

Potential impact on prevalence of obesity in the UK of a 20% price increase in high sugar snacks: Modelling study

Introduction

In affluent countries, one of the most significant threats to public health is obesity. It is of the utmost importance to determine the scope of the problem and to locate the primary populations that are at danger.

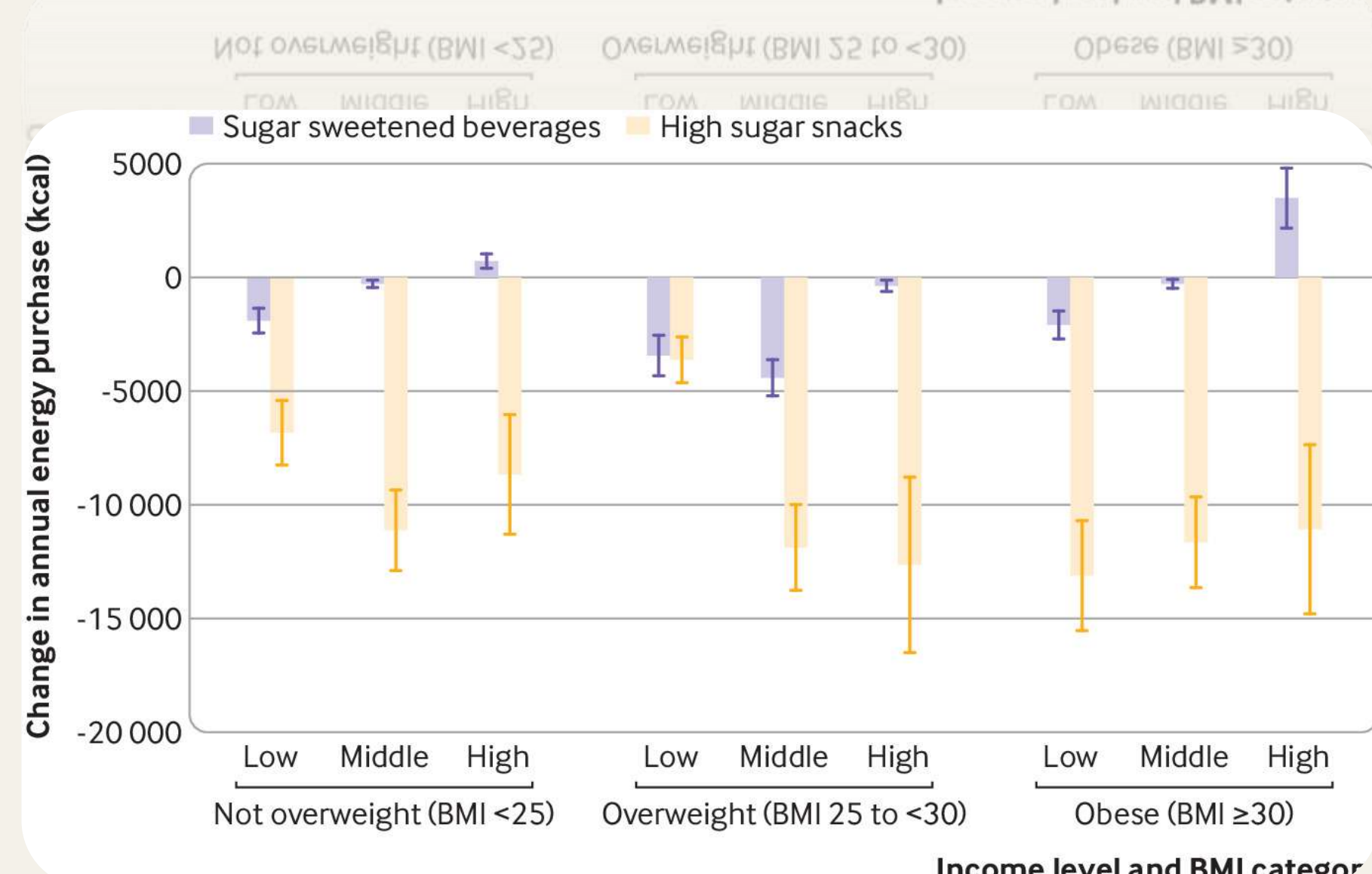
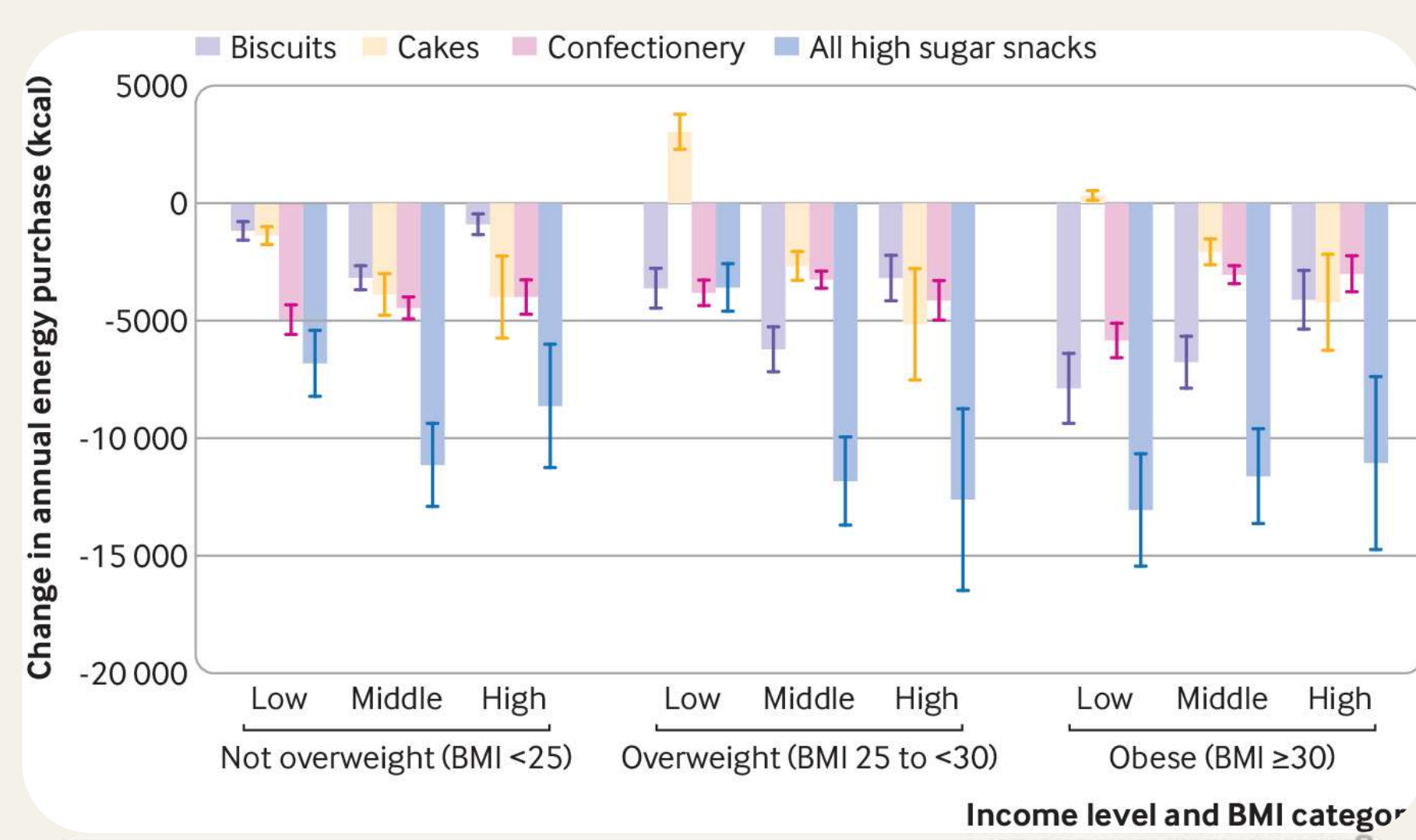
Type 2 diabetes, coronary artery disease, stroke, and a wide range of cancers are just a few of the long-term ailments that are made worse by being overweight or obese.

It was estimated in 2016 that the obesity rate in adults in the United Kingdom was 27.8% (with a 95 percent confidence interval ranging from 24.9 percent to 30.7 percent), which is significantly higher than the average prevalence of 19.5 percent that was reported by the Organization for Economic Co-operation and Development. Despite this, there are discernible disparities in the frequency of obesity in response to levels of economic distress and income.

The risk of both obesity and diabetes is increased when there is a high level of free sugars in the diet. As a result of this, policymakers have made solving the problem a priority. Sugary drinks account for a considerable share of free sugars consumed.

Increased prices for high-sugar snacks could have an effect on total energy consumption, and that, in turn, could have an effect on health. This was done because reformulating sugar-sweetened beverages, which also entails the imposition of a charge, has the potential to reduce consumption to an extent that the effects of the voluntary sugar reduction programme have been shown to be relatively insignificant.

Both the ability to minimise health disparities brought on by greater rates of obesity among those in poorer individuals and the potential to reduce intake of high-sugar snacks in those with the greatest BMIs, who are therefore most at chance of developing associated diseases, were explored.



Methods

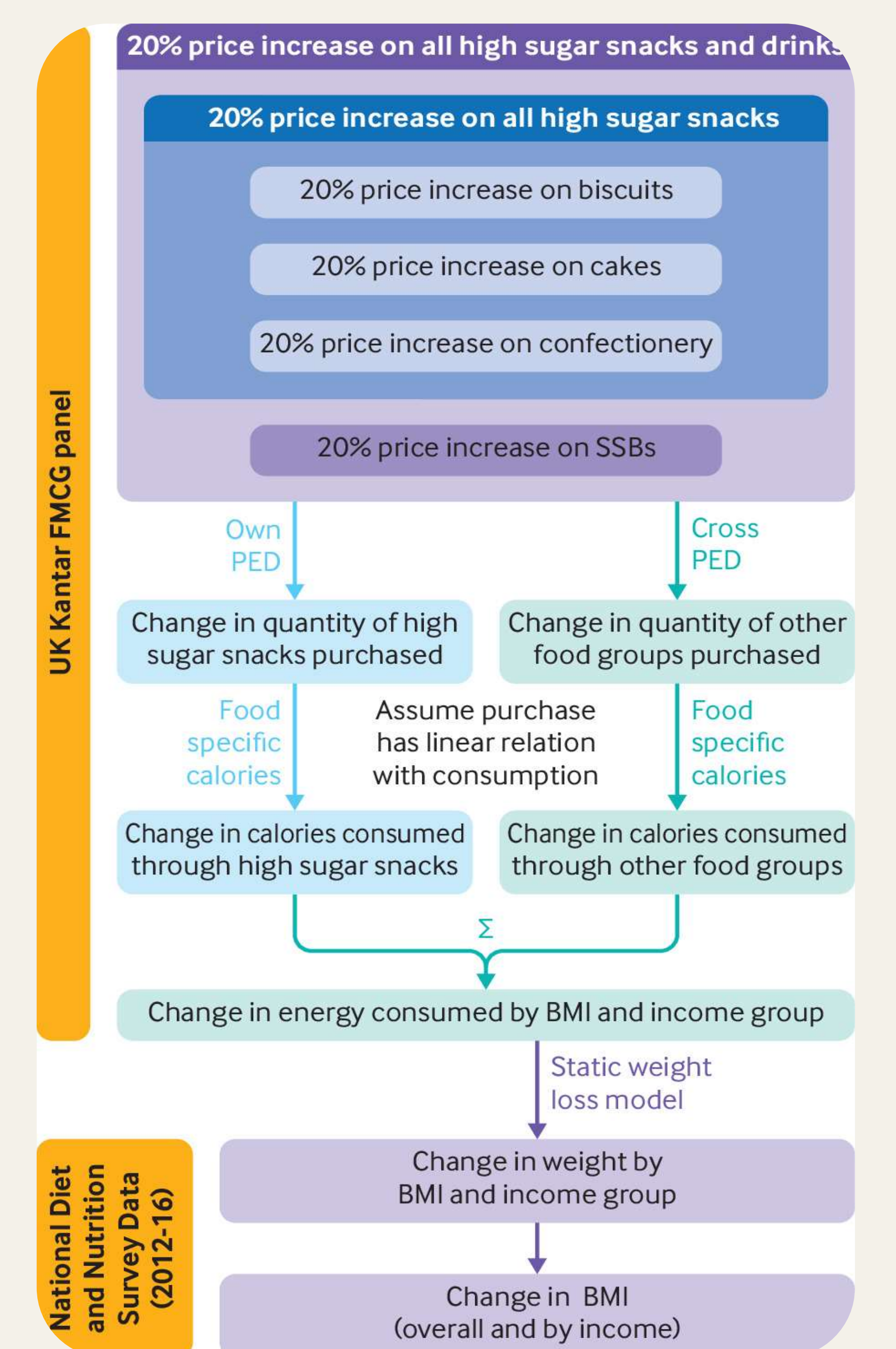
The research modelled the impact of a 20% increase in the price of high sugar snacks on the quantity of energy consumed to determine body weight as well as the percentage of overweight individuals (BMI between 26 and 31) and obese individuals (BMI greater than 32) in the United Kingdom.

depending on sugar-sweetened beverage tariff estimates from modelling literature, this paper employed a 20 percent price change and assumed that this would result in an equivalent adjustment in the cost of high-sugar foods.

The UK Kantar FMCG (fast moving consumer goods) panel (n=36 324 households) provided information on household spending at the product level for the period of January 2012 to December 2013.

The total effect of successive rising prices on energy purchasing was measured using a chained variation of the approach. Candies, biscuits, and cake saw a 20 percent price hike as a result of this. In terms of family size, the number of kids, social class, the age of the primary shopper, geographic region, and the household sample is representative of the population in Great Britain. These statistics, which have been used in numerous studies in the UK to look into trends in food demand, have shown to compare favourably to the Living Cost and Food Survey, the official government data collection on household expenditures (e.g., 2829).

Kantar recruits open panel members via postal and e-mail means, and the representativeness of the panel is evaluated every four weeks by Kantar. The dataset contains food and drink purchases from large merchants, supermarkets, butchers, farm shop, and corner stores.



Results

It was estimated that, one year after the price increase went into effect, overweight low-income households would lose an average of 911 grams of weight (with a 95% confidence interval of 1115 to 707 gm) while overweight middle-class households would lose an average of 2100 g (with a 2530-to-1671-gram confidence interval) of weight.

Increases in the price of biscuits, the highest-sugar snack, were the most significant in reducing the amount of energy consumed by people who are overweight or obese, especially in low-income households.

According to the results of a sensitivity analysis, the impact of modelled price increases on the purchase of energy was shown to be somewhat more significant in homes without children, particularly in those with low incomes.

Obese families with high earnings can be expected to gain weight if sugar-sweetened beverage prices climb by 20%.

Obesity is predicted to decline the most in homes with low and moderate incomes, according to the model's results.

Conclusion

Increasing the price of snacks that are heavy in sugar by twenty percent has the potential to lower caloric intake, the prevalence of obesity, and the body mass index.

For a comparable increase in the cost of sweetened drinks, this study found that it was twice as high as the model predicted.

A 20percentage surcharge on high-sugar meals could also assist to reduce health disparities caused by diet-related disease in families with obesity (BMI 31) and poor income.

After a year, a price rise on sugar-sweetened beverages and high-sugar snacks was expected to cause a 2-kg weight gain in obese and overweight low- and middle-income households, respectively. Higher consumption of high-sugar snacks by obese low, middle, or high income households was expected to have a smaller influence on their health outcomes than the lower consumption of high-sugar snacks by those in the middle and upper income brackets.

To put it another way, cutting back on the purchase of high-sugar foods could have significant health benefits for the whole population.

Reference

Scheelbeek, P.F., Cornelsen, L., Marteau, T.M., Jebb, S.A. and Smith, R.D., 2019. Potential impact on prevalence of obesity in the UK of a 20% price increase in high sugar snacks: modelling study. *bmj*, 366.