

Front-of-Pack Warning Labels

A foundational and enabling policy for healthy food environments

Fabio S Gomes, PhD

Advisor on Nutrition and Physical Activity



PAHO



PAHO/WHO



PAHO/WHO

CAUSES and CAUSERS



PRODUCTS
PRACTICES
POLICIES





Belgium Canada

Barbados

Chile

Colombia

Australia

+ ultraprocessed products

Mexico

France

=

*+ kcal + kcal/g + sugars + fats + saturated fats + trans fats
- fiber - vitamins - minerals - protein*

Spain

Brazil

Taiwan

UK

USA

Uruguay

non-nutrient profile

easier to chew, crush and cut

faster intake

low satiety (late)

weak satiation (early)

weak caloric compensation

additives

Systematic reviews on ultra-processed products and health outcomes



International Journal of Food Sciences and Nutrition

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Food consumption by degree of processing and cardiometabolic risk: a systematic review

Talitha Silva Meneguelli, Jéssica Viana Hinkelmann, Helen Hermana Miranda Hermsdorff, M. Angeles Zulet, J. Alfredo Martínez & Josefina Bressan

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Review

Ultra-Processed Foods and Health Outcomes: A Narrative Review

Leonie Elizabeth¹, Priscila Machado^{1,2}, Marit Zinöcker³, Phillip Baker^{1,2} and Mark Lawrence^{1,2,4}

¹ School of Exercise and Nutrition Science, Deakin University, Geelong 3217, Australia; lelizabeth@deakin.edu.au (L.E.); p.machado@deakin.edu.au (P.M.); phil.baker@deakin.edu.au (P.B.)
² Institute for Physical Activity and Nutrition, Deakin University, Geelong 3217, Australia
³ Department of Nutrition, Björknes University College, 0456 Oslo, Norway; marit.zinocker@bhioslo.no
⁴ Correspondence: mark.lawrence@deakin.edu.au

Received: 26 May 2020; Accepted: 15 June 2020; Published: 30 June 2020

Abstract: The nutrition literature and authoritative reports increasingly recognise the concept of



Revista de Saúde Pública

Food processing and cardiometabolic risk factors: a systematic review

Francine Silva dos Santos¹, Mariane da Silva Dias¹, Gicele Costa Mintem¹, Isabel Oliveira de Oliveira¹, Denise Petrucci Gigante^{1*}

¹ Universidade Federal de Pelotas. Faculdade de Medicina. Programa de Pós-Graduação em Epidemiologia, Pelotas, RS, Brasil
^{*} Universidade Federal de Pelotas. Faculdade de Nutrição. Departamento de Nutrição. Pelotas, RS, Brasil

ABSTRACT

OBJECTIVE: To systematically review the evidence for the association between food

Chen et al. *Nutrition Journal* (2020) 19:86
<https://doi.org/10.1186/s12937-020-00604-1>

Nutrition Journal

REVIEW Open Access

Consumption of ultra-processed foods and health outcomes: a systematic review of epidemiological studies

Xiaoja Chen^{1,2*}, Zhang Zhang^{1,2†}, Huijie Yang^{1,2†}, Peishan Qiu^{1,2}, Haizhou Wang^{1,2}, Fan Wang^{1,2}, Qiu Zhao^{1,2*}, Jun Fang^{1,2*} and Jayan Nie^{1,2*}

Abstract

Background: Consumption of ultra-processed foods (UPFs) plays a potential role in the development of obesity and other related noncommunicable diseases (NCDs). Full-text articles have automatically forwarded on this.

International Journal of Obesity
<https://doi.org/10.1038/s41366-020-00650-z>

REVIEW ARTICLE

Epidemiology and Population Health

Ultra-processed food and the risk of overweight and obesity: a systematic review and meta-analysis of observational studies

Mohammadreza Askari¹, Javad Heshmati², Hossein Shahinfar¹, Nishant Tripathi³, Elnaz



Received: 27 November 2019 / Revised: 1 July 2020 / Accepted: 5 August 2020
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Abstract

Background Numerous studies have reported the association of ultra-processed foods with excess body weight and the nature and extent of this relation has not been clearly established. This systematic review was conducted to

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DOI: 10.1111/obr.13146

OBESITY / COMORBIDITIES / NUTRITION



Ultraprocessed food and chronic noncommunicable diseases: A systematic review and meta-analysis of 43 observational studies

Melissa M. Lane¹, Jessica A. Davis¹, Sally Beattie⁴, Clara Gómez-Donoso^{2,3}, Amy Loughman¹, Adrienne O'Neil¹, Felice Jacka^{1,6,7,8}, Michael Berk^{1,9}, Richard Page^{1,4,5}, Wolfgang Marx¹, Tetyana Rocks¹

¹The Institute for Mental and Physical Health and Clinical Translation (IMPACT), Food and Mood Centre, School of Medicine, Barwon Health, Deakin University, Geelong, Victoria, Australia
²Department of Preventive Medicine and Public Health, School of Medicine, University of Navarra, Pamplona, Spain
³CIBER Physiopathology of Obesity and Nutrition (CIBEROBN), Carlos III Health Institute, Madrid, Spain
⁴The Barwon Centre of Orthopaedic Research and Education (B-CORE), Barwon Health and St John of God Hospital Geelong, Geelong, Victoria, Australia

British Journal of Nutrition, page 1 of 11
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doi:10.1017/S0007114520002688

Consumption of ultra-processed foods and health status: a systematic review and meta-analysis

G. Pagliai^{1,2}, M. Dinu^{1,2*}, M. P. Madarena¹, M. Bonaccio³, L. Iacoviello^{3,4} and F. Sofi^{1,2}

¹Department of Experimental and Clinical Medicine, University of Florence, 50134 Florence, Italy
²Unit of Clinical Nutrition, Careggi University Hospital, 50134 Florence, Italy
³Department of Epidemiology and Prevention, IRCCS Neuromed, Pozzilli, 86077 Isernia, Italy
⁴Department of Medicine and Surgery, Research Center in Epidemiology and Preventive Medicine (EPMED), University of Insubria, 21100 Varese, Italy

(Submitted 27 March 2020 – Final revision received 30 June 2020 – Accepted 9 July 2020)

Abstract

Increasing evidence suggests that high consumption of ultra-processed foods (UPF) is associated with an increase in non-communicable diseases, overweight and obesity. The present study systematically reviewed all observational studies that investigated the association between UPF

Obesity Research & Clinical Practice xxx (2020) xxx–xxx

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Obesity Research & Clinical Practice

journal homepage: www.elsevier.com/locate/orcp

ELSEVIER

Review

The effect of ultra-processed very low-energy diets on gut microbiota and metabolic outcomes in individuals with obesity: A systematic literature review

Melissa Lane^{1,*}, Gina Howland², Madeline West², Meghan Hockey², Wolfgang Marx³, Amy Loughman⁴, Martin O'Hely^{5,6}, Felice Jacka², Tetyana Rocks²

¹Deakin University, IMPACT (the Institute for Mental and Physical Health and Clinical Translation), Food & Mood Centre, Geelong, Australia
²Deakin University, School of Medicine, Geelong, 3220, Vic, Australia
³Murdoch Children's Research Institute, Melbourne 3000, Australia

PAHO/WHO



Opposing practices

The aggregate amount provided by our **(The Coca-Cola) Company** to bottlers, resellers and other customers of our Company's products, principally for participation in

promotional and marketing programs, was **\$4.8**

billion in 2022.

<https://investors.coca-colacompany.com/filings-reports/annual-filings-10-k>



WHO, 1981

*International Code of Marketing
of Breast-milk Substitutes*



World Health Organization
Geneva

<https://www.nestle.com/sites/default/files/2023-03/2022-annual-review-en.pdf>

In 2022, we also announced plans to update our policy on the responsible marketing of breast milk substitutes, with a commitment to unilaterally stop the promotion of infant formula globally for babies aged 0 to 6 months.

PAHO/WHO



Opposing policies

Obesity and other health-related concerns may reduce demand for some of our products.

Increasing public concern about obesity;

other health-related **public concerns** surrounding consumption of **sweetened beverages;**

potential new or increased **taxes** on **sweetened beverages** by government entities to reduce consumption or to raise revenue;

additional governmental regulations concerning the **advertising, marketing, labeling, packaging or sale** of our **sweetened beverages;** and

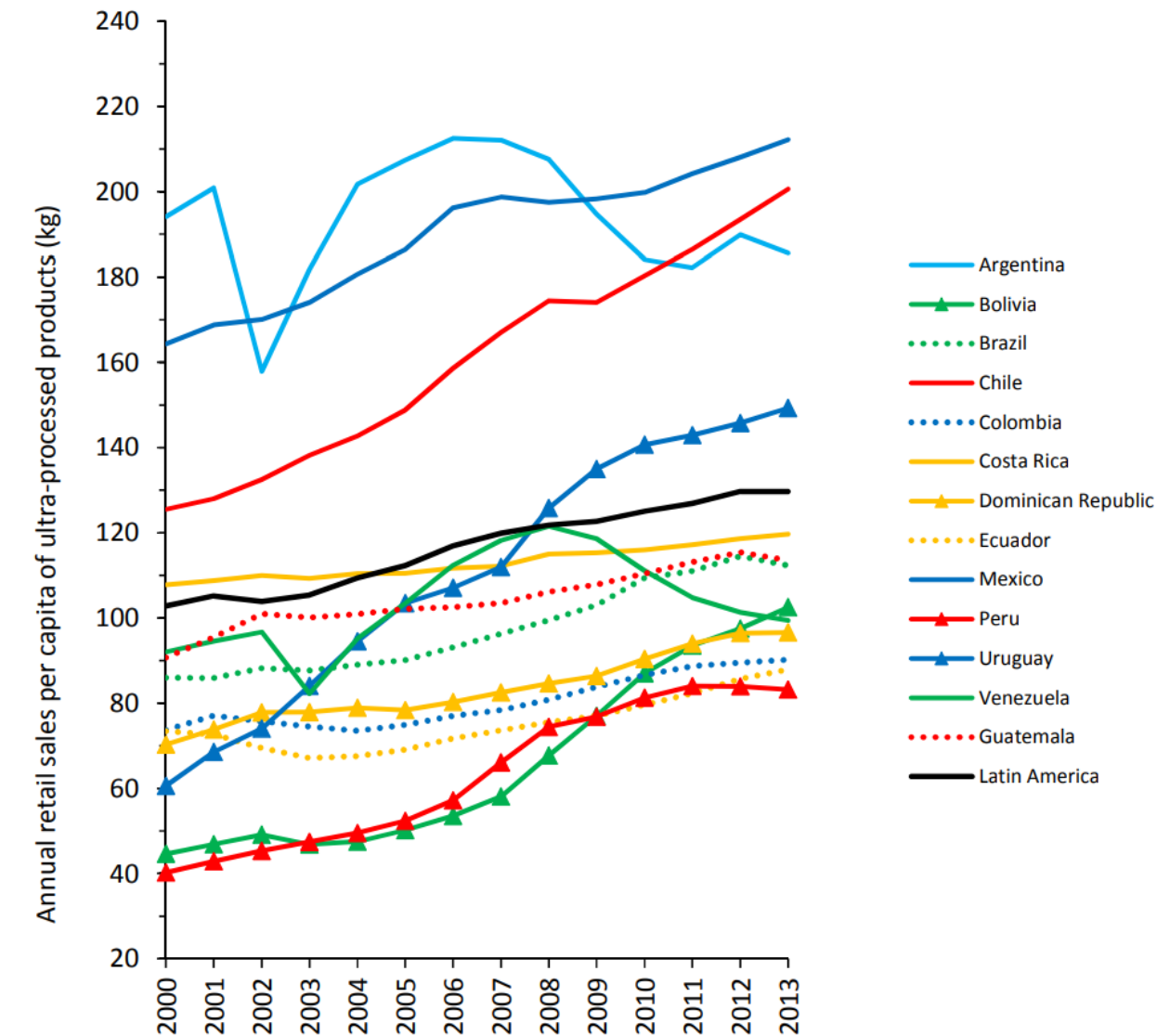
negative publicity resulting from **actual or threatened legal actions against us** or other companies in our industry relating to the marketing, labeling or sale of sweetened beverages may reduce demand for, or increase the cost of, our sweetened beverages, which

could adversely affect our profitability.

Principal risks and uncertainties

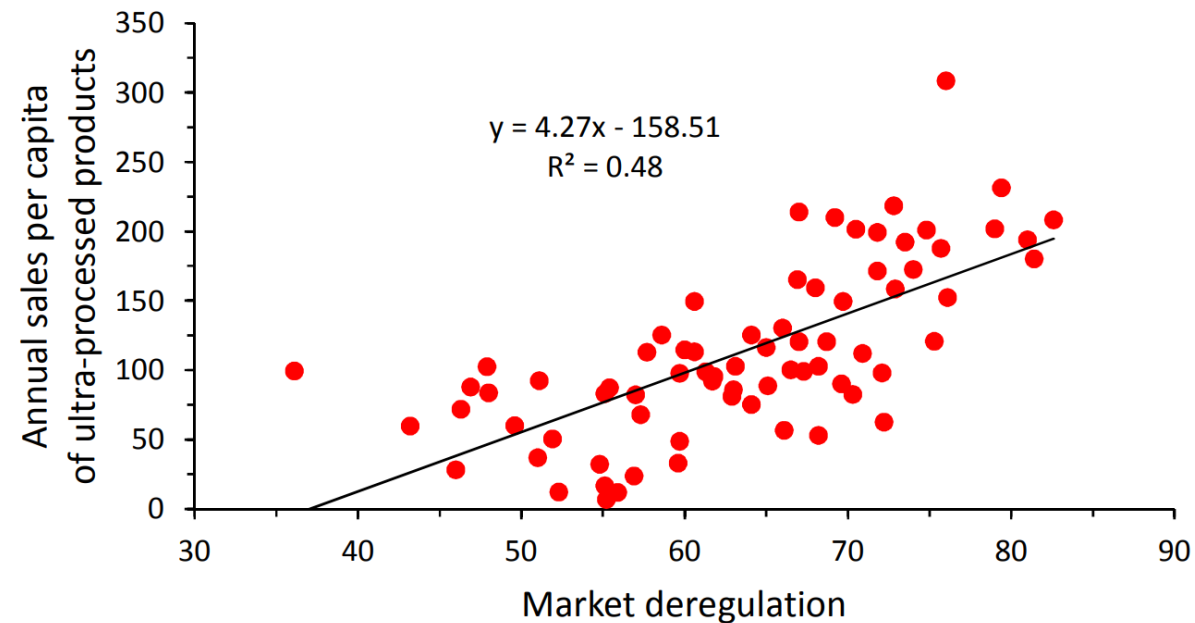
Principal risk	Description
Product quality and safety	Major event triggered by a serious food safety, product quality or other product-related non-compliance issue
Consumer preferences	Failure to adequately anticipate evolving consumer preferences; innovate relevant, competitive products and brands; or execute at speed
Regulation	Prolonged negative perceptions concerning health implications of processed food and beverage categories
Customer and channel management	Customer concentration, channel dynamics accelerating pressure on distribution, pricing and trade
Human rights	Failure to identify and/or prevent human rights violations in direct operations and extended supply chain (e.g., forced labor, child labor, working hours, living wage, etc.)

Annual retail sales per capita of ultra-processed food and drink products in 13 Latin American countries, 2000–2013



Ultra-processed products here include carbonated soft drinks, sweet and savory snacks, breakfast cereals, confectionery (candy), ice cream, biscuits (cookies), fruit and vegetable juices, sports and energy drinks, ready-to-drink tea or coffee, spreads, sauces, and ready-meals. Quantity in liters is converted into kilograms. Sales data are from the Euromonitor Passport Database (2014) (38).

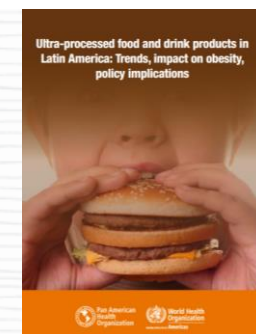
Annual retail sales per capita of ultra-processed food and drink products as a function of market deregulation in 74 countries, 2013



Ultra-processed products here include carbonated soft drinks, sweet and savory snacks, breakfast cereals, confectionery (candy), ice cream, biscuits (cookies), fruit and vegetable juices, sports and energy drinks, ready-to-drink tea or coffee, spreads, sauces, and ready-meals. Quantity in liters is converted into kilograms. Sales data are from the Euromonitor Passport Database (2014) (38). The 74 countries included all those listed in Annex B except United Arab Emirates (because of the extremely large proportion of expatriates); Singapore and Hong Kong (because they are city-states); and Argentina, the Philippines, and Taiwan (because of incomplete data on social and economic factors). Market deregulation is represented by the Index of Economic Freedom published by the Heritage Foundation and the Wall Street Journal (41).

OPS, 2015

https://iris.paho.org/bitstream/handle/10665.2/7699/9789275118641_eng.pdf



PAHO/WHO

OBJECTIVE

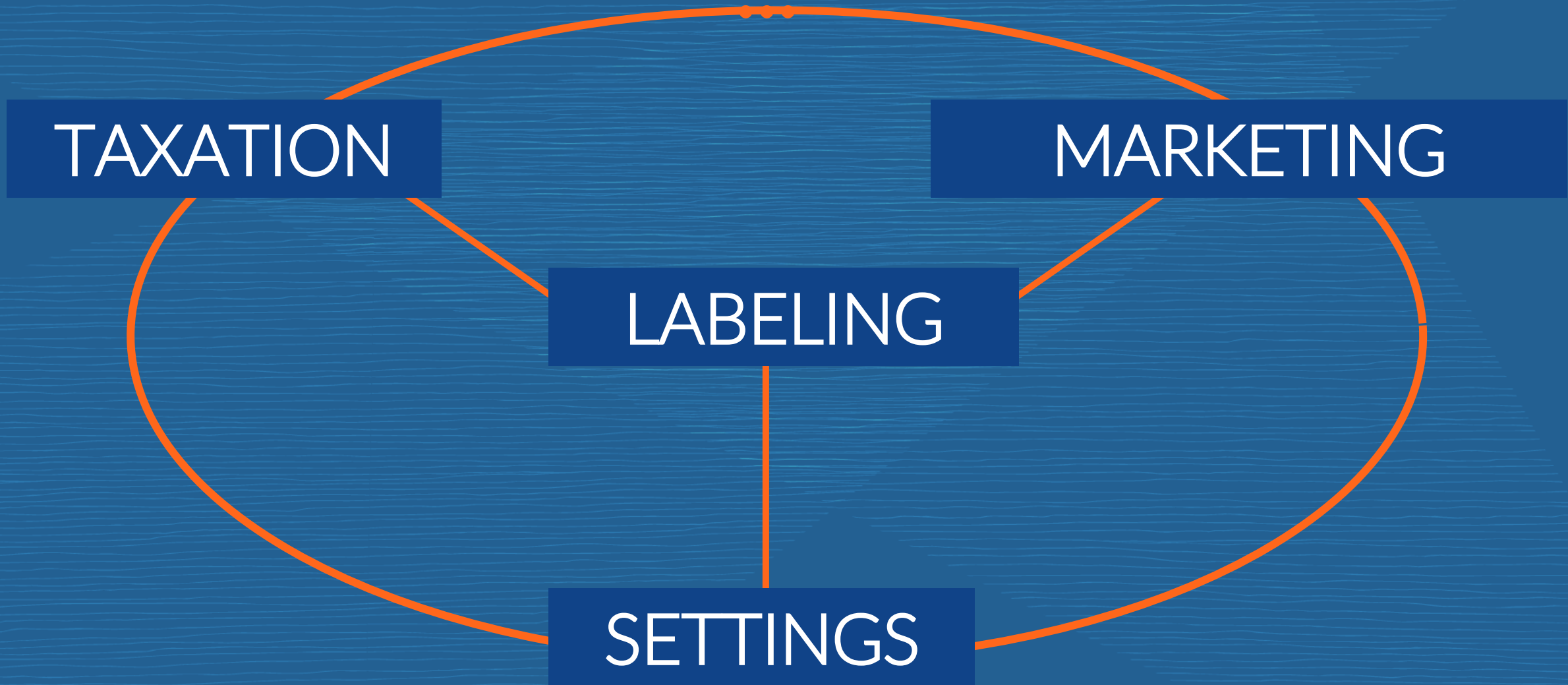


PUBLIC HEALTH

protect and improve

PAHO/WHO

REGULATION





FOP WARNING LABELING

SCAN ME



+Quick

+Easy

+Relevant

+Useful



+Change decision/purchase

<https://iris.paho.org/handle/10665.2/53013>

BMJ Open Effects of front-of-package nutrition labelling systems on understanding and purchase intention in Jamaica: results from a multiarm randomised controlled trial

Vanessa White-Barrow,¹ Fabio S Gomes ,² Sheerin Eyre,¹ Gaston Ares,^{3,4} Audrey Morris,⁵ Deonne Caines,⁶ David Finlay¹



Figure 2 Example of a product from each of the FOPL groups. (A) Nutrition facts up front (control condition); (B) single icon high in FOPL with magnifying glass; (C) traffic-light labelling scheme; (D) octagonal warning label. Images developed by coauthors, Carlos Felipe Urquizar Rojas and Carla Galvão Spinillo, and designed by Carlos Felipe Urquizar Rojas and Carla Galvão Spinillo. FOPL, front-of-package labelling.

White-Barrow V, Gomes FS, Eyre S, et al. Effects of front-of-package nutrition labelling systems on understanding and purchase intention in Jamaica: results from a multiarm randomised controlled trial. *BMJ Open* 2023;13:e065620. doi:10.1136/bmjopen-2022-065620

Table 3 Effect of different FOPL schemes on correct identification of the least harmful option, understanding of the nutritional content and intention to purchase products, in Jamaica, compared with the control condition.* Values are ORs (95% CIs)

Outcomes	Products	Front-of-package labelling experimental groups		
		TFL (n=301)	MGG (n=301)	OWL (n=303)
Correct identification of the least harmful option	All categories of products	1.13 (0.85 to 1.51) ^a	1.18 (0.89 to 1.57) ^a	2.07 (1.54 to 2.78)^{†b}
	Breakfast cereals	1.16 (0.83 to 1.61) ^a	1.83 (1.30 to 2.60)^{†b}	1.97 (1.39 to 2.82)^{†b}
	Crackers	1.02 (0.74 to 1.41) ^a	1.18 (0.85 to 1.63) ^a	1.75 (1.26 to 2.44)^{†b}
	Yoghurts	1.20 (0.86 to 1.68) ^a	0.69 (0.50 to 0.96) ^b	1.42 (1.01 to 2.00)^{†a}
	Flavoured milks	0.99 (0.71 to 1.38) ^a	1.11 (0.80 to 1.55) ^{a,b}	1.41 (1.00 to 1.98) ^b
Correct understanding about the nutritional content of products	All categories of products	2.09 (1.57 to 2.79)^{†a}	2.69 (2.01 to 3.62)^{†a}	4.57 (3.41 to 6.15)^{†b}
	Breakfast cereals	1.91 (1.33 to 2.76)^{†a}	2.49 (1.74 to 3.58)^{†a}	4.14 (2.90 to 5.96)^{†b}
	Crackers	1.81 (1.27 to 2.58)^{†a}	2.38 (1.68 to 3.38)^{†a}	3.68 (2.60 to 5.25)^{†b}
	Yoghurts	2.01 (1.43 to 2.83)^{†a}	2.15 (1.53 to 3.04)^{†a}	3.41 (2.43 to 4.83)^{†b}
	Flavoured milks	5.52 (3.44 to 9.15)^{†a}	7.99 (5.02 to 13.20)^{†a,b}	9.04 (5.69 to 14.91)^{†b}
Intention to purchase the least harmful option or none of the options	All categories of products	1.25 (0.93 to 1.67) ^a	1.58 (1.18 to 2.11)^{†a,b}	2.03 (1.51 to 2.72)^{†b}
	Breakfast cereals	1.14 (0.82 to 1.59) ^a	1.61 (1.15 to 2.26)^{†b}	1.61 (1.15 to 2.26)^{†b}
	Crackers	1.44 (1.03 to 2.04)^{†a,b}	1.28 (0.91 to 1.80) ^a	1.79 (1.27 to 2.52)^{†b}
	Yoghurts	0.99 (0.72 to 1.37)	1.18 (0.85 to 1.63)	1.33 (0.96 to 1.85)
	Flavoured milks	1.06 (0.77 to 1.47) ^a	1.36 (0.98 to 1.88) ^{a,b}	1.62 (1.17 to 2.25)^{†b}
Intention to purchase the least harmful option	All categories of products	1.16 (0.81 to 1.66) ^a	1.50 (1.04 to 2.16)^{†a,b}	1.80 (1.24 to 2.63)^{†b}
	Breakfast cereals	1.18 (0.84 to 1.66)	1.65 (1.16 to 2.34)[†]	1.54 (1.09 to 2.19)[†]
	Crackers	1.47 (1.02 to 2.11)[†]	1.16 (0.80 to 1.69)	1.56 (1.08 to 2.25)[†]
	Yoghurts	0.99 (0.69 to 1.41)	1.19 (0.83 to 1.70)	1.26 (0.88 to 1.81)
	Flavoured milks	1.08 (0.72 to 1.62)	1.23 (0.82 to 1.87)	1.36 (0.90 to 2.05)
Intention to not purchase any of the options	All categories of products	1.07 (0.76 to 1.49) ^a	1.23 (0.88 to 1.73) ^a	1.77 (1.27 to 2.47)^{†b}
	Breakfast cereals	0.94 (0.51 to 1.71) ^a	1.09 (0.61 to 1.96) ^{a,b}	1.84 (1.07 to 3.23)^{†b}
	Crackers	1.18 (0.57 to 2.46) ^a	1.77 (0.92 to 3.54) ^{a,b}	2.78 (1.49 to 5.44)^{†b}
	Yoghurts	0.98 (0.62 to 1.56)	1.09 (0.70 to 1.72)	1.34 (0.86 to 2.09)
	Flavoured milks	1.02 (0.69 to 1.52) ^a	1.37 (0.94 to 2.00) ^{a,b}	1.75 (1.20 to 2.56)^{†b}



age, gender, education and reported non-communicable disease and related risk factors.

White-Barrow V, Gomes FS, Eyre S, et al. Effects of front-of-package nutrition labelling systems on understanding and purchase intention in Jamaica: results from a multiarm randomised controlled trial. *BMJ Open* 2023;13:e065620. doi:10.1136/bmjopen-2022-065620

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	Crackers	1.18 (0.57 to 2.46) ^a	1.77 (0.92 to 3.54) ^{a,b}	2.78 (1.49 to 5.44)^{†b}
	Yoghurts	0.98 (0.62 to 1.56)	1.09 (0.70 to 1.72)	1.34 (0.86 to 2.09)
	Flavoured milks	1.02 (0.69 to 1.52) ^a	1.37 (0.94 to 2.00) ^{a,b}	1.75 (1.20 to 2.56)^{†b}



age, gender, education and reported non-communicable disease and related risk factors.

White-Barrow V, Gomes FS, Eyre S, et al. Effects of front-of-package nutrition labelling systems on understanding and purchase intention in Jamaica: results from a multiarm randomised controlled trial. *BMJ Open* 2023;13:e065620. doi:10.1136/bmjopen-2022-065620

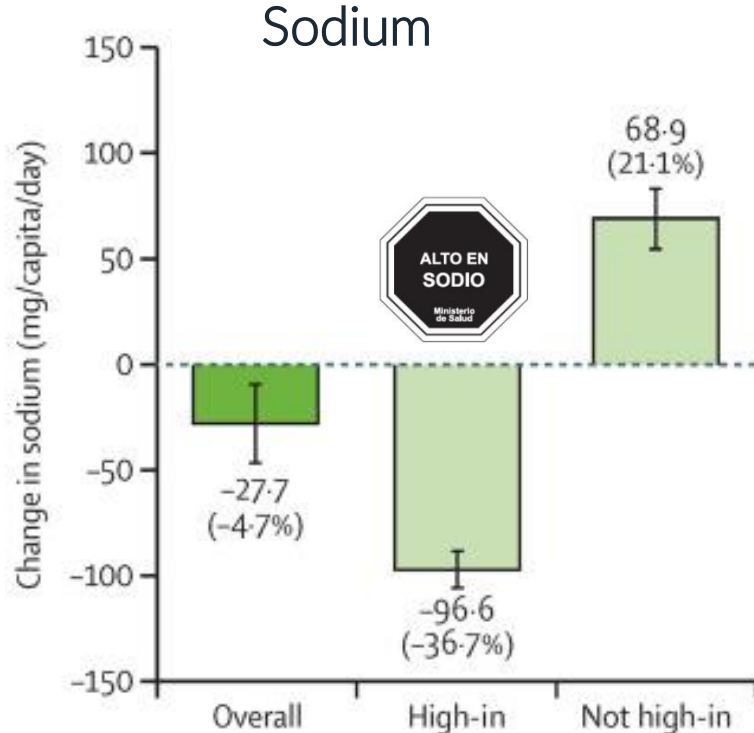
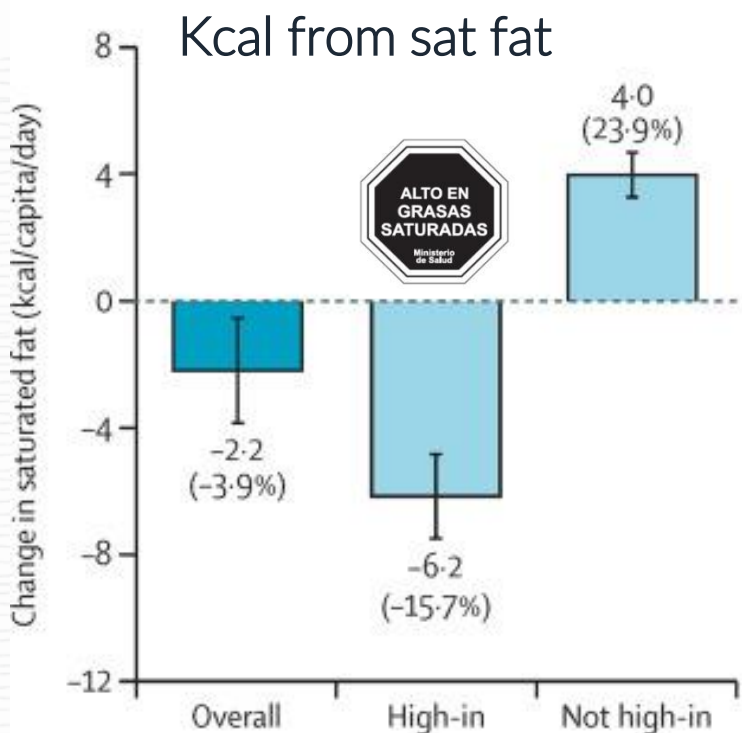
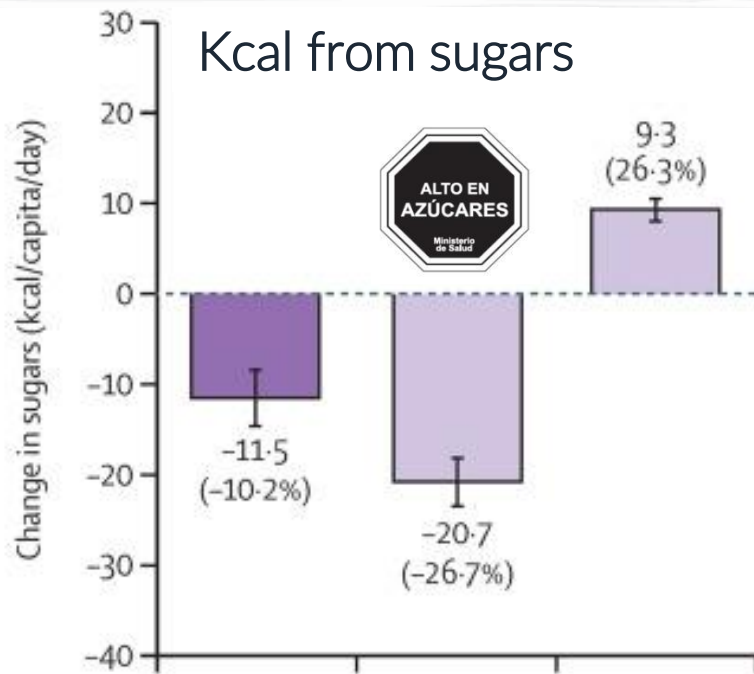
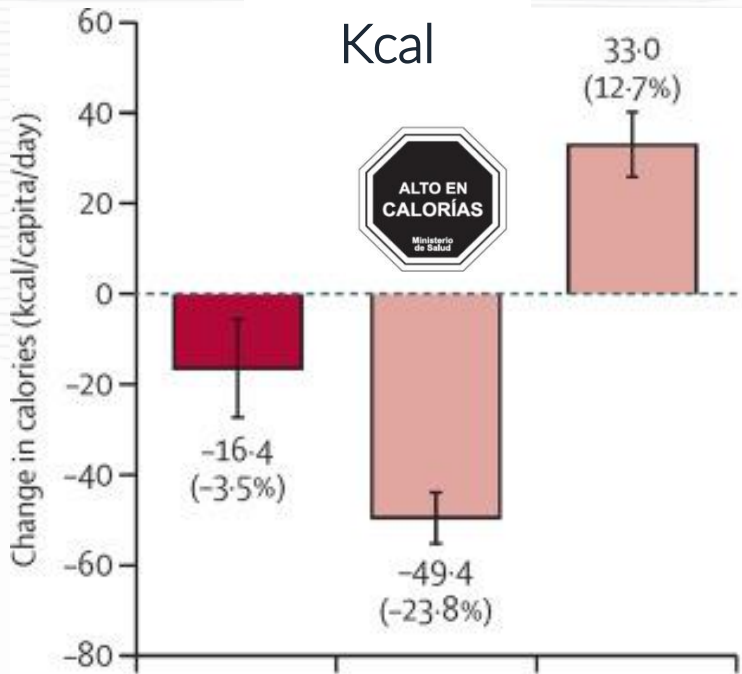
Table 3 Effect of different FOPL schemes on correct identification of the least harmful option, understanding of the nutritional content and intention to purchase products, in Jamaica, compared with the control condition.* Values are ORs (95% CIs)

Outcomes	Products	Front-of-package labelling experimental groups		
		TFL (n=301)	MGG (n=301)	OWL (n=303)
Correct identification of the least harmful option	All categories of products	1.13 (0.85 to 1.51) ^a	1.18 (0.89 to 1.57) ^a	2.07 (1.54 to 2.78)^{†b}
	Breakfast cereals	1.16 (0.83 to 1.61) ^a	1.83 (1.30 to 2.60)^{†b}	1.97 (1.39 to 2.82)^{†b}
	Crackers	1.02 (0.74 to 1.41) ^a	1.18 (0.85 to 1.63) ^a	1.75 (1.26 to 2.44)^{†b}
	Yoghurts	1.20 (0.86 to 1.68) ^a	0.69 (0.50 to 0.96) ^b	1.42 (1.01 to 2.00)^{†a}
	Flavoured milks	0.99 (0.71 to 1.38) ^a	1.11 (0.80 to 1.55) ^{a,b}	1.41 (1.00 to 1.98) ^b
Correct understanding about the nutritional content of products	All categories of products	2.09 (1.57 to 2.79)^{†a}	2.69 (2.01 to 3.62)^{†a}	4.57 (3.41 to 6.15)^{†b}
	Breakfast cereals	1.91 (1.33 to 2.76)^{†a}	2.49 (1.74 to 3.58)^{†a}	4.14 (2.90 to 5.96)^{†b}
	Crackers	1.81 (1.27 to 2.58)^{†a}	2.38 (1.68 to 3.38)^{†a}	3.68 (2.60 to 5.25)^{†b}
	Yoghurts	2.01 (1.43 to 2.83)^{†a}	2.15 (1.53 to 3.04)^{†a}	3.41 (2.43 to 4.83)^{†b}
	Flavoured milks	5.52 (3.44 to 9.15)^{†a}	7.99 (5.02 to 13.20)^{†a,b}	9.04 (5.69 to 14.91)^{†b}
Intention to purchase the least harmful option or none of the options	All categories of products	1.25 (0.93 to 1.67) ^a	1.58 (1.18 to 2.11)^{†a,b}	2.03 (1.51 to 2.72)^{†b}
	Breakfast cereals	1.14 (0.82 to 1.59) ^a	1.61 (1.15 to 2.26)^{†b}	1.61 (1.15 to 2.26)^{†b}
	Crackers	1.44 (1.03 to 2.04)^{†a,b}	1.28 (0.91 to 1.80) ^a	1.79 (1.27 to 2.52)^{†b}
	Yoghurts	0.99 (0.72 to 1.37)	1.18 (0.85 to 1.63)	1.33 (0.96 to 1.85)
	Flavoured milks	1.06 (0.77 to 1.47) ^a	1.36 (0.98 to 1.88) ^{a,b}	1.62 (1.17 to 2.25)^{†b}
Intention to purchase the least harmful option	All categories of products	1.16 (0.81 to 1.66) ^a	1.50 (1.04 to 2.16)^{†a,b}	1.80 (1.24 to 2.63)^{†b}
	Breakfast cereals	1.18 (0.84 to 1.66)	1.65 (1.16 to 2.34)[†]	1.54 (1.09 to 2.19)[†]
	Crackers	1.47 (1.02 to 2.11)[†]	1.16 (0.80 to 1.69)	1.56 (1.08 to 2.25)[†]
	Yoghurts	0.99 (0.69 to 1.41)	1.19 (0.83 to 1.70)	1.26 (0.88 to 1.81)
	Flavoured milks	1.08 (0.72 to 1.62)	1.23 (0.82 to 1.87)	1.36 (0.90 to 2.05)
Intention to not purchase any of the options	All categories of products	1.07 (0.76 to 1.49) ^a	1.23 (0.88 to 1.73) ^a	1.77 (1.27 to 2.47)^{†b}
	Breakfast cereals	0.94 (0.51 to 1.71) ^a	1.09 (0.61 to 1.96) ^{a,b}	1.84 (1.07 to 3.23)^{†b}
	Crackers	1.18 (0.57 to 2.46) ^a	1.77 (0.92 to 3.54) ^{a,b}	2.78 (1.49 to 5.44)^{†b}
	Yoghurts	0.98 (0.62 to 1.56)	1.09 (0.70 to 1.72)	1.34 (0.86 to 2.09)
	Flavoured milks	1.02 (0.69 to 1.52) ^a	1.37 (0.94 to 2.00) ^{a,b}	1.75 (1.20 to 2.56)^{†b}

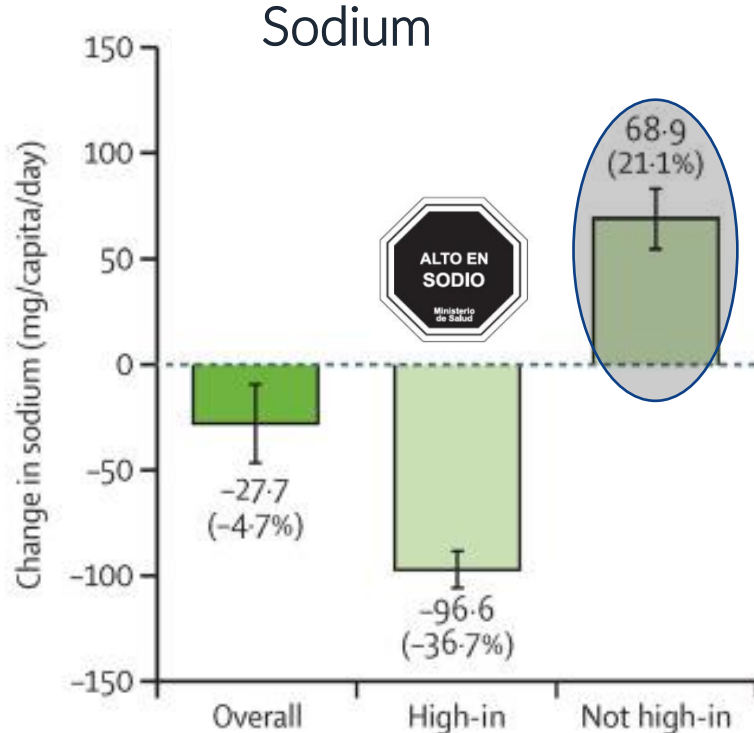
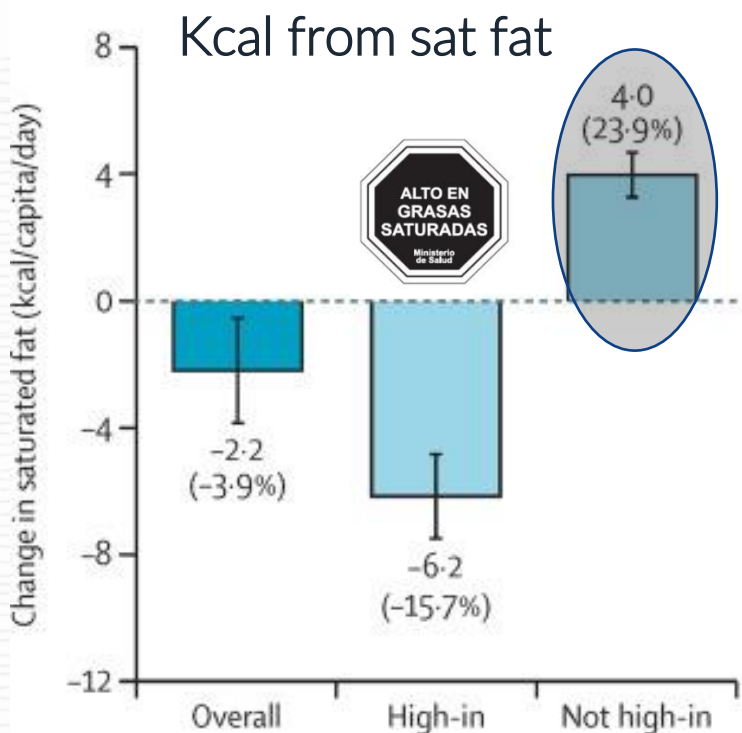
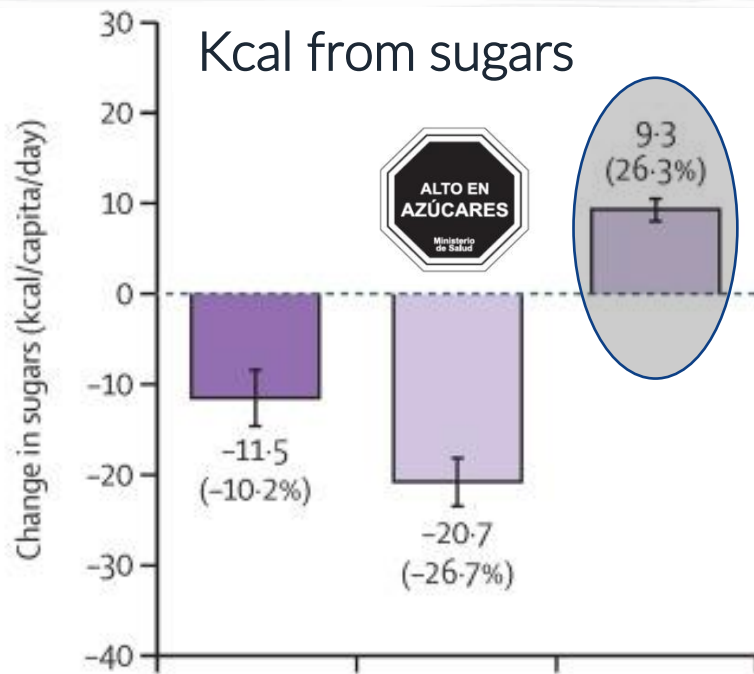
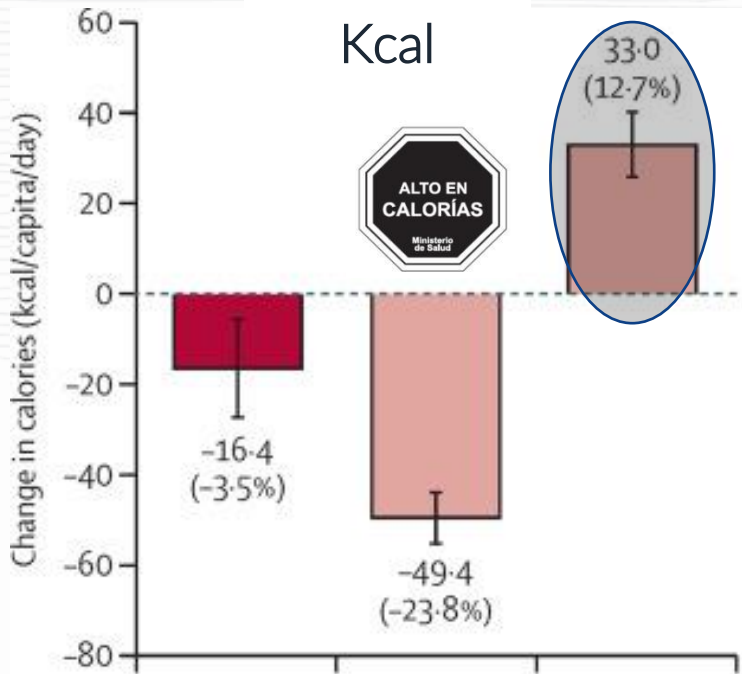


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Change in kcal, kcal from sugars and from sat fats and in mg of sodium purchased (Chile – Phase 1) 2015-2017



Change in kcal, kcal from sugars and from sat fats and in mg of sodium purchased (Chile – Phase 1) 2015-2017

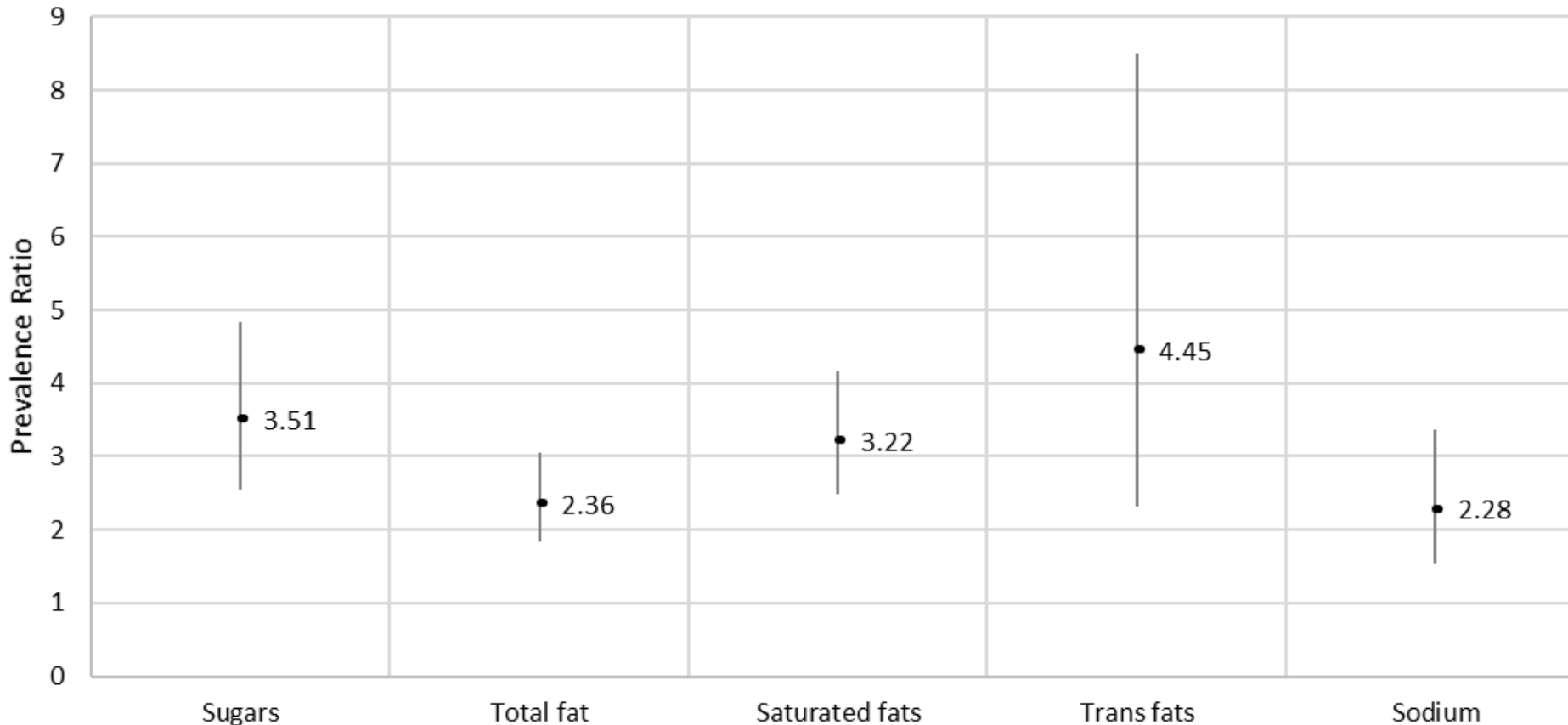
SCAN ME



PAHO/WHO

Analysis of +125k people in 9 countries (Argentina, Canada, Barbados, Brazil, USA, Chile, Colombia, Mexico, Uruguay)

Prevalence Ratio of not meeting WHO intake goals
(diets with vs. without products in excess of critical nutrients according to PAHO Nutrient Profile Model)



Proportion of individuals exceeding WHO intake goals

3.5 times higher (SUGARS)

3 times higher (SAT FAT)

4.5 times higher (TRANS FATS)

2 times higher (TOTAL FATS and SODIUM)

DOI: 10.3390/nu14030528

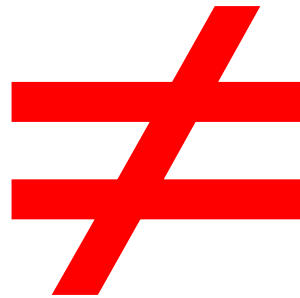
DOI: 10.1007/s00394-021-02740-8



PAHO



Milk

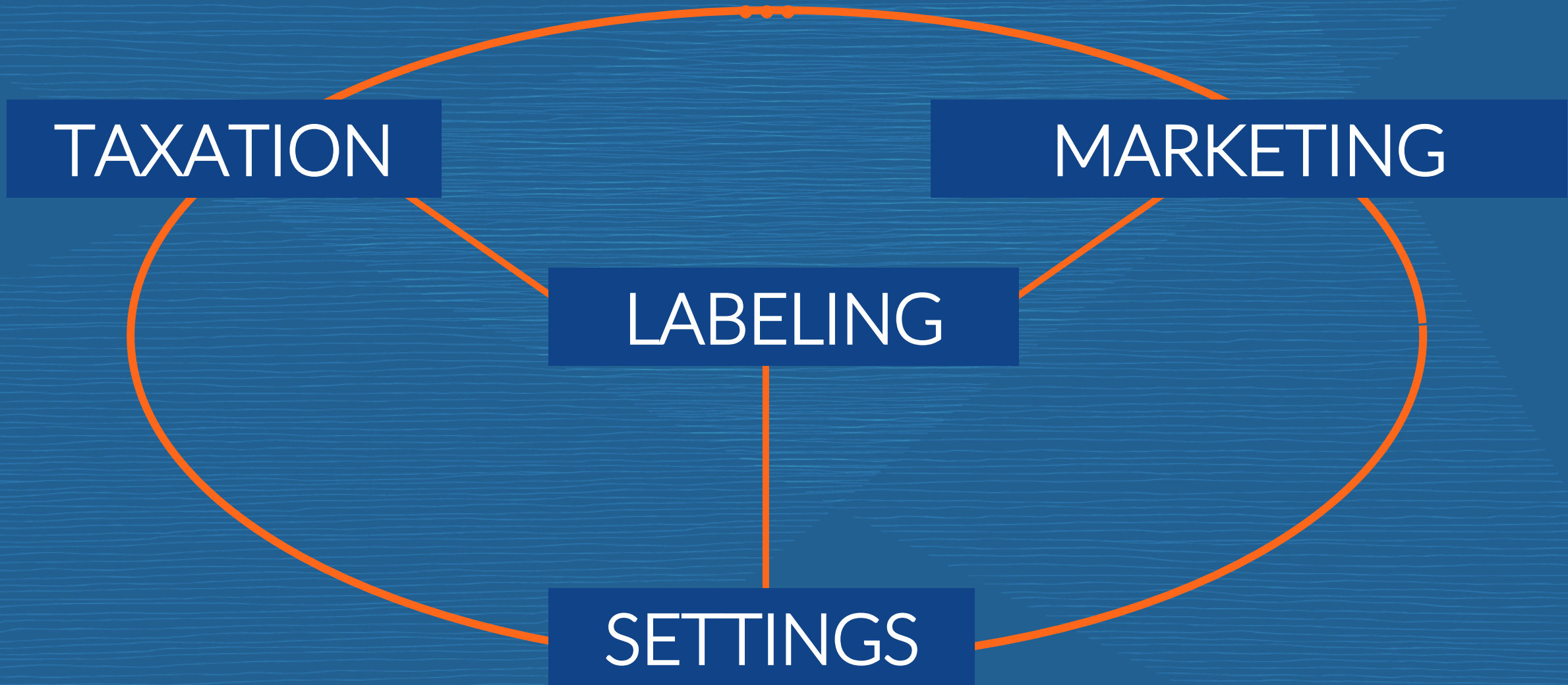






PAHO/WHO

REGULATION



PAHO/WHO

Policy Stages



Discussion

Proposal

Adoption

Implementation

Monitoring

Enforcement

NOW MORE THAN EVER

WE HAVE
A RIGHT
TO KNOW
WHAT'S
REALLY IN
OUR FOOD



BETTER LABELS
BETTER CHOICES
BETTER HEALTH



+Evidence, questions,
answers, information

[https://www.paho.org/
nutrition](https://www.paho.org/nutrition)



PAHO