

Thursday 10 September

Food: Interventions

OP31

CHANGES IN HOUSEHOLD PURCHASES OF SOFT DRINKS UP TO ONE YEAR AFTER IMPLEMENTATION OF THE UK SOFT DRINKS INDUSTRY LEVY: A CONTROLLED INTERRUPTED TIME SERIES ANALYSIS [ISRCTN18042742]

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Background The UK soft drinks industry levy (SDIL) is a two tiered tax on manufacturers and producers of sugary soft drinks, announced in March 2016 and implemented in April 2018 aimed at reducing sugar intake through reformulation. High-tier drinks (≥ 8 g of sugar per 100 ml) are taxed at £0.24 per litre and low-tier drinks (≥ 5 - <8 g of sugar per 100 ml) at £0.18 per litre.

We examined whether there were changes in the volume of, and amount of sugar in, purchases of soft drinks as a result of the levy, and substitution to confectionery or alcohol. **Methods** Using a representative commercial household take home purchasing panel (average weekly households $n=22,183$; 264 weekly time points from March 2014 to March 2019), we undertook interrupted time series analyses using purchases of toiletries (shampoo, conditioner and liquid soap) as a control to compare observed purchases with a modelled counterfactual for: a) all soft drinks combined irrespective of levy eligibility or levy-tier; b) levy-eligible drinks by tier; c) confectionery; and d) alcohol. Results are weighted to represent an average UK household.

Results When all soft drinks were combined, irrespective of levy eligibility or tier, there was no change in the purchased volume in March 2019, however, sugar purchased in drinks reduced by -29.8 g (95% CI -55.7, -3.8), or -10.3% (95% CI -18.5, -2.1).

Amongst levy-eligible drinks, purchased volume of high-tier drinks had reduced by -155 ml (95% CI -240.5, -69.5), with a corresponding reduction in sugar of -18.0 g (95% CI -32.3, -3.6) per household per week. Purchases of levy-eligible low-tier drinks fell by -177.3 ml (95% CI -225.3, -129.3) with a -12.7 g (95% CI -14.7, -10.6) reduction in sugar in these drinks, equivalent to -88.3% (95% CI -94.0, -82.7). Purchased volume of levy-eligible drinks with <5 g of sugar per 100 ml did increase, though non-significantly by 210.5 ml (95% CI -100.1, 521.1), though there was an increase in sugar of 15.3 g (95% CI 12.6, 17.9), equivalent to 166.4% (95% CI 94.2, 238.5).

There were no changes in purchases of confectionery or alcohol.

Conclusion As of March 2019, we estimate that the SDIL had reduced the amount of sugar in drinks purchased by about 30 g per household per week (equivalent to one can of Coca-Cola). There was no overall reduction in purchased drink volume indicating this may represent a 'win:win' for public health and industry.

On behalf of the NIHR PHR SDIL Evaluation Team.

OP32

QUANTIFYING THE HEALTH AND ECONOMIC BENEFITS OF THE BRAZILIAN VOLUNTARY SALT REFORMULATION TARGETS: AN IMPACT_{NCD} BR MICROSIMULATION

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Background Excessive salt consumption is the leading dietary risk factor for cardiovascular disease (CVD). In Brazil, 30% of salt in the diet comes from packaged foods; Government and food industries have agreed on voluntary salt reduction targets for 29 food categories since 2011. The objective of this study was to quantify the potential health and economic impacts of this policy up to the year 2032.

Methods We adapted a previously validated microsimulation approach (IMPACT_{NCD} Model) for the Brazilian population. IMPACT_{NCD} BR is a stochastic dynamic microsimulation model based on the simulated life courses of close-to-reality synthetic individuals under different policy scenarios, while explicitly considering population heterogeneity and lag times between exposures and outcomes. To inform model inputs, we used the data from the 2013 National Health Survey in Brazil, the 2008–2009 Household Budget Survey, public health information system data and high-quality meta-analyses, costs to the National Health System from CVD treatment and informal healthcare costs. We estimated CVD cases and deaths prevented or postponed, and disease treatment costs, assuming the food industry will retain their level of engagement with the policy in the future. IMPACT_{NCD} BR was developed in R v3.6.1.

Results IMPACT_{NCD} BR estimated that between 2013 and 2032, the voluntary targets could prevent or postpone approximately 180,000 CVD cases (95% Uncertainty Interval (UI): 45,000 to 425,000) and 14,000 (95% UI: 2,800 to 33,000) deaths among Brazilian adults aged 30 to 79 years. The majority of the prevented cases were among men reflecting their higher salt exposure and CVD burden. The policy may produce savings to the Brazilian National Health System of approximately US \$220m (95% UI: \$54m to \$520m). Further US\$ 70m (95% UI: \$17m to \$170m) might be saved in informal healthcare costs.

Conclusion Despite the modest compliance of the food industry to the Brazilian voluntary salt targets, salt reformulation in Brazil may generate substantial health and economic impacts. However, the much larger potential for salt reduction strategies remains largely unexploited. More radical, mandatory targets for the food industry, complemented by comprehensive strategies for reducing other dietary salt sources are urgently needed to maximise the health and economic benefits to the population.

This is the first IMPACT_{NCD} microsimulation model adapted to a Latin American country. This microsimulation methodology can be helpful for effective food policy-making and implementation in Brazil and other countries in the region.