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Reducing consumption of sugar-sweetened beverages to reduce the risk of unhealthy weight gain in adults

Biological, behavioural and contextual rationale

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Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and certain types of cancer (1-3). Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings (4).

While the etiology of obesity is complex, increased consumption of free sugars, particularly in the form of sugar-sweetened beverages, is associated with weight gain in both children and adults (5-7). Recent evidence further suggests an association between sugar-sweetened beverage consumption and preventable mortality from diabetes, cardiovascular diseases and cancer, with the majority of deaths occurring in low and middle-income countries (8-11).

While sugars are found naturally in many foods, including fruits and milk, the addition of sugars to food products adds to the total energy content of the product. Sugar-sweetened beverages contain added sugars such as sucrose or high fructose corn syrup and a 330ml or 12oz portion of sugar-sweetened carbonated soft drink typically contains some 35g (almost nine teaspoons) of sugars and provides approximately 140 kcal of energy, generally with little other nutritional value.

Evidence suggests that sugar-sweetened beverages are generally consumed quickly and do not provide the same feeling of fullness that solid food provides (10) such that consumers tend not to reduce intake of other foods sufficiently to compensate for the extra calories provided by sugar-sweetened beverages (11). Excess calories contribute to overweight and obesity as they can be readily converted to body fat and stored within various tissues. Overconsumption is likely exacerbated by an increase in the serving sizes of sugar-sweetened beverages over the last several decades (12).

Despite recommendations by medical experts and health organizations to limit consumption, sales of sugar-sweetened beverages are increasing worldwide, particularly in low- and middle-income countries as a result of heavy marketing (13-19). Sugar-sweetened beverage sales in India for

example, have increased by more than 10% year-on-year since 1998, exceeding 11 litres per capita per year (19). In Mexico - one of the countries with the highest per-capita consumption of sugar-sweetened beverages in the world - it is estimated that nearly 10% of total energy intake of adults comes from sugar-sweetened beverages (20).

Evidence indicates that while nutrition education and other behaviour-change interventions designed to decrease consumption of sugar-sweetened beverages can be effective in reducing intake at the individual level (6-7), widespread and lasting behaviour change may be difficult to achieve in adults, as behaviours and food preferences are often established during childhood and can be difficult to modify later in life. To complement interventions targeting individual behaviour, regulatory actions designed to reduce consumption of sugar-sweetened beverages and other energy-dense foods are being considered, including limiting the single serving size of such foods, limiting or removing access to such foods (e.g. vending machines) in public places and taxes or other pricing disincentives. Particular attention has been paid to taxing sugar-sweetened beverages as evidence suggests that such taxes could substantially reduce consumption and may contribute to a reduction in overweight and obesity (21). Some countries have already implemented taxes on sugar-sweetened beverages (22,23), including Hungary, France, several states in the US and most recently Mexico, where a 1 peso per litre (approximately 10%) tax on sugar-sweetened beverages is projected to decrease consumption by 10-12% and may have a substantial impact on reducing the prevalence of overweight and obesity in that country (24).

In summary, current evidence suggests that reducing sugars intake, especially in the form of sugar-sweetened beverages, may help maintain a healthy body weight and possibly reduce the risk of overweight and obesity in adults.

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