

BRAZILIAN DIETARY GUIDELINES: HEALTH, WELL-BEING AND SUSTAINABILITY IN THE SAME PLATE

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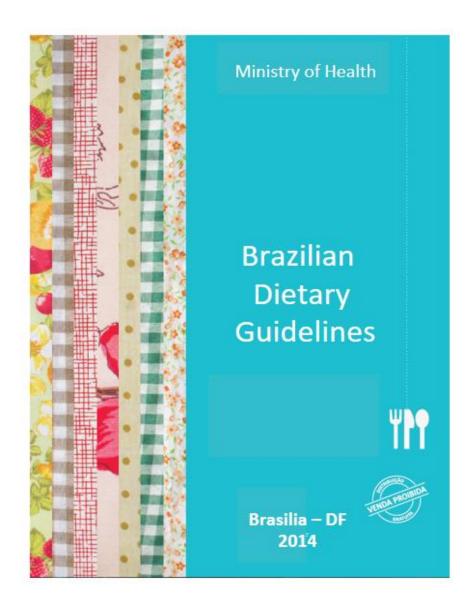
Stakeholders Consultation on Adolescent Girls' Nutrition: Evidence, Guidance, and Gaps October 30–31, 2017











Chapter 1 Principles

Chapter 2 Choosing foods

Chapter 3 From foods to meals

Chapter 4 Mindful eating and commensality

Chapter 5 **Overcoming obstacles**

Ten steps to healthy diets

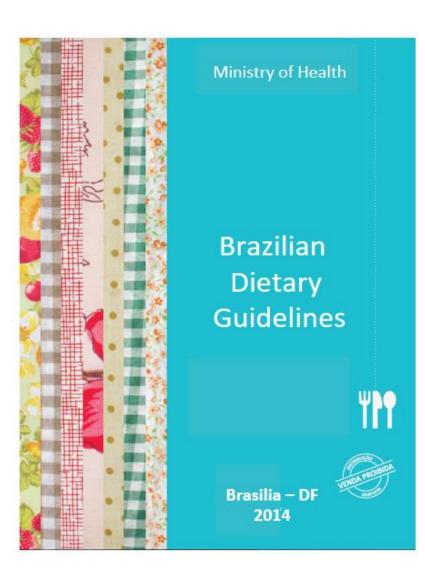
Brazilian Dietary Guidelines

✓ Principles

✓ Main recommendations (video)

✓ Potential gains in diet quality, disease prevention and sustainability (in Brazil and other countries)

✓ Global policy implications



Chapter 1. Principles

- ✓ Health is more than the absence of diseases and diet is more than the intake of nutrients
- ✓ Dietary recommendations need to be tuned to their times
- ✓ Different sources of knowledge inform sound dietary advice
- ✓ Dietary guidelines broaden autonomy in food choices
- ✓ Healthy diets derive from socially and environmentally sustainable food systems

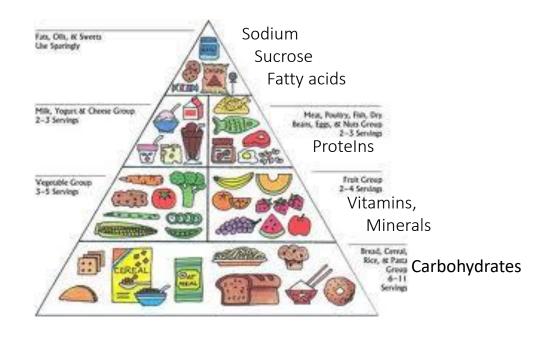
✓ Health is more than the absence of diseases ...

BDG see health as a state of complete physical, mental and social well-being *

*Preamble to the Constitution of the World Health Organization New York, 19 June - 22 July 1946

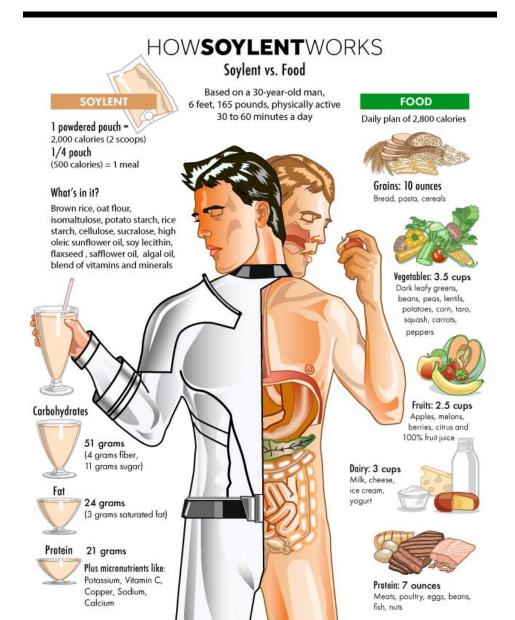
✓ ... and diet is more than the intake of nutrients

Conventional dietary guidelines reduce diet to the sum of nutrients existing in foods eaten along the day (foods seen as mere carriers of nutrients)



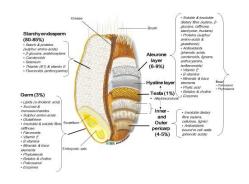
Options for healthy diets when food is seen as a mere carrier of nutrients





BDG see diet as including:





Foods (and their nutrients)



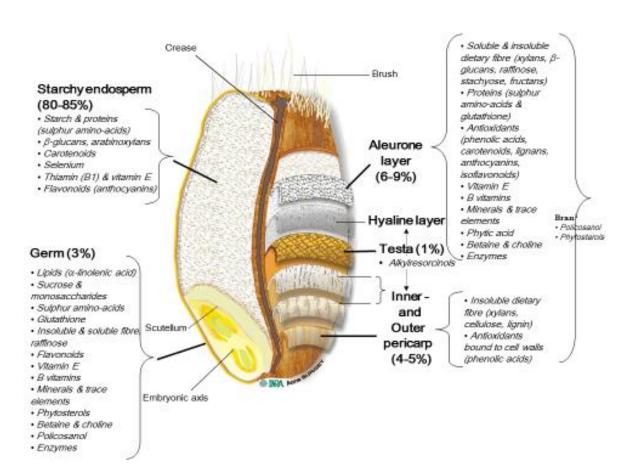
Meals (food combinations)



Eating modes

Because all of them affect health and well-being!

Food is more than the sum of its nutrients (the food matrix concept)

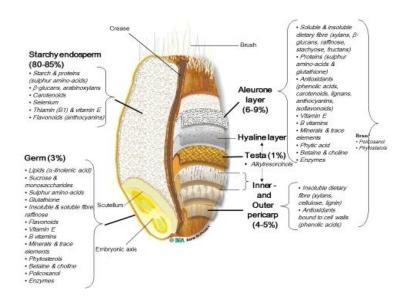


Foods as complex, nonrandom mixtures of natural compounds, developed under biological evolutionary control *

^{*} Jacobs Jr, DR & Tapsell LC 2013. Food synergy: the key to a healthy diet. Proceeding of the Nutrition Society 72, 2, 200-206

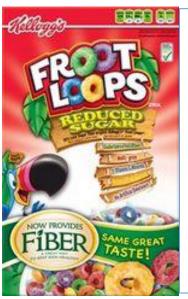
BDG distinguish real foods from formulations of food substances and cosmetic additives

Cereal (Real food)



Nonrandom mixtures of natural compounds developed under biological evolutionary control

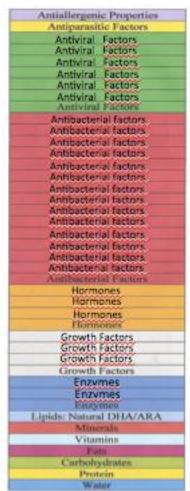
"Cereal" (Imitation)



Ingredients: Sugar, corn flour, wheat flour, oat flour, oat fiber, corn fiber, partially hydrogenated vegetable oil, salt, red 40, natural flavor, blue 2, turmeric color, yellow 6, annato color, blue 1, BHT for freshness, vitamin C, niacinamide, reduced iron, zinc oxide, vitamin B6, vitamin B2, vitamin B1, vitamin A, folic acid, viitamin D, vitamin B12

Technological formulations of substances derived from constituents of foods plus additives, and and designed to compete with natural foods

HUMAN MLKComponents







INFANT FORMULA Components

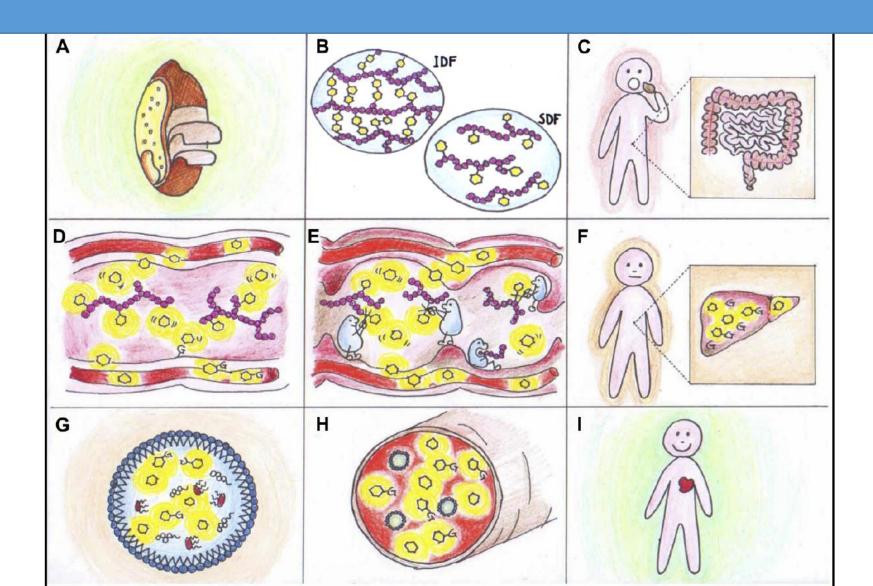


Nonrandom mixtures of natural compounds developed under biological evolutionary control

Technological formulations of substances derived from constituents of foods, and designed to compete with natural foods

Health benefits due to the slow and continuous release of phenolic compounds bound to dietary fiber through the gut

Vitaglione P et al 2008 Trends in Food Science & Technology 19:451-463



One meal is more than the sum of the food matrices used in its preparation



Meals as complex, nonrandom mixture of foods, developed under biocultural evolutionary control*

*Jacobs & Tapsell 2013

BDG distinguish real meals from formulations of food substances and cosmetic additives

Real meal



Meals as complex, nonrandom mixture of foods, developed under biocultural evolutionary control

The imitation



Ingredients:

Noodle Cake: Wheat Flour, Palm Oil, Salt, Anti-Caking Agents, Thickener, Humectant.

Flavour Sachet: Salt,
Flavour Enhancers
(Monosodium Glutamate,
Disodium Guanylate,
Disodium Inosinate), Sugar,
Maize Starch, Flavourings
(with Milk and Soya),
Chicken Meat (3%),
Soya Sauce, Palm Oil,
Chicken Fat (2%), Leek,
Onion, Garlic, Celery Seed
Powder, Acid Turmeric

Technological formulations of substances derived from constituents of foods plus additives, and designed to compete with meals made from scratch

Eating modes affects energy balance regulation*





*Cohen DA, Farley TA. Eating as an automatic behavior. *Preventing Chronic Disease* 5: 1-7, 2008; Wansink B. *Mindless Eating:* Why We Eat More Than We Think. New York: Bantam, 2006

Foods, meals, eating modes, all affect mental and social well-being*





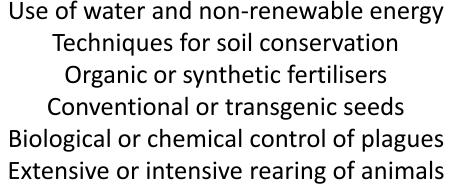
^{*}Pollan M. Cooked. *A Natural History of Transformation*. New York: Penguin, 2013; Fischler C. Commensality, society and culture. *Social Science Information* 50: 528-48, 2011.

Healthy diets derive from socially and environmentally sustainable food systems

Aspects to be considered*





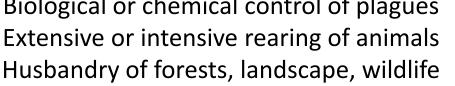












Intensity of food processing









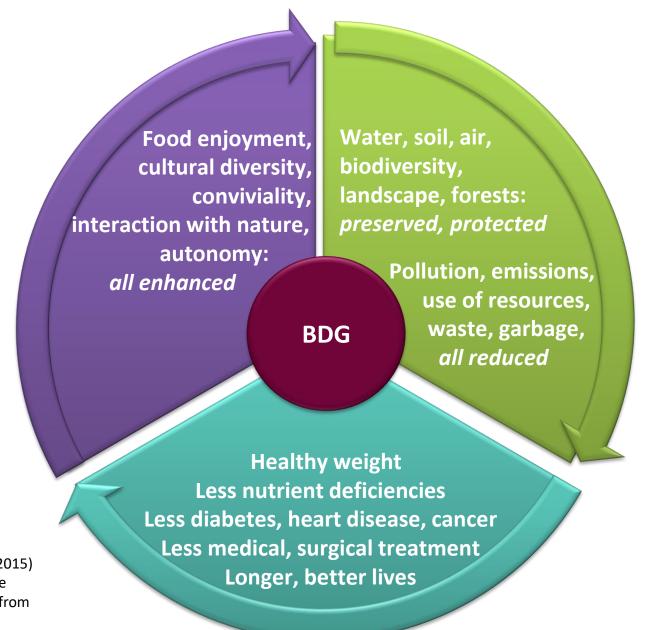
Size and use of farms Effect on local communities Working conditions Fairness of the trading system Generation of jobs Income distribution





^{*} FAO Sustainable diets and biodiversity. Rome 2010; IPES-Food. 2017. Unravelling the Food–Health Nexus.

Ultimate aims of the Brazilian Dietary Guidelines



Monteiro CA, Cannon G, Moubarac J-C et al. (2015) Dietary guidelines to nourish humanity and the planet in the twenty-first century. A blueprint from Brazil. *Public Health Nutr* 18, 2311–2322.

Brazilian Dietary Guidelines

✓ Principles

✓ Main recommendations (video)

✓ Potential gains in diet quality, disease prevention and sustainability (in Brazil and other countries)

✓ Global policy implications

NOVA: the food classification based on extent and purpose of industrial processing used by the BDG

NOVA Food groups

1) Unprocessed or minimally processed foods

Edible parts of plants and animals after separation from nature or modified/preserved by minimal processes (no substances added)

2) Processed culinary ingredients

Substances extracted from foods or nature and used to prepare, cook and season Group 1 foods such as salt, sugar, oils or fats

3) Processed foods

Group 1 foods modified with the addition of salt, sugar, oils or fats to preserve and enhance their sensory qualities

4) Ultra-processed foods

Formulations of substances derived from foods plus cosmetic additives, and designed to be durable, convenient, hyper-palatable, irresistible and highly profitable

Examples





































Source: Monteiro et al Public Health Nutrition 2017

Ultra-processed foods are designed (and marketed) to replace all other NOVA food groups

































A practical way to recognize ultra-processed foods: see the list of ingredients



Peas, potatoes, carrots and salt



Peaches, water and sugar



Wheat flour, water, salt and yeast



Milk, salt, curd and yeast

Processed foods



Salt, monosodium glutamate, sugar, partially hydrogenated palm oil, cornstarch, and less than 2% of dehydrated beef, color, caramel flavor. natural disodium inosinate, turmeric, spices, tbhq (preservative))



Sugar, corn flour blend, wheat flour, whole grain oat flour, oat fiber, soluble corn fiber, contains 2% or less of partially hydrogenated vegetable oil (coconut, soybean and/or cottonseed), salt, red 40, natural flavor, 2, turmeric color, yellow 6, annatto color, blue freshness. for Vitamins and Minerals



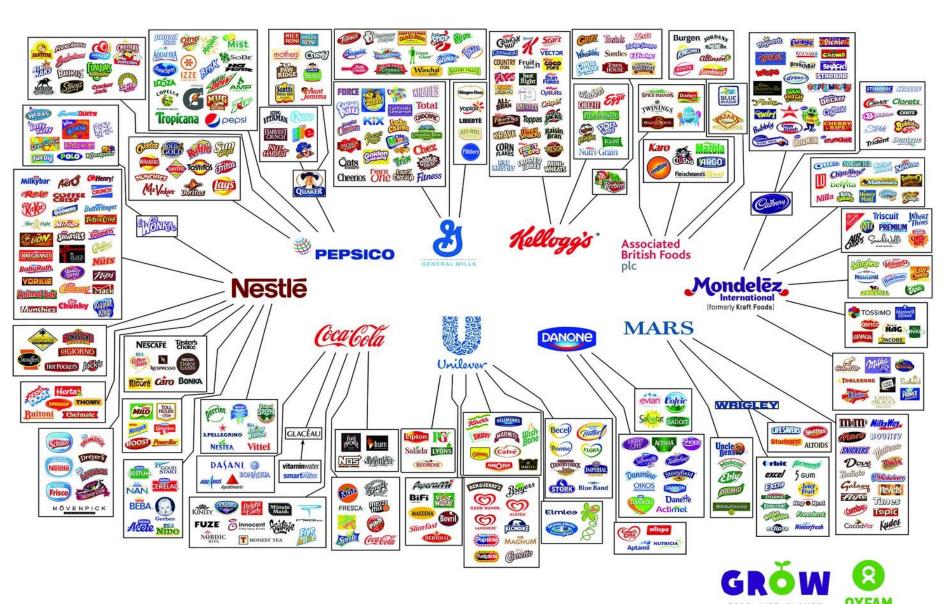
Enriched wheat flour, water, sugar, yeast, salt, soybean and/or canola oil, enrichment, calcium propionate (preservative), calcium sulfate, datem, monoand diglycerides, citric acid, soy lecithin, sodium stearoyl lactylate, wheat gluten, ethoxylated mono- and diglycerides.



Sugar, Fructose, Citric Acid, Calcium Phosphate, Contains Less than 2% of Orange Juice Solids, Natural Flavor, Ascorbic Acid (Vitamin C), Vitamin E Acetate, Niacinamide, Vitamin B6, A Palmitate, Vitamin Riboflavin B2), (Vitamin Beta Carotene, Maltodextrin, Sucralose, Acesulfame Potassium. and Neotame (Sweeteners) Guar and Xanthan Gums, Artificial Color, Yellow 5, Yellow 6, BHA

Ultraprocessed foods

... or see the brand!



Big Food: global sales of US\$1.1 billion/day in 2013

Chapter 3. From foods to meals

Focused on real examples of meals taken from Brazilians who base their diet on minimally processed foods and freshly prepared dishes

Breakfast



Milk, couscous, egg, banana Man, 20, North-East region



Orange juice, roll, butter, papaya Woman, Man, 44, South region



Coffee with milk, tapioca, banana Woman, 58, North region



Coffee with milk, corn cake, melon Woman, 34, Mid-West region

Chapter 3. From foods to meals

Focused on real examples of meals taken from Brazilians who base their diet on minimally processed foods and freshly prepared dishes

Lunch



Lettuce, rice, lentils, roast pork, potatoes, sautéed cabbage, pineapple

Man, 43, South region



Rice, beans, corn mash, squash, okra, papaya
Woman, 49, South region



Tomatoes, rice, beans, beef, fruit salad Man, 50, Mid-West region



Lettuce, tomato, beans, manioc grits, stewed fish, coconut Man, 28, North-East region

Chapter 3. From foods to meals

Focused on real examples of meals taken from Brazilians who base their diet on minimally processed foods and freshly prepared dishes

Dinner



Rice, beans, ground beef, vegetables Woman, 28, Mid-West region



Rice, beans, beef liver, zucchini Man, 33, South-East region

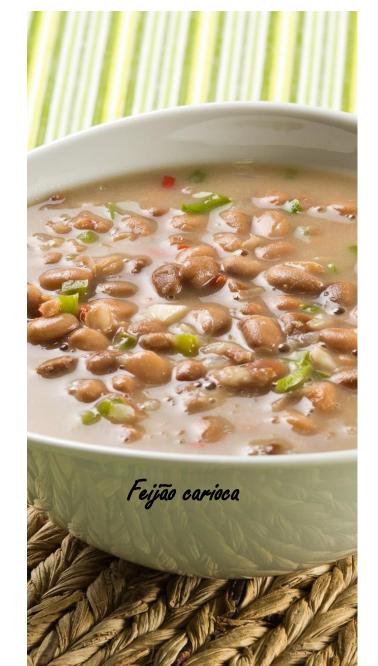


Vegetable soup, açaí, cassava grits Man, 15, North region

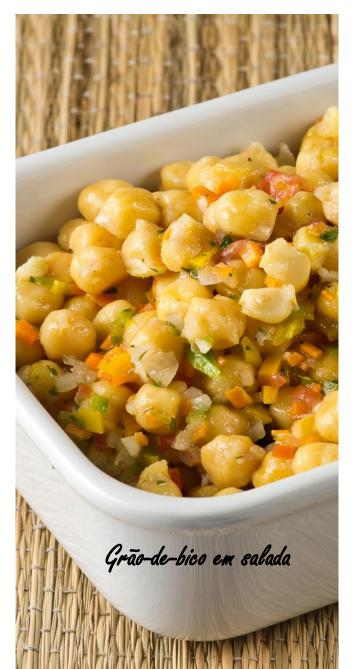


Salad, pasta, chicken Man, 45, South region

Readers are encouraged to increase variety with different pulses in diversified preparations







Readers are encouraged to increase variety with different cereals in diversified preparations







Readers are encouraged to increase variety with different vegetables in diversified preparations







Brazilian Dietary Guidelines

✓ Principles

✓ Main recommendations (video)

✓ Potential gains in diet quality, disease prevention and sustainability in Brazil

✓ Global policy implications

Rev Saúde Pública 2015;49:38

Original Articles

DOI:10.1590/S0034-8910.2015049006132

Maria Laura da Costa Louzada^{I,II} Ana Paula Bortoletto Martins^{II} Daniela Silva Canella^{II,III}

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Ultra-processed foods and the nutritional dietary profile in Brazil

Alimentos ultraprocessados e perfil nutricional da dieta no Brasil

ABSTRACT

Gains in diet quality

Rev Saúde Pública 2015;49:45

Maria Laura da Costa Louzada^{I,II}

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Original Articles

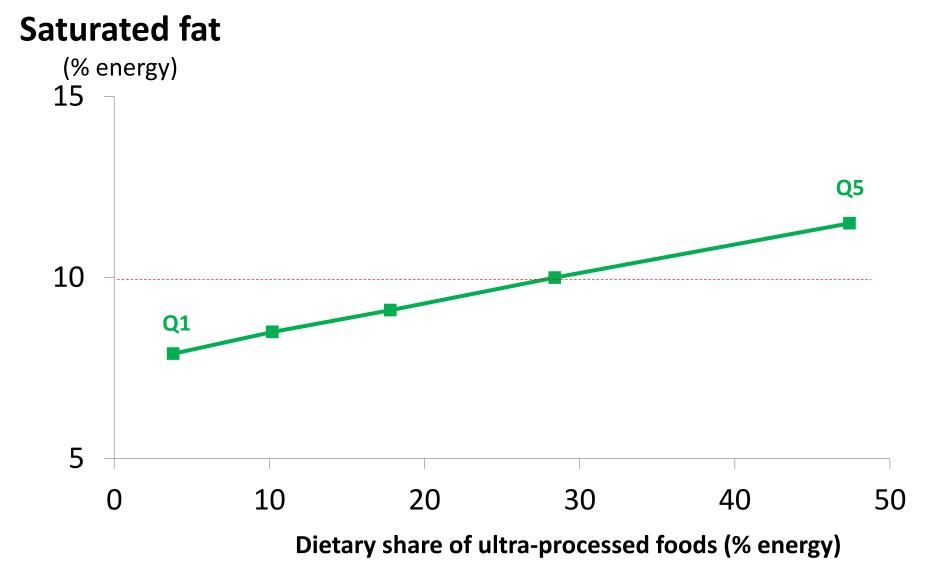
DOI:10.1590/S0034-8910.2015049006211

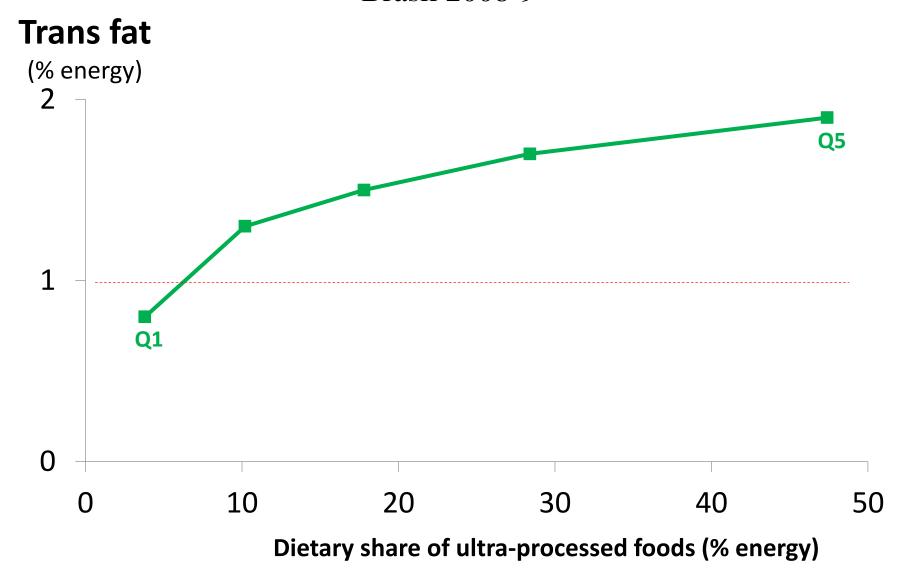
Impact of ultra-processed foods on micronutrient content in the Brazilian diet

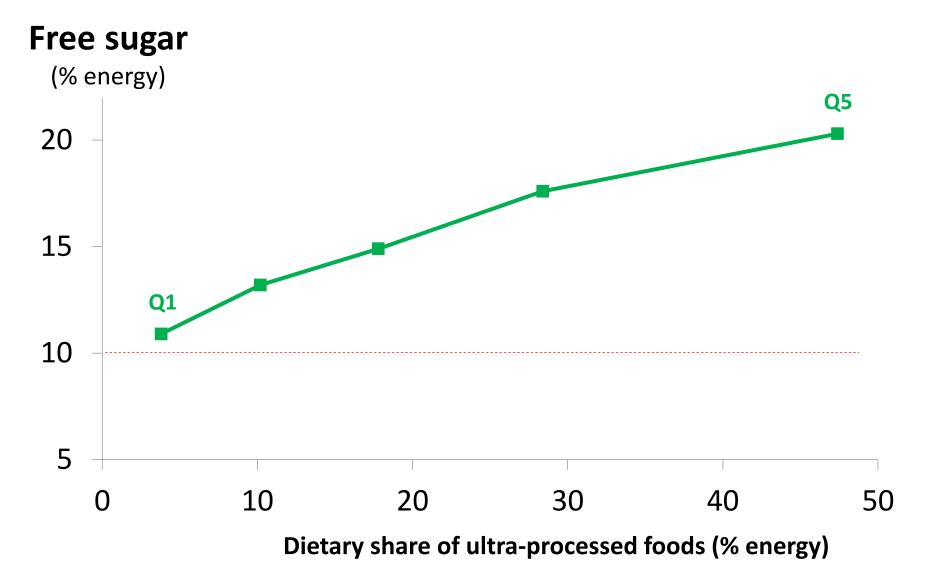
ABSTRACT

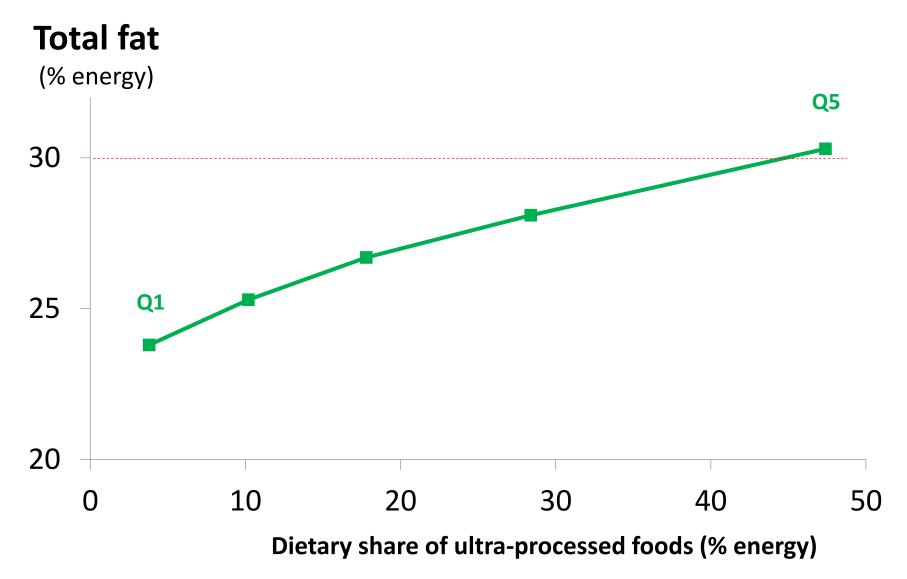
OBJECTIVE: To evaluate the impact of consuming ultra-processed foods on the micronutrient content of the Brazilian population's diet.

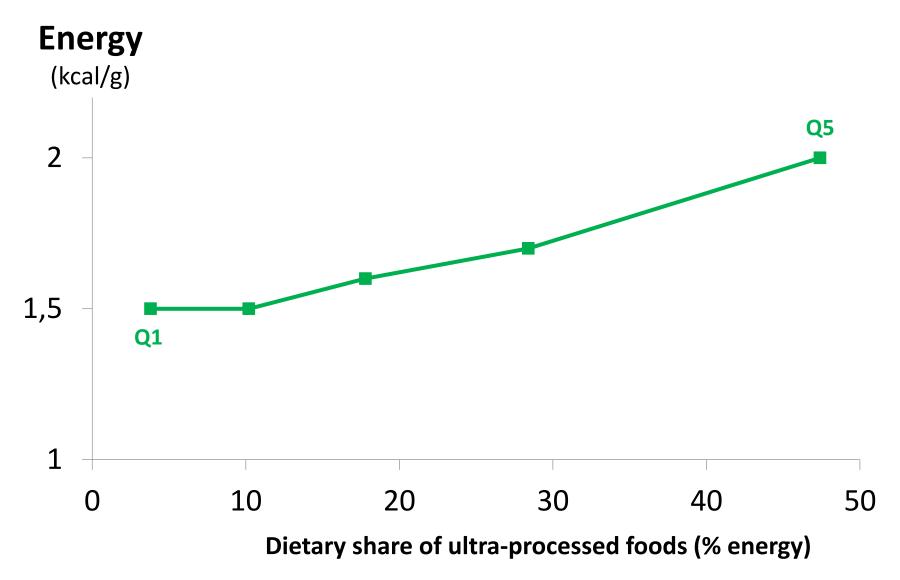
METHODS: This cross-sectional study was performed using data on individual food consumption from a module of the 2008-2009 Brazilian Household Budget Survey. A representative sample of the Brazilian population aged 10 years or over was assessed (n = 32,898). Food consumption data were collected through two 24-hour food records. Linear regression models

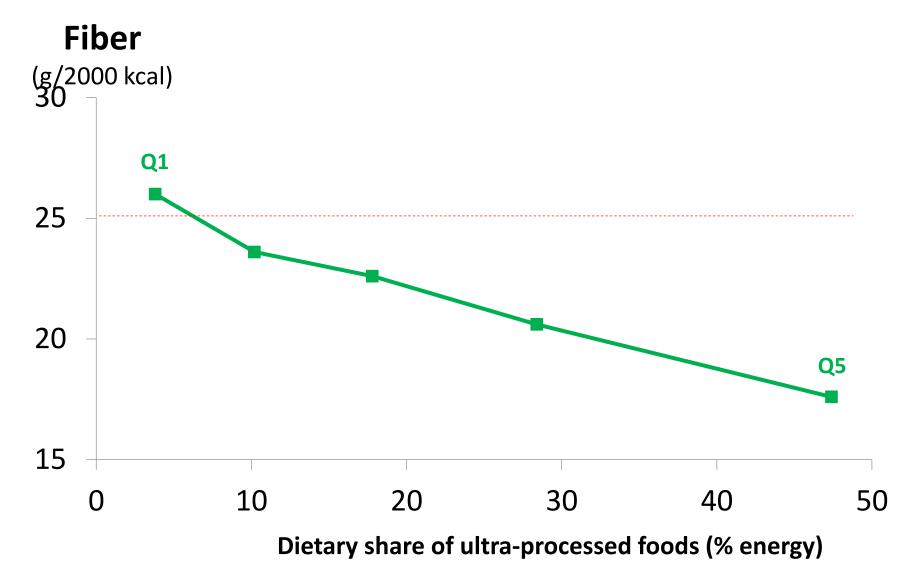


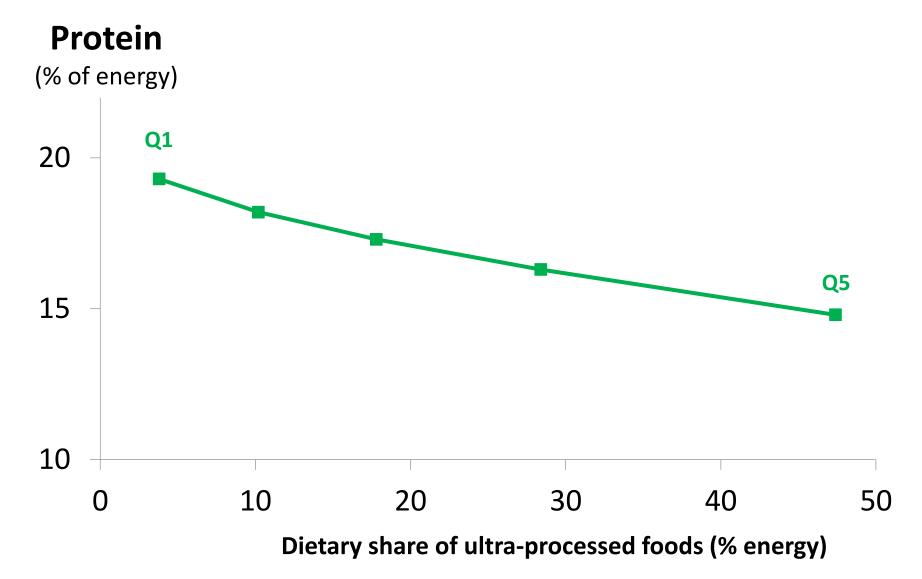


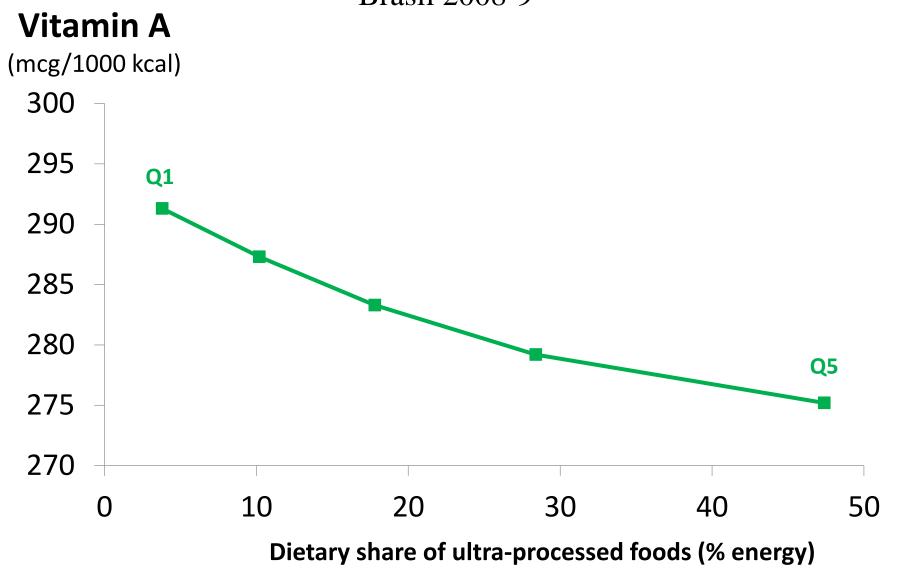


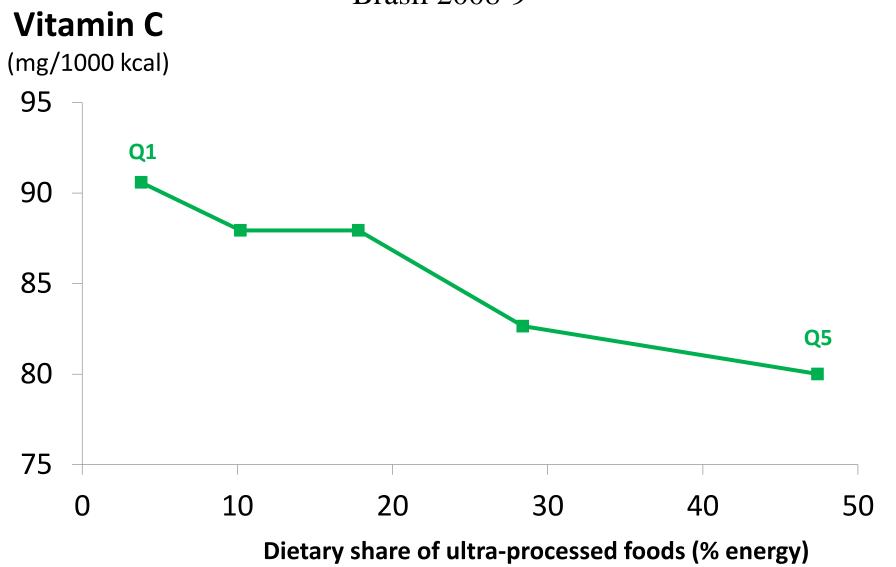


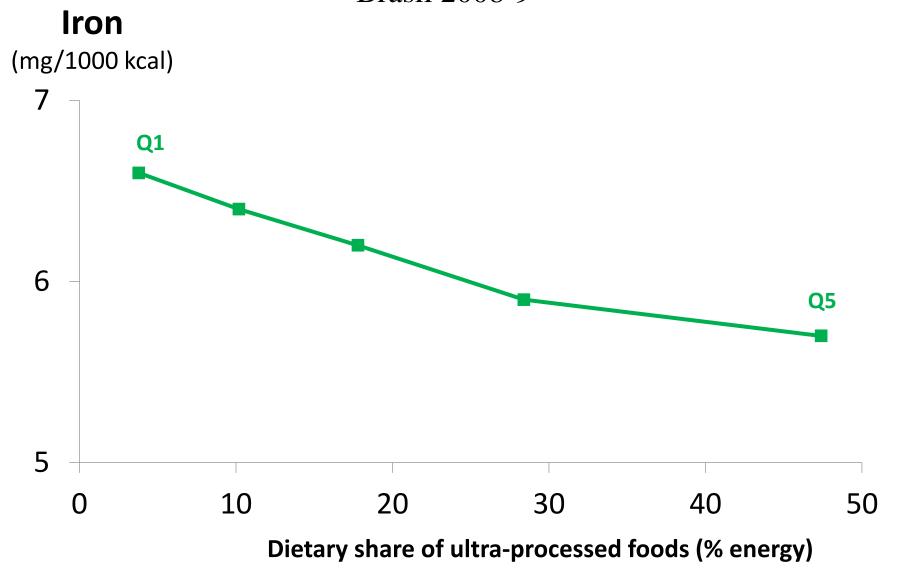


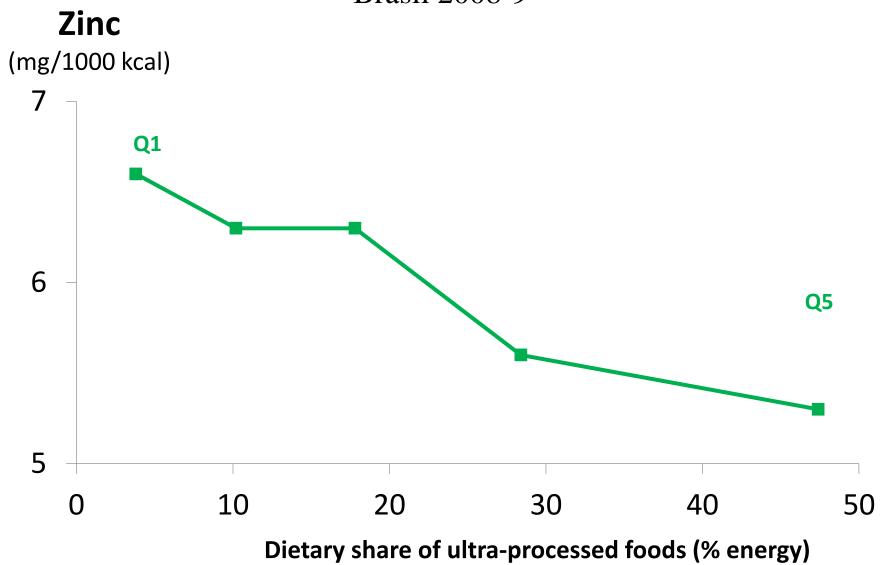














Contents lists available at ScienceDirect

Preventive Medicine

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



Consumption of ultra-processed foods and obesity in Brazilian adolescents and adults



Maria Laura da Costa Louzada ^{a,b,1,*}, Larissa Galastri Baraldi ^{a,b}, Euridice Martinez Steele ^{a,b}, Ana Paula Bortoletto Martins ^b, Daniela Silva Canella ^b, Jean-Claude Moubarac ^{b,2}, Renata Bertazzi Levy ^{b,c}, Geoffrey Cannon ^b, Ashkan Afshin ^d, Fumiaki Imamura ^{e,3}, Dariush Mozaffarian ^{d,4}, Carlos Augusto Monteiro ^{a,b}

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Gains in disease prevention



Available online at www.sciencedirect.com

Nutrition, Metabolism & Cardiovascular Diseases



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

Consumption of ultra-processed food products and its effects on children's lipid profiles: A longitudinal study



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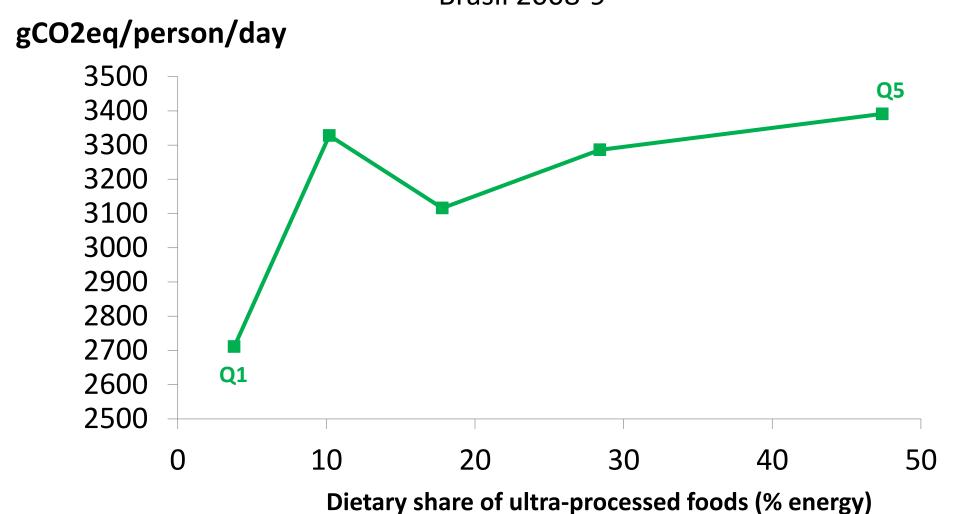
^cDepartment of Nutritional Sciences, School of Environmental and Biological Sciences, Rutgers, The State University of New Jersey, NJ, USA

^d Department of Nutrition, Universidade Federal de Ciencias da Saude de Porto Alegre, RS, Brazil

Gains in sustainability

Carbon footprint of the overall diet according to the share of ultra-processed foods (quintiles)

Brasil 2008-9

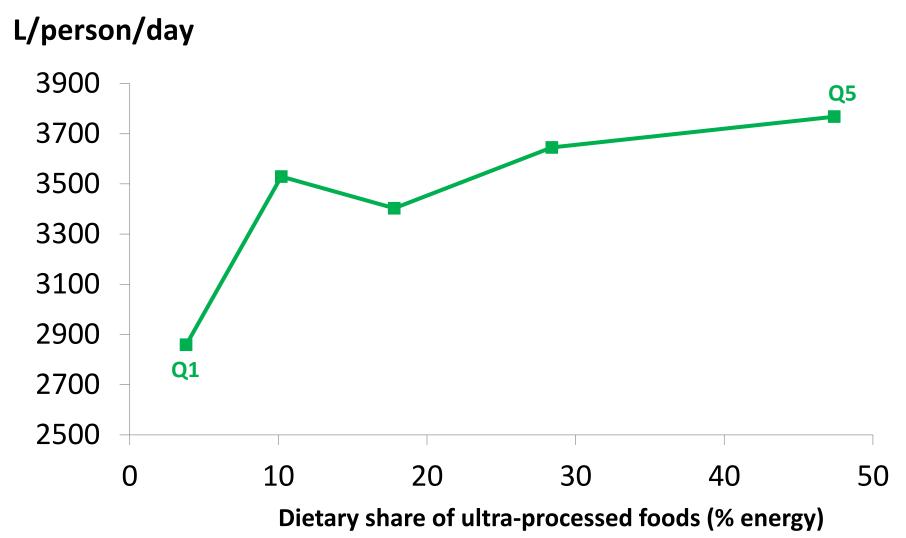


Source: Josefa Garzillo, PhD dissertation (in preparation)

Gains in sustainability

Water footprint of the overall diet according to the share of ultra-processed foods (quintiles)

Brasil 2008-9



Source: Josefa Garzillo, PhD dissertation (in preparation)

Brazilian Dietary Guidelines

✓ Principles

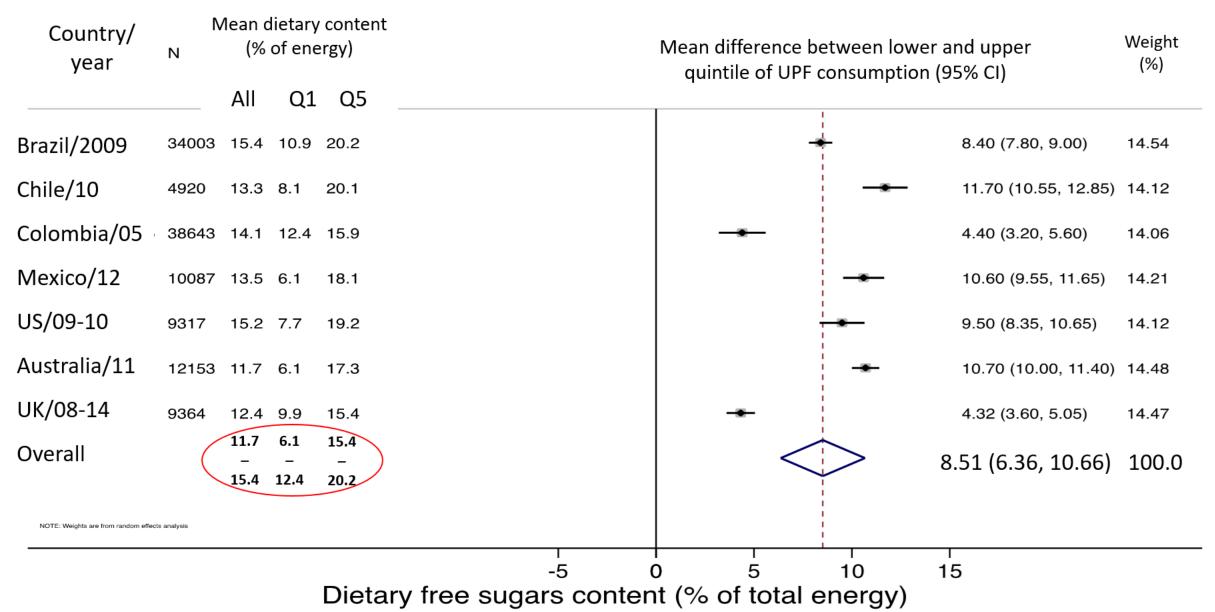
✓ Main recommendations (video)

✓ Potential gains in diet quality and disease prevention in other countries

✓ Global policy implications

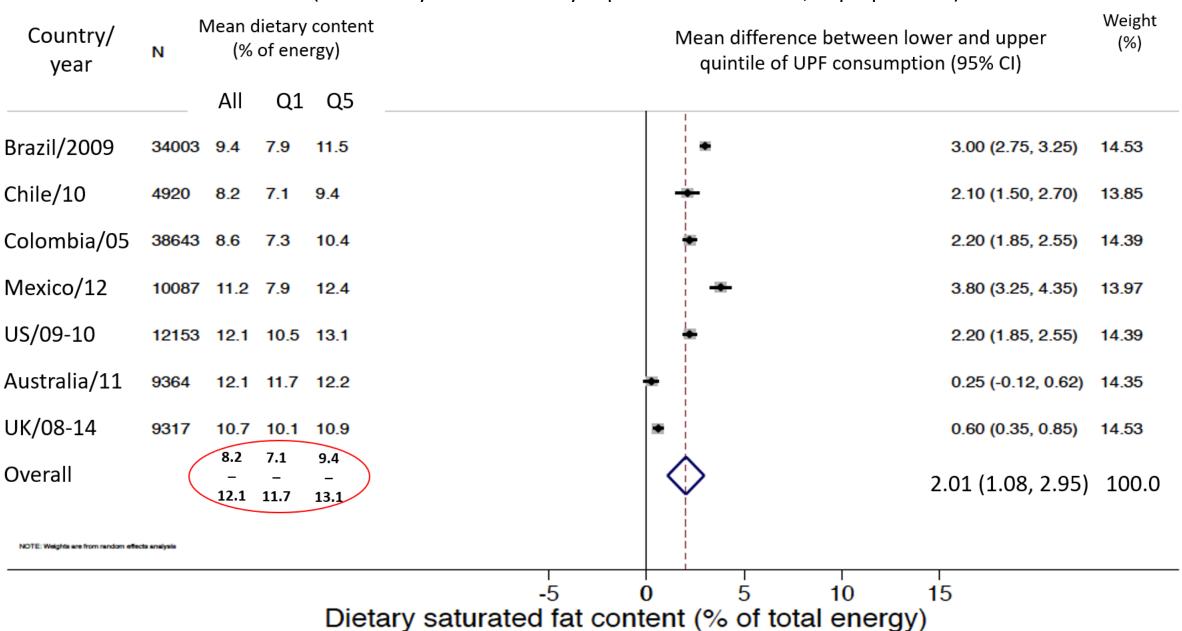
Gains in diet quality in seven countries: reduction in dietary content of free sugars

(meta-analysis of nationally-representative studies, in preparation)

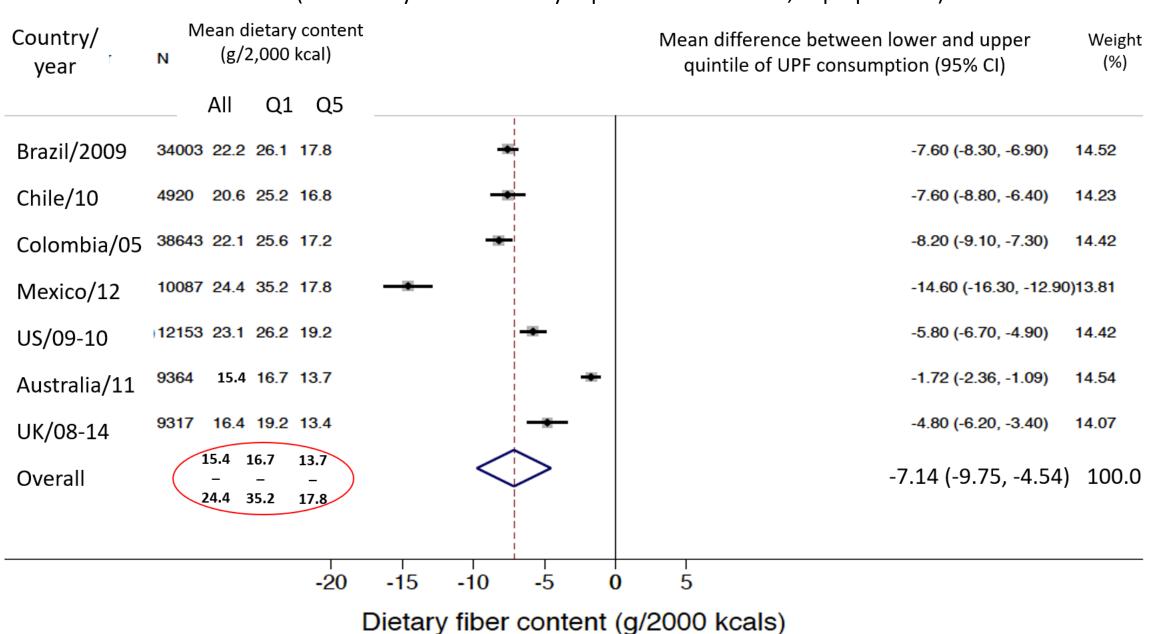


Gains in diet quality in seven countries: reduction in dietary content of saturated fats

(meta-analysis of nationally-representative studies, in preparation)



Gains in diet quality in seven countries: increase in dietary content of fiber (meta-analysis of nationally-representative studies, in preparation)



Ultraprocessed food consumption and <u>risk of overweight and obesity:</u> the University of Navarra Follow-Up (SUN) cohort study^{1,2}

Raquel de Deus Mendonça, ^{3,4,6} Adriano Marçal Pimenta, ^{3,5} Alfredo Gea, ^{3,7,8} Carmen de la Fuente-Arrillaga, ^{3,7,8} Miguel Angel Martinez-Gonzalez, ^{3,7–9} Aline Cristine Souza Lopes, ⁴ and Maira Bes-Rastrollo^{3,7,8}*

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ABSTRACT

Background: Ultraprocessed food consumption has increased in the past decade. Evidence suggests a positive association between ultraprocessed food consumption and the incidence of overweight and obesity. However, few prospective studies to our knowledge have investigated this potential relation in adults.

Objective: We evaluated the association between ultraprocessed

were obese, and in the Eastern Mediterranean $\sim 25\%$ of women and 15% of men were obese (1).

Changes in the food system continuously promote obesity. There is now a greater availability of ready-to-eat or -heat foods known as ultraprocessed foods, which are products that have little, if any, whole foods and are manufactured with substances extracted from foods or synthesized in laboratories (dyes, fla-

Am J Clin Nutr 2016 doi: 10.3945/ajcn.116.135004

Gains in disease prevention

Ultra-Processed Food Consumption and the <u>Incidence of</u> <u>Hypertension</u> in a Mediterranean Cohort: The Seguimiento Universidad de Navarra Project

Raquel de Deus Mendonça¹⁻³, Aline Cristine Souza Lopes², Adriano Marçal Pimenta^{1,4}, Alfredo Gea^{1,5,6}, Miguel Angel Martinez-Gonzalez^{1,5-7}, and Maira Bes-Rastrollo^{1,5,6}

BACKGROUND

Some available evidence suggests that high consumption of ultra-processed foods (UPFs) is associated with a higher risk of obesity. Collectively, this association and the nutritional characteristics of UPFs suggest that UPFs might also be associated with hypertension.

METHODS

We prospectively evaluated the relationship between UPF consumption and the risk of hypertension in a prospective Spanish cohort, the Seguimiento Universidad de Navarra project. We included 14,790 Spanish adult university graduates who were initially free of hypertension at baseline who were followed for a mean of 9.1 years (SD, 3.9 years; total personvears: 134 784). UPF (industrial formulations of chemical compounds)

hazards models were used to estimate adjusted hazard ratios (HRs) and 95% confidence intervals (Cls) for hypertension incidence.

RESULTS

During follow-up, 1,702 incident cases of hypertension were identified. Participants in the highest tertile of UPF consumption had a higher risk of developing hypertension (adjusted HR, 1.21; 95% CI, 1.06, 1.37; P for trend = 0.004) than those in the lowest tertile after adjusting for potential confounders.

CONCLUSIONS

In this large prospective cohort of Spanish middle-aged adult university graduates, a positive association between UPF consumption and hypertension risk was observed. Additional longitudinal studies are needed to confirm our results.

Am J Hypertens 2017 30(4):358-366.

Ultra-processed foods and cancer risk (paper under review)

"Conclusions: In this large prospective study (> 100,000 adults), a 10% increase in the proportion of ultra-processed foods in the diet was associated with a >10% significant increase in overall and breast cancer risks. Reducing consumption of ultra-processed foods may contribute to prevent cancer. Further studies are needed to better understand the relative impact of nutritional composition, food additives, contact materials, and neoformed contaminants in this relationship."

Potential mechanisms linking ultra-processed foods to diet-related NCDs

- > Intrinsic unbalanced nutrient profile (links with several NCDs, abundant evidence)
- Non-nutrient mechanisms
 - ➤ High glycemic loads, low satiety per calorie (Fardet 2016)
 - ➤ Low content of bioactive compounds (Martines-Steele 2017)
 - > Hyperpalatability/habit-forming/addictive properties (Kessler 2009; Brownell 2012; Moss 2013)
 - ➤ Mindless eating (Wansink 2006; Cohen & Farley 2008)
 - > Additives, packaging contact materials, and neoformed contaminants

Brazilian Dietary Guidelines

✓ Principles

✓ Main recommendations (video)

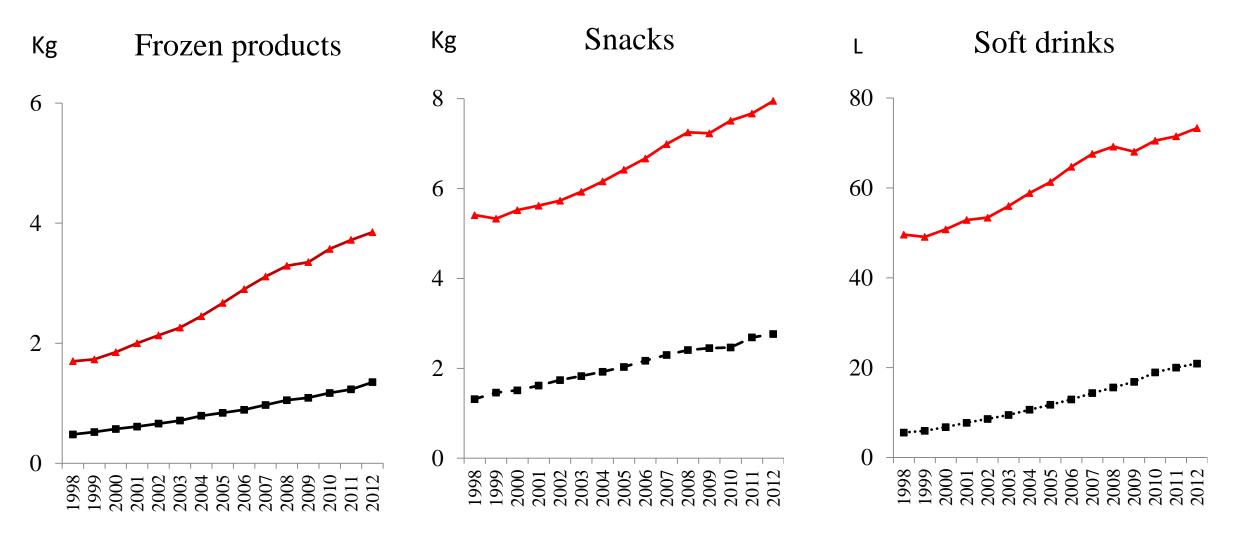
✓ Potential gains in diet quality and disease prevention in other countries

✓ Global policy implications

Per capita annual retail sales of ultra-processed foods according Euromonitor (1998-2013)

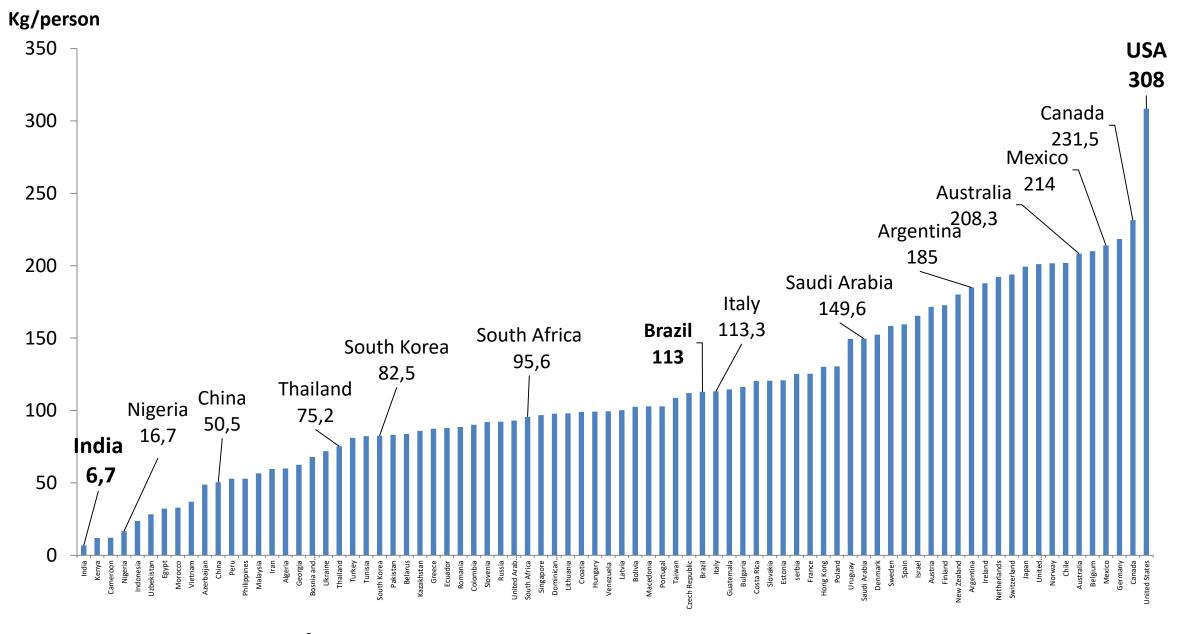
▲ Upper-middle-income countries

■ Lower-middle-income countries.

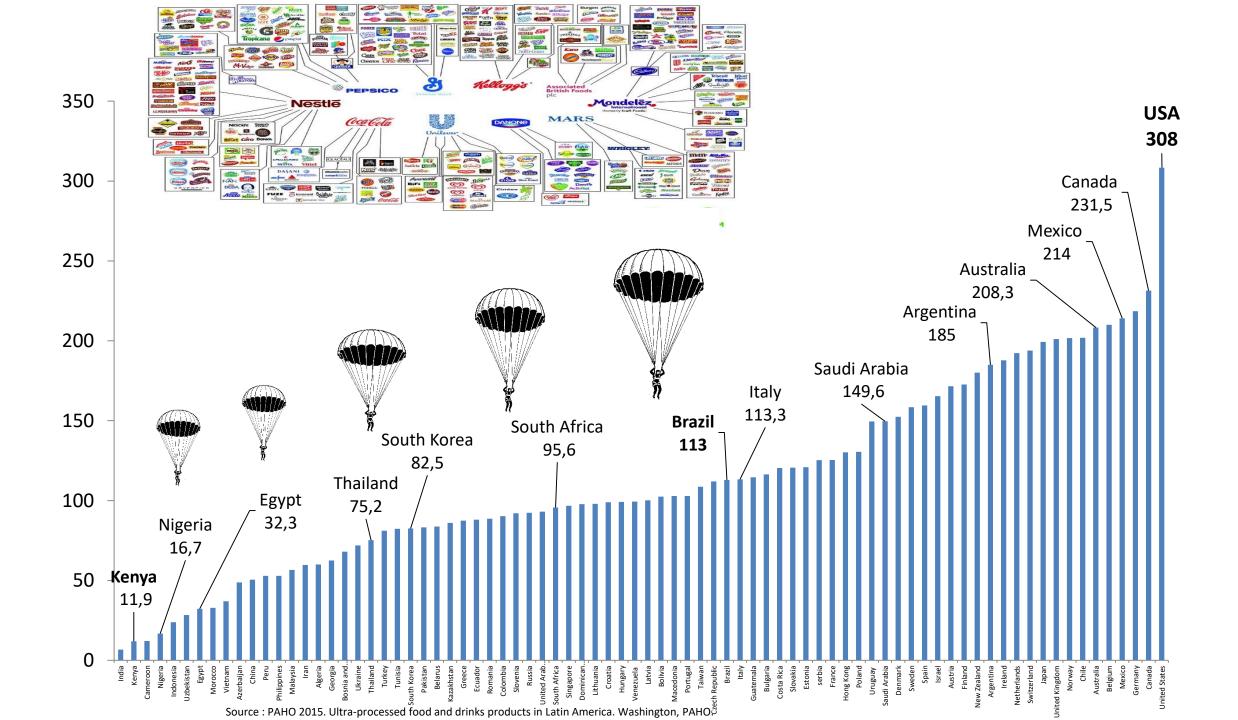


Source: Monteiro, Moubarac, Cannon, Ng, and Popkin. Ultra-processed products are becoming dominant in the global food system. Obes Rev 2013 14 (Suppl. 2).

Annual retail sales of ultra-processed food and drink products in 80 countries (2013)



Source: PAHO 2015. Ultra-processed food and drinks products in Latin America. Washington, PAHO.



"All the News That's Fit to Print"

The New York Times

Late Edition

Today, patchy morning fog, variably cloudy, humid, high 80. Tonight, partly cloudy, humid, low 66. Tomorrow, variably cloudy, humid, high 75. Details in SportsSunday, Page 8.

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NEWS ANALYSIS

World's Eyes On President As U.N. Meets

Challenge for Trump: Sell 'America First'

By PETER BAKER

WASHINGTON — Every year, the president heads to New York to welcome world leaders to the United Nations General Assembly. He gives a speech and meets with an endless string of foreign potentates to discuss a dizzying array of complicated, often intractable issues.

The days are "kind of like speed dating from hell," as one analyst put it, and the evenings are "the world's most tedious cocktail party." In other words, not exactly President Trump's favored format.

But when Mr. Trump attends the first United Nations session of his presidency this coming week, all eyes will be on him as counterparts from around the globe crane their necks and slide through the crowd to snatch a handshake — and, in the process, try to figure out this most unusual of American leaders.

"The world is still trying to take the measure of this president," said Jon B. Alterman, a senior vice president at the Center for Strategic and International Studies in Washington and author of the speed-dating analogy. "For a number of leaders, this is going to be their first chance to see him, to judge him, to try to get on his good side."

In some places, there has been an instinct to dismiss Mr. Trump as a bombastic, Twitter-obsessed



WILLIAM DANIELS FOR THE NEW YORK TIM

Celene da Silva, left, and her daughter Sabrina delivering Nestlé products like Kit-Kats and pudding in Fortaleza, Brazil.

How Big Business Got Brazil Hooked on Junk Food

By ANDREW JACOBS and MATT RICHTEL

FORTALEZA, Brazil — Children's squeals rang through the muggy morning air as a woman pushed a gleaming white cart along pitted, trash-strewn streets. She was making deliveries to some of the poorest households in this seaside city,

As she dropped off variety packs of Chandelle pudding, Kit-Kats and Mucilon infant cereal, there was something striking about her customers: Many were visi-

PLANET FAT

Nestlé Goes Door to Door

she had high blood pressure, a condition she acknowledges is probably tied to her weakness for fried chicken and the Coca-Cola she drinks with every meal, breakfast included.

Nestlé's direct-sales army in Brazil is part of a broader transformation of the food system that is delivering Western-

U.S. DIGGING IN FOR LONG HAUL IN AFGHANISTAN

A REMAKING OF KABUL

Green Zone Expansion Underscores Threat to Western Allies

By ROD NORDLAND

KABUL, Afghanistan — Soon, American Embassy employees in Kabul will no longer need to take a Chinook helicopter ride to cross the street to a military base less than 100 yards outside the present Green Zone security district.

Instead, the boundaries of the Green Zone will be redrawn to include that base, known as the Kabul City Compound, formerly the headquarters for American Special Operations forces in the capital. The zone is separated from the rest of the city by a network of police, military and private security checkpoints.

The expansion is part of a huge public works project that over the next two years will reshape the center of this city of five million to bring nearly all Western embassies, major government ministries, and NATO and American military headquarters within the protected area.

After 16 years of American presence in Kabul, it is a stark acknowledgment that even the city's central districts have become too difficult to defend from Taliban bombings.

But the capital project is also clearly taking place to protect another long-term American investment: Along with an increase in troops to a reported 15 000 from

Business as usual

(nutrient-based dietary guidelines, uneseful or misleading food labels, industry-driven product reformulation, marketing self-regulation)













Real food- and meal-based dietary guidelines
FOP label warnings
Health-oriented fiscal policies,
Government-driven marketing regulations





THANK YOU!

For more information, please contact: carlosam@usp.br







