

Study analyses reducing consumption of discretionary (unhealthy) foods and replacing them with core foods

September 12 2016

New research presented at this year's European Association for the Study of Diabetes (EASD) meeting in Munich, Germany (12-16 Sept) shows the impact that substituting energy intake from discretionary foods (including sugar-sweetened beverages and confectionary) with healthier, core foods, and reducing levels of added sugar in discretionary foods could have in the diet of the Australian population. The study is by Dr Tom Wycherley, School of Health Sciences, University of South Australia, Adelaide, Australia, and colleagues.

In western (high-income) countries the intake of discretionary foods is typically very high, in Australia they contribute over a third of energy intake. Discretionary foods displace core foods such as fruit, vegetables, dairy, lean meats, and whole grains. Reformulating discretionary foods to reduce energy density or improve their nutritional profile, or simply reducing their intake, has been suggested to reduce the [population level](#) of nutrient deficiencies, obesity and associated chronic disease. The aim of this study was to evaluate the potential impact of key discrete strategies to reformulate or reduce discretionary foods on the diet of the Australian population.

Food and nutrient intake data from 12153 people who provided information to the 2011-13 Australian Health Survey were population weighted and combined into food categories. Data modelling was conducted to simulate a range of scenarios about the potential impact of

key discrete strategies to reduce discretionary foods in the Australian population (identified from a previously conducted scoping review of the literature). The modelled scenarios included: reducing the quantity (portion size) of discretionary foods; substituting non-caloric beverages for water based sugar sweetened beverages (SSBs); decreasing the sugar content of discretionary foods; and, decreasing the sodium content of discretionary foods. Modelling was conducted for the entire Australian population and a subset of people (4.7%) that self-reported having diabetes.

For the overall Australian population, a 25% reduction in the portion size of all discretionary foods reduced average per person daily energy intake by 9.0% or 766kJ (184 [calories](#)) compared to the original diet. To replace these discretionary foods with core foods would require an 8.3% increase in core foods and would result in a 310kJ (74 calories) (3.6%) lower [energy intake](#), 2.1g (2.3%) greater protein intake, a 10.8g (20.6%) lower intake of added sugars and a 220mg (3.9%) lower sodium intake compared to the original diet.

Reducing sugar by 25% in discretionary foods within the food groups 'biscuits' (sweet and savoury) and 'cakes/ muffins/ scones/ cake type desserts' reduced total energy by just 0.4% or 36kJ (8.6 calories). Substituting water/non-caloric beverages to take the place of all SSBs reduced energy by 2.9% or 251kJ (60 calories) and added sugar by 14.3g (27.3%). Reformulation of grain based discretionary foods to reduce sodium by 25% resulted in a 69mg (2.9%) lower sodium intake.

The sub-population of people with diabetes reported a lower intake of discretionary foods compared to the overall population (2515kJ (604 calories) [32.4% total energy] vs. 3061kJ (735 calories) [35.8% total energy]). This subgroup had a similar magnitude of response to the overall population for the modelled scenarios.

The authors have not yet done a head-to-head comparison of different interventions, but one is planned for the future. But they say: "The effectiveness of a strategy will depend on how well it can be implemented and whether the appropriate sub-populations are targeted—for example high consumers of sugar sweetened beverages."

They add: "Key discrete strategies, identified from the literature, to reformulate or reduce discretionary foods would in theory have small to moderate impacts on the diet quality of the overall Australian population and a subset of those who self-report having diabetes. The impact of these strategies in combination, or for sub-populations with proportionally higher discretionary food intake may be more substantial."

While it is clear that most overweight individuals would benefit from consuming fewer calories, diet quality goes beyond total calories, and simply reducing food from the diet may result in nutrient deficits, and is usually not sustainable since people can experience hunger and subsequently reduce compliance. The authors say: "Replacing some discretionary choices with less energy dense core foods is likely to be a more sustainable option to improve diet quality and reduce daily calorie intake without resulting in increased hunger."

They conclude: "The exception to this is calories obtained from sugar sweetened beverages; since we don't tend to experience substantial changes in our feeling of fullness when we consume calories in the form of water-based SSBs, compared to consuming calories in solid or food form. Therefore simply reducing SSB consumption, for example by replacing them with water, may be a sustainable way to reduce calorie intake without affecting hunger."

Provided by Diabetologia

Citation: Study analyses reducing consumption of discretionary (unhealthy) foods and replacing them with core foods (2016, September 12) retrieved 6 May 2024 from <https://medicalxpress.com/news/2016-09-analyses-consumption-discretionary-unhealthy-foods.html>

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