



Obesity and dietary sugars

Key Messages:

- **Obesity is a complex condition influenced by many factors**, including biology, lifestyle, social factors, and the environment, rather than any single food or nutrient.
- **The fundamental cause of weight gain is an energy imbalance**, where more calories are consumed than the body uses over time.
- **Gaining weight is more about eating too many calories from all food sources**, not from sugars alone.
- **Sugar-sweetened beverages may contribute to weight gain when they add excess calories to the diet**, particularly as liquid calories may be less filling than calories from foods.
- **Sugars can be consumed in moderation as part of a balanced diet without adverse effects on body weight**, provided overall calorie intake remains within recommendations.

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What is obesity?

Globally, around 1 in 2 adults are living with overweight or obesity (1).

Obesity is a build-up of excessive body fat that can lead to an increased risk of developing diseases, such as cardiovascular disease, type 2 diabetes mellitus, and some cancers. Obesity is commonly diagnosed using the body mass index (BMI). BMI measures an individual's body weight in relation to their height. In adults, it is considered that a BMI greater than or equal to 25 kg/m² is overweight, and greater than or equal to 30 kg/m² is obesity (1).

The development of obesity is complex, and no factor is solely responsible. It is the consequence of a wide variety of factors including those related to individual biology, social interactions, eating, physical activity levels, and the environment we live in (2). In simple terms, maintaining a healthy weight requires a balance between calories in (calories taken in from the diet) and calories out (calories used by the body for physical activity and other bodily processes). A calorie (energy) imbalance, in which excess calories are consumed and not enough are expended, can lead to weight gain over time. However, the exact dynamics of calorie imbalance and changes in body weight are highly complex and can vary from person to person (3).



Did you know?

Scientific reviews of the evidence, including a review commissioned by the World Health Organization (WHO)(4), have concluded that sugars may be associated with an increase in body weight, but this is likely to be due to an increase in calories from increased sugars intake in the included studies, rather than any unique role of sugars per se (4–8). These reviews, including the WHO-commissioned review, do not show harmful effects of sugar when consumed in moderation as part of a diet where calories are not consumed in excess and within recommendations (4–8).

Dietary sugars and risk of obesity

Excess calories (energy) over time from foods and/or beverages is likely to lead to weight gain. The WHO-commissioned scientific review of the evidence on sugars and body weight concluded that changes in body weight may be explained by the increase or decrease in calorie intake resulting from an increase or decrease in the amount of sugars in the diet (4). However, when calories from sugars are replaced with other sources of calories, leading to a maintenance of total overall calorie intake, there is no change in body weight (4). In other words, this review suggests that sugars intake may only result in weight gain if more calories are consumed than used by the body (4). These reviews, including the WHO-commissioned review, do not show harmful effects of sugar when consumed in moderation as part of a diet where calories are not consumed in excess, and within recommendations (4–8). Ultimately, as the WHO states, "the fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended" (1).

Sugars-sweetened beverages and risk of obesity

When consumption of sugars-sweetened beverages (SSBs) results in excess calories in the diet, increased SSB intake has been associated with weight gain (9). Calories in drinks might not lead to a feeling of fullness in the same way that calories in food do, which could result in excessive calorie intake (10). Additionally, in terms of SSBs, high intakes often occur as part of an 'unhealthy' diet and lifestyle, including less physical activity and higher alcohol intake. This could have a role to play in the association between SSBs and weight gain (11–13).

Obesity prevention

Maintaining energy balance and adopting a healthy dietary pattern, rather than following a specific diet, is the primary strategy for obesity prevention. Reducing high intakes of calorie-dense foods and drinks, which are high in refined carbohydrates and fat, may help with weight loss and maintenance. Systematic reviews of the evidence show that weight loss can occur if overall calorie intakes are reduced (6, 14–16).

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