human right as well as a public health intervention.[14] FOPNL has arisen from the domain of behaviour change communication as a tool to achieve specifically desired public health goals; in this case, the reduction of overweight and obesity and consequent NCDs through the pathway of reduced consumption of foods that are too high in salt, sugar and fats as per standards set by the WHO.[15] FOPNL is a simple, inexpensive, practical and effective tool to inform consumers about the public health implications of the food products that they are purchasing for consumption. Currently in use FOPNL are Nutrient warning labels (WLs), colour-coded traffic lights, Nutri-Score, Health Star Ratings (HSR) and Guidelines for Daily Allowance.

Process and Methods

This Statement has been developed through a consultative process after having comprehensively reviewed the scientific evidence. First done in 2022, when 25 organisations had endorsed it, it has now been updated with newer evidence in this field. Drafting of the 2025 statement has been done by members of NAPi, and endorsing members have reviewed it. Final editing is done by NAPi and shared with the group to achieve consensus. The final statement was signed by 29 organisations [List in Annex 1].

Increasing Consumption of HFSS

Misleading labels and advertisements of the HFSS are largely responsible for this shift. Misleading titles such as 'Fresh fruit juice', 'Real Fruit Juice' and 'Fresh tomato ketchup' are increasingly used and even approved as trademarks. The research suggests that trade liberalisation can lead to a surge in UPFs, potentially impacting public health.[16] The recently concluded India-UK Free Trade Agreement (FTA),[17] which reduces tariffs on imported foods, such as chocolate, gingerbread, sweet biscuits and soft drinks, means that lower prices for these HFSS food products risk flooding the market.

The consumption of unhealthy foods and drink products is rapidly rising in India.[18] The WHO India study on the growth of ultra-processed foods in India concluded that there is a 13.3% annual cumulative growth rate.[19]

The Indian Academy of Pediatrics *"Guidelines on the Fast and Junk Foods, Sugar Sweetened Beverages, Fruit Juices and Energy Drinks"*[20] suggested a new acronym 'JUNCS' foods, for all unhealthy foods (junk foods, ultra-processed foods, nutritionally inappropriate foods, caffeinated/coloured/carbonated foods/ beverages and sugar-sweetened beverages). It recommended limiting the consumption of the JUNCS foods through policy options including front of pack labelling (FOPL), restriction of marketing, higher taxation and improved school food environments.

Studies do suggest that consumers spend as little as 10 seconds in the selection of food items; therefore, a label that would quickly and effectively lead to the ability of the consumer to identify unhealthy products would be the need of the hour. To create a healthy food environment, global experts have been calling for WLs on these food products[21] for reasons further discussed below.

Evidence from India

Two important studies have been conducted in India. According to the one, by ICMR-NIN[22], 'Among the labels studied, WL had greater impact in altering the health perception of the food products, as presence of even one octagon or absence of stars (in case of NSR) seem to have prompted more cautious behaviours in choosing the foods…. But to deter consumption of even moderately unhealthy foods, WL formats (NSR or WL) appear to be a better option'. And a randomised controlled trial,[23] based on the study on 2869 adults between ages 18 and 60 years old in six states of India, reported in 2022 that while all FOPLs were found to be effective, the biggest and significant difference was observed for the WL, making them most effective FOPL to help Indian consumers identify unhealthy foods.

Evidence on Impact of Different Labels

According the Global Food Research Programme,[24] though there are many forms of FOPNL labels in use around the world, the 'best evidence currently supports labels that are mandatory; simple, clear and immediately visible; interpretive in design (that is, interpreting and guiding consumers based on a product's nutrition information rather than providing numerical nutrient content information without specific guidance or recommendations); and based on strong underlying nutritional profiling'. Further, the strongest real-world evidence supports

mandatory FOPNL WLs to reduce purchases of less-healthy products and encourage shifts towards healthier product purchases and availability.

'High-in' WLs which communicate clear, non-quantitative messages about high levels of nutrients of concern were found to be most effective and demonstrated the greatest efficacy in reducing the perceived healthfulness of a sweetened fruit.[25] The advantage of WLs is that, unlike HSR, they serve to identify specific nutrients of concern, such as salt, sugar and fat. This factor is the most relevant to reduce consumption of unhealthy foods and thus prevent NCDs.

Several countries in Latin America such as Chile, Mexico,[26] Uruguay, Brazil, Peru and Israel have accepted the use of WLs as FOPNL and that has demonstrated a change in consumption and outcomes. The consumption of sugary beverages in Chile decreased by about 24% after the introduction of this policy package including marketing restrictions.[27] A recent study examined changes in the proportion of "high in" products and the nutrient content of packaged foods in Chile. After fully implementing WLs (Chile's law), it was found that the proportion of 'high in' products and the content of critical nutrients decreased in all food and beverage categories.[28] Most studies indicate that WLs are the preferred mode of FOPNL in order to reduce the consumption and impact on the immediate problem of increase consumption and weight gain.[29]

A meta-analysis of over 100 research studies published in 2021 indicated that nutrient WLs are more effective than traffic lights and Nutri-Score labels in discouraging unhealthy product purchases and lowering purchases of calories and saturated fat.[30]

A meta-analysis of five experiments assessing the effects of HSR labels on sales found no significant effect on calories or sugar consumed, nor any impact on saturated fat or salt purchased.[31] Another systematic review showed HSR did not reveal an effect on food purchases compared with the control.[32] Participants in a shopping trial in Canada who saw 'high in' nutrient warning signs bought less calories, sugar and saturated fat from beverages and less calories and sodium from foods than those who did not see the FOP label. Labels such as traffic lights, HSRs and nutrition grade (i.e. Nutri-Score) did not show much effect.[33]

Warning Labels Have an Edge

With the goal of reducing consumption of HFSS foods and drinks that can harm health, evidence clearly points to nutrient WLs. WLs such as those used in Chile (since 2016), Peru (2019), Israel (2020), Mexico (2020), Uruguay (2021), Brazil (2022), Argentina (2022), Colombia (2023), Venezuela (2024) and Canada (2026) require packaged foods and drinks that do not meet specific nutrition criteria or that contain certain ingredients (such as non-nutritive sweeteners) to carry WLs clearly indicating the product is high in sugar, saturated or trans fats, sodium, or calories. WLs work by helping consumers quickly identify less-healthy products and discouraging their consumption. Seeing WLs on packages can disrupt habitual shopping decisions, even if consumers are not seeking out nutritional information.[34] WLs only appear on products that pose the greatest health risk when consumed in excess. These do not require complex computations.[35] WLs do not risk creating a positivity bias or "health halo" around products with higher-scoring (i.e. "healthier") labels that may still be high in calories, sugar, salt, or unhealthy fats. The health halo effect can lead to overconsumption and interfere with goals to reduce intake of excess nutrients of concern.[36] WLs can also improve consumers' food choices when they encounter products with health and nutrient marketing claims unrelated to the product's overall nutritional profile (e.g. a "good source of vitamin C" claim on a drink that is also high in sugar and calories).[37]

An illustration of diiference in two types of labels is provided in Figure 1a and b.

Some of the commitments in this area in India are listed in Box 1.[38-43]

Consensus and Recommendations

Given the national focus and urgency, this joint position statement has been developed by 29 organisations concerning various issues of health, public health, consumer rights, food and nutrition and women and children's health. This lays emphasis on the key strategy, i.e. FOPNL, to reduce the consumption of ultra-processed unhealthy food or drink products or HFSS to curtail the NCDs. This Statement is developed through a consultative process after having comprehensively reviewed the scientific evidence and factoring in the following:

Box 1: India's commitment in this Area

- National multisectoral action plan for prevention and control of common NCDs (2017–2022)[38] planned to have interpretive FOPNL. Interpretive labels[39] are those that guide consumers based on nutrition information for one or more nutrients (e.g. a 'high in sugar, salt or saturated fats) with a warning symbol or a 'traffic light' that is color-coded, according to nutrient content.
- India's Economic Survey 2024–2025 recommends urgent action such as stricter labelling mandating FOPL to inform consumers about HFSS content[40]
- Given the growing concern of rising obesity, the Prime Minister of India has recently called up the nation to tackle obesity as shift towards processed foods is seen as a key driver emphasising on reducing fats and sugar[41]
- ICMR-NIN has launched 'Dietary Guidelines for Indians - 2024' that clearly focused attention on risk of NCDs due to overconsumption of HFSS/UPF products and called for FOPNL and defined the criteria for labelling as HFSS
- ICMR-NIN and other partners including NITI Aayog, PHFI and UNICEF issued a policy brief[42] to focus on policy to reduce the consumption of HFSS foods
- And more recently, the Supreme Court of India, in response to a PIL to seek WL on HFSS foods, has directed the Union of India to complete this work on the amendment to the draft notification of 2022 on labelling and display, within 3 months[43]

FOPL: Front-of-pack labels, HFSS: High fat, salt and sugar, NCDs: Non-communicable diseases, PHFI: Public Health Foundation of India, FOPNL: Front-of-pack nutrition labels, UPF: Ultra-processed food, WL: Warning labels, PIL: Public Interest Litigation, NITI: National Institute for Transforming India, ICMR-NIN: Indian Council for Medical Research - National Institiute of Nutrition, UNICEF: United Nations International Children's Emergency Fund

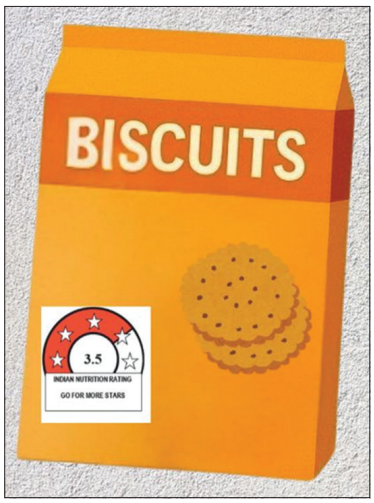

Figure 1a: 'Star Rating' Hides

Figure 1b: Warning Label Guides

The statement makes recommendations to the policymakers.

- Appreciating the fact that 'The Union has decided to undertake necessary amendments in the Food Safety and Standards (Labelling and Display) Amendment Regulations, 2022'[44]
- Knowing that NCDs can be curtailed by reducing the consumption of unhealthy food products and drinks, restriction of marketing of ultra-processed foods, especially to children and Front-of-Pack WLs on the food products
- Believing that the policy on FOPNL should be aligned and in harmony with the national Dietary Guidelines
- Knowing that WHO Southeast Asia Region (SEARO) has developed comprehensive Nutrition Profile Model (NPM) to categorise the food products and drinks whether they are high in a particular nutrient such as salt, sugar or fat based on extensive expert consultations and country experiences including India,[45] and that the World Health Organisation has provided guidance on food marketing as well as development of FOPL[46,47]
- Concerned that the FSSAI's draft regulation of 2022 decided on Indian Nutrition Rating (INR) including 'Health Star Rating' (HSR), that provides weightage to the addition of positive nutrients, which mask the negative effects of nutrients of concern
- Concerned that the FSSAI provided an exceptionally long transition period of 4 years for implementing these measures on a mandatory basis
- Concerned that conflicts of interest prevailed at several consultations held to arrive at the decision
- Aware that 'misleading marketing' continues aggressively and is targeted at children, and the food industry makes health claims such as by making use of 'jaggery' in place of sugar or with the use of some fibre, fruit or nuts and conceals the sugar content, which is the key information
- Aware that the food industry uses the FOPNL as marketing tool and uses 'health claims'
- Believing that FOPNL is not a marketing tool but a public health intervention
- Realising that aggressive marketing and the absence of FOPNL contribute to increasing the consumption of unhealthy food/drink products
- Knowing that the Supreme Court of India has upheld the right to health, nutrition and information as part of the fundamental right to life under Article 21
- Noting that the Supreme Court observed, expressing concern that "packets have no information" and that consumers are left unaware of what they are feeding their children
- Noting that the 'Health Stars' may not help to achieve the intended objectives of reducing the consumption of HFSS foods going by the scientific evidence
- Emphasising that scientific evidence, which in this case favours WL on the HFSS/unhealthy pre-packaged food products, should guide the development of a public health policy to reduce the consumption of UPFs and the NCDs.

Recommend the following actions to reduce the consumption of HFSS foods and contribute to the reduction of NCDs;

1. Amend the Food Safety and Standards (Labelling and Display) Regulations, 2022, replacing the INR star rating system with 'Warning labels 'in 'symbols' or as 'high in' or 'excess of' for nutrients of concern
2. Retain the definition of HFSS as in the Draft Notification of 2022. Thresholds for salt, sugar and fats may also be based on the WHO SEARO's Nutrition Profile Model (NPM) or taken from the ICMR-NIN Dietary Guidelines for Indians-2024
3. Positive nutrients such as *fruit, vegetable, nuts and fibre* should not be weighted for FOPNL labelling
4. Marketing of unhealthy foods/drinks targeting children should be immediately stopped through legislation
5. Decisions on such public health issues should be made without any conflicts of interest, even at a consultative level. And interaction with the food industry may happen on a separate platform to hear their suggestions on implementing the regulation not on its content or provisions
6. Once the notification on FOPNL is finalised, a maximum of 12 months may be given to the food industry to comply
7. The Government of India should lead a comprehensive public campaign through health systems, on the risks of pre-packaged HFSS food products and how to identify them using FOPNL
8. Ensure that trade agreements do not negatively affect public health. The FTA with UK is now signed; India should expedite FOPNL WLs; regulate marketing/advertisements; and impose health taxes on UPF/HFSS food products.

Annex 1: List of organizations which have endorsed this statement

1. 3S And Our Health, Kerala, India
2. Alliance for Sustainable & Holistic Agriculture (ASHA) – Kisan Swaraj Network, Bengaluru, India
3. Association of Physicians of India (Malwa Branch), Bhatinda, India
4. Centre for Science and Environment (CSE), New Delhi, India
5. Clinical Cardio Diabetes Society of India, Jamshedpur, India
6. Commonwealth Association for Health and Disability (COMHAD), Nagpur, India
7. Consumer Protection Association, Jaipur, India
8. Consumer Voice, New Delhi, India
9. CUTS International, Jaipur, India
10. Diabetes India, Ahmedabad, India
11. Foundation for People-centric Health Systems (FPHS), New Delhi, India
12. Indian Association of Preventive & Social Medicine (IAPSM), India
13. Indian Public Health Association (IPHA), Kolkata, India
14. Indian Society of Nephrology, India
15. Indian Society of Pediatric and Adolescent Endocrinology
16. Initiative for Health & Equity in Society (IHES), Delhi, India
17. Kidney Warriors Foundation, Mumbai, India
18. Navdanya, Dehradun, India
19. Non-Communicable Prevention Academy, Indore, India
20. Nutrition Advocacy in Public Interest (NAPi)- India, New Delhi, India
21. Obesity Surgery Society of India (OSSI)
22. Pediatric and Adolescent Nutrition Society (PAN) – Indian Academy of Pediatrics, Nutrition Chapter
23. People's Vigilance Committee on Human Rights (PVCHR), Uttar Pradesh, India
24. Public Health Foundation of India (PHFI), Gurugram, India
25. Public Health Resource Society (PHRS), Delhi, India
26. Society for Renal Nutrition and Metabolism (SRNM), India
27. Department of Liver Transplant and Hepatobiliary Surgery, Sir Ganga Ram Hospital, New Delhi, India
28. Tamil Nadu Organic Farmers Association, Chennai, India
29. The Maharaja Sayajirao University of Baroda, India

Remark: (Name arranged in Alphabetical order) Some of the organizations and professional associations are national level organizations which keeps moving their secretariats to different parts of the country and thus, their affiliations have not been indicated.

Conclusion

This consensus statement reflects a strong and unified call to implement clear WLs on pre packaged HFSS food products in order to reduce their consumption. The scientific evidence from India and outside is overwhelming in favour of WL. The statement represents a unique consensus among various organisations/ experts of public health, research, nutrition, academics, agroecology, medicine, surgery, paediatrics, endocrinology, diabetology, nephrology, hepatology, cardiology, environment, consumer issues, patient's interest and human rights.

In addition, because of the free trade agreements, which India is signing with several nations especially the United Kingdom (UK), ban on marketing and advertisements of HFSS food products is an imperative to protect the health of its people, especially children. This is already a part of the MOHFW's plan of action developed in 2017.

It is an unprecedented opportunity for the Government of India to take decisive action on both the regulations and ensure that Indian citizens have at least the same protection as the UK citizens..

Author contribution statement

This work was led by NAPi and AG throughout the process, who were the primary authors. CL had provided additional critical inputs for the revision of the manuscripts. The representatives from other organisations had read and provided their inputs on the draft statement. The final draft was agreed and endorsed by representees of the organisations, who are listed in the authors above. AG will act as guarantor of this work/position statement.

Data availability statement

The data that support the findings of this position paper are available from the references cited in this manuscript. No primary data was collected as part of this work.

Declaration on use of AI

The authors haven't used any generative AI/AI-assisted technologies in the writing process.

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Nil.

Conflicts of interest

None declared.

References

1. National Health Portal. Non-Communicable Disease and Their Risk Factors; 2019. Available from: https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1048&lid=604. [Last accessed on 2025 May 07].
2. Sachdev HS, Porwal A, Sarna A, Acharya R, Ramesh S, Kapil U, *et al.* Intraindividual double-burden of anthropometric undernutrition and "metabolic obesity" in Indian children: A paradox that needs action. Eur J Clin Nutr 2021;75:1205-17.
3. Anjana RM, Unnikrishnan R, Deepa M, Pradeepa R, Tandon N, Das AK, *et al.* Metabolic non-communicable disease health report of India: The ICMR-INDIAB national cross-sectional study (ICMR-INDIAB-17). Lancet Diabetes Endocrinol 2023;11:474-89.
4. Egnell M, Crosetto P, d'Almeida T, Kesse-Guyot E, Touvier M, Ruffieux B, *et al.* Modelling the impact of different front-of-package nutrition labels on mortality from non-communicable chronic disease. Int J Behav Nutr Phys Act 2019;16:56.
5. ICMR-National Institute of Nutrition. Dietary guidelines for Indians. Hyderabad; 2024. Available from: https://www.nin.res.in/dietaryguidelines/pdfjs/locale/DGI07052024P.pdf. [Last accessed on 2025 May 10].
6. Rico-Campà A, Martínez-González MA, Alvarez-Alvarez I, Mendonça RD, de la Fuente-Arrillaga C, Gómez-Donoso C, *et al.* Association between consumption of ultra-processed foods and all cause mortality: SUN prospective cohort study. BMJ 2019;365:l1949.
7. Taneri PE, Wehrli F, Roa-Díaz ZM, Itodo OA, Salvador D, Raeisi-Dehkordi H, *et al.* Association between ultra-processed food intake and all-cause mortality: A systematic review and meta-analysis. Am J Epidemiol 2022;191:1323-35.
8. Nilson EA, Delpino FM, Batis C, Machado PP, Moubarac JC, Cediel G, *et al.* Premature Mortality attributable to ultraprocessed food consumption in 8 countries. Am J Prev Med 2025;68:1091-9.
9. NAPi and BPNI; 2022. Inclusion of Ultra-Processed Foods Within The Regulatory Framework: A Concept Note For the Scientific Committee (SC) of the FSSAI. Available from: https://www.napiindia.in/docs/Concept-Note-for-regulating-UPF.pdf. [Last accessed on 2025 May 07].
10. Champagne B, Arora M, ElSayed A, Løgstrup S, Naidoo P, Shilton T, *et al.* World heart federation policy brief: Front-of-pack labelling: Unhealthy changes in the global food system. Glob Heart 2020;15:70.
11. Rey-García J, Donat-Vargas C, Sandoval-Insausti H, Bayan-Bravo A, Moreno-Franco B, Banegas JR, *et al.* Ultra-processed food consumption is associated with renal function decline in older adults: A prospective cohort study. Nutrients

2021;13:428.
12. Elizabeth L, Machado P, Zinöcker M, Baker P, Lawrence M. Ultra-processed foods and health outcomes: A narrative review. Nutrients 2020;12:1955.
13. Debras C, Chazelas E, Srour B, Druesne-Pecollo N, Esseddik Y, Szabo de Edelenyi F, *et al.* Artificial sweeteners and cancer risk: Results from the NutriNet-Santé population-based cohort study. PLoS Med 2022;19:e1003950.
14. Vargas-Meza J, Jáuregui A, Pacheco-Miranda S, Contreras-Manzano A, Barquera S. Front-of-pack nutritional labels: Understanding by low- and middle-income Mexican consumers. PLoS One 2019;14:e0225268.
15. Pan American Health Organization. Front-of-package Labeling. Available from: https://www.paho.org/en/topics/front-package-labeling. [Last accessed on 2025 May 11].
16. Baker P, Kay A, Walls H. Trade and investment liberalization and Asia's noncommunicable disease epidemic: A synthesis of data and existing literature. Global Health 2014;10:66.
17. UK Government. UK-India Trade Deal: Conclusion Summary; 2022. Available from: https://www.gov.uk/government/publications/uk-india-trade-deal-conclusion-summary. [Last accessed on 2025 May 09].
18. Euromonitor International. Passport: Packaged food in India; 2022. Available from: https://go.euromonitor.com/factsheet-packaged-food.html [Last accessed on 2025 May 11].
19. World Health Organization. (2023). The Growth of Ultra-Processed Foods in India: An Analysis of trends, Issues and Policy Recommendations. WHO Country Office for India. Available from: https://www.who.int/publications/i/item/9789290210672. [Last accessed on 2025 May 08].
20. Gupta P, Shah D, Kumar P, Bedi N, Mittal HG, Mishra K, *et al.* Indian Academy of Pediatrics guidelines on the fast and junk foods, sugar sweetened beverages, fruit juices, and energy drinks. Indian Pediatr 2019;56:849-63.
21. World Food Policy Center; 2022. Ultra-Processed Foods Need a Warning Label to Protect Consumers. YouTube. Available from: https://www.youtube.com/watch?v=_z7WzF8JS8s. [Last accessed on 2025 May 13].
22. Gavaravarapu SM, Priyadarshini S, Hemalatha R, Saha S, Hedaoo R, Nair S, *et al*. Report on Assessing Effectiveness of Front-of-Pack Nutrition Labels (FoPNL) for Pre-Packaged Processed Foods in India – A Study on Formats, Acceptability and Potential use. ICMR – National Institute of Nutrition, Hyderabad; 2023. Available from: https://www.nin.res.in/survey_reports/fopnl_report.pdf. [Last accessed on 2025 May 13].
23. Singh SK, Taillie LS, Gupta A, Bercholz M, Popkin B, Murukutla N. Front-of-package labels on unhealthy packaged foods in India: Evidence from a randomized field experiment. Nutrients 2022;14:3128.
24. Global Food Research Program. Front-of-Package Labeling to Empower Consumers and Promote Healthy Diets [Fact sheet]. University of North Carolina at Chapel Hill; 2025. Available from: https://www.globalfoodresearchprogram.org/wp-content/uploads/2025/03/GFRP-Factsheet_FOPL_Jan-2025-rev2.pdf. [Last accessed on 2025 May 13].
25. Jáuregui A, White CM, Vanderlee L, Hall MG, Contreras-Manzano A, Nieto C, *et al.* Impact of front-of-pack labels on the perceived healthfulness of a sweetened fruit drink: A randomised experiment in five countries. Public Health Nutr 2022;25:1094-104.
26. 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 2020;17:e1003221.
27. 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 2020;17:e1003015.
28. Rebolledo N, Ferrer-Rosende P, Reyes M, Smith Taillie L, Corvalán C. Changes in the critical nutrient content of packaged foods and beverages after the full implementation of the chilean food labelling and advertising law: A repeated cross-sectional study. BMC Med 2025;23:46.
29. NAPi and BPNI. (2022, March 30). Scientific Evidence for use of Warning Labels and Health Star Rating on Unhealthy Ultra-Processed Food Products. Available from: https://www.bpni.org/wp-content/uploads/2022/04/Sc-Evidence-for-warning-and-HSR-labels-on-unhealthy-food_-30-March.pdf. [Last accessed on 2025 May 08].
30. Song J, Brown MK, Tan M, MacGregor GA, Webster J, Campbell NR, *et al.* Impact of color-coded and warning nutrition labelling schemes: A systematic review and network meta-analysis. PLoS Med 2021;18:e1003765.
31. Croker H, Packer J, Russell SJ, Stansfield C, Viner RM. Front of pack nutritional labelling schemes: A systematic review and meta-analysis of recent evidence relating to objectively measured consumption and purchasing. J Hum Nutr Diet 2020;33:518-37.
32. An R, Shi Y, Shen J, Bullard T, Liu G, Yang Q, *et al.* Effect of front-of-package nutrition labeling on food purchases: A systematic review. Public Health 2021;191:59-67.
33. Acton RB, Jones AC, Kirkpatrick SI, Roberto CA, Hammond D. Taxes and front-of-package labels improve the healthiness of beverage and snack purchases: A randomized experimental marketplace. Int J Behav Nutr Phys Act 2019;16:46.
34. Ares G, Antúnez L, Curutchet MR, Giménez A. Warning labels as a policy tool to encourage healthier eating habits, Current Opinion in Food Science 2023;51:101011.
35. Taillie LS, Hall MG, Popkin BM, Ng SW, Murukutla N. Experimental studies of front-of-package nutrient warning labels on sugar-sweetened beverages and ultra-processed foods: A scoping review. Nutrients 2020;12:569.
36. Ikonen I, Sotgiu F, Aydinli A, Verlegh PW. Consumer effects of front-of-package nutrition labeling: An interdisciplinary meta-analysis. J Acad Mark Sci 2020;48:360-83.
37. Prates SM, Reis IA, Rojas CF, Spinillo CG, Anastácio LR. Influence of nutrition claims on different models of front-of-package nutritional labeling in supposedly healthy foods: Impact on the understanding of nutritional information, healthfulness perception, and purchase intention of Brazilian consumers. Front Nutr 2022;9:921065.
38. Ministry of Health & Family Welfare. National Multisectoral Action Plan for Prevention and Control of Common Non-Communicable Diseases (2017–2022). New Delhi; 2017.
39. Shangguan S, Afshin A, Shulkin M, Ma W, Marsden D, Smith J, *et al*. A meta-analysis of food labeling effects on consumer diet behaviors and industry practices. Am J Prev Med 2019;56:300-14.
40. Ministry of Finance, Government of India. Economic Survey of India 2025. Available from: https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf. [Last accessed on 2025 May 13].
41. Press Information Bureau. Towards a Fit and Healthy India: Combating Obesity Through Collective Action; 2025. Available from: https://pib.gov.in/PressReleasePage.aspx?PRID=2107179. [Last accessed on 2025 May 06].
42. UNICEF India. Policy Brief on Labelling of Front-of-pack Foods (LFOF); 2025. Available from: https://www.unicef.org/india/media/14671/file/Policy%20Brief%20LFOF%20on%2025-3-2025_compressed.pdf. [Last accessed on 2025 May 12].
43. India Today. You'll Know What Kurkure, Maggi are: Why SC Move on Clear Food Labels is Big; 2025. Available from: https://www.indiatoday.in/india-today-insight/story/youll-know-what-kurkure-maggi-are-why-sc-move-on-clear-food-labels-is-big-2710533-2025-04-17. [Last accessed on 2025 May 13].
44. Supreme Court of India; 2025. Available from: https://api.sci.gov.in/supremecourt/2024/23300/23300_2024_11_37_60847_Order_09-Apr-2025.pdf. [Last accessed on 2025 May 05].
45. WHO Nutrient Profile Model for South-East Asia Region. To implement the set of recommendations on the marketing of foods and non-alcoholic beverages to children. New Delhi: World Health Organization, Regional Office for South-East Asia; 2017. Licence: CC BY-NC-SA 3.0 IGO.
46. World Health Organization. (2022). Food Marketing Exposure and Power and Their Associations with Food-Related Attitudes, Beliefs, and Behaviours: A Narrative Review. Available from: https://www.who.int/publications/i/item/9789240041783. [Last accessed on 2025 May 10].
47. World Health Organization; 2021. Implementing Nutrition Labelling Policies: A Review of Contextual Factors. Available from: https://www.who.int/publications/i/item/9789240035089. [Last accessed on 2025 May 09].