Study suggests no direct link between drinking sugar sweetened drinks and higher energy consumption or BMI in children

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A nationally representative UK survey of children (aged 4-10 years old) has found no strong/direct link between drinking sugar sweetened beverages and greater energy consumption or higher BMI.

The study, being presented at this year's European Congress on Obesity (ECO) in Glasgow, UK (28 April-1 May), has led the authors to question whether the so called "sugar tax" will be an effective way to tackle the childhood obesity epidemic.

"In this representative sample of UK children, high intake of added sugars was not directly correlated with high energy consumption. Therefore, relying on a single-nutrient approach to tackling childhood obesity in the form of a soft drink tax, might not be the most effective tactic", says Ola Anabtawi from the University of Nottingham in the UK who led the research.

"What's more, our findings indicate that drinking sugar sweetened beverages is not a behaviour particular to children with a higher body weight. On the contrary, framing sugar reduction in tackling obesity might reinforce negative stereotypes around 'unhealthy dieting'. Instead, policies should focus on those children whose consumption of sugar sweetened drinks substantially increases their total added sugar intake in combination with other public health interventions."

Current estimates of UK non-milk extrinsic sugar (NMES) intake—also referred to as "added sugars" and includes sugar naturally present in fruit as well as 50% of the fruit sugars from dried, stewed, or canned fruit—show that average intakes are three times higher than the new 5% maximum recommended level in school-aged children and teenagers (14.7% to 15.6% of energy intake).

Sugar sweetened beverages (SSBs), including carbonated soft drinks, fruit drinks, and energy drinks, are the largest contributor of sugar in children's diets. Children aged 11 to 18 years drink, on average around 336ml per day (roughly equivalent to one can of a sugary drink).

Alongside changes in dietary quality and levels of physical activity, sugar sweetened drink consumption has been suggested as influencing the trends in weight gain seen in children in the UK—this led to the introduction of a Soft Drinks Industry Levy in April 2018. It has been mandated as part of the Childhood Obesity Plan and is expected to result in around an 8.5% reduction in the rates of children and adolescents who are obese.To provide more evidence on the potential impacts of action on SSBs, Anabtawi and colleagues examined the characteristics of children in the UK who drink, and do not drink, SSBs, and the impact of overall energy intake.

The researchers analysed data from the National Diet and Nutrition Survey Rolling programme between 2008 and 2016 from a group of 1298 children aged 4-10 years. The nationally representative survey gathers information annually from food diaries in which children or their parents record their dietary intake and SSB consumption over a 4-day period. The survey also collected measurements of weight and height which were used to calculate the body mass index (BMI) of the children. In total, 61% (790/1298) of children were classified as sweetened drink consumers.

Analysis of the data showed that overall consumption of added sugars (NMES) from food and drink was higher than recommended (5% of energy intake) in more than three quarters of children (78%; 1017/1298).

Twice as many drinkers of SSBs (68%; 688/1071) consumed more than the recommended intake of added sugars from food and drink as non-drinkers (32%; 329/1017).

However, 78% of children (617/790) who were drinkers of SSBs did not exceed their total energy requirements for their age. The study also did not find any significant differences between the groups of drinkers and non-drinkers in terms of age, gender, or BMI.

"Simplistic interventions that aim to tackle a particular behaviour, or address a specific bodyweight category, without considering other health determinants and outcomes, are unlikely to succeed in reducing childhood obesity. Delving deeper into the relationship between behaviours, weight, and other outcomes would increase the effectiveness of public health interventions and reduce the occurrence of unintended consequences such as food guilt and restricted eating", says Anabtawi.

The authors acknowledge that their findings are limited by the use of a cross sectional design that is acquired from the National Diet and Nutrition Survey Rolling programme until the year of 2016. They point to several limitations, including that the study did not examine potentially confounding factors such as physical activity, that may have influenced the results.

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