

Weight control & management

The role of low calorie sweeteners

The best way to lose weight and keep it off is a combination of exercise and a calorie restricted diet. This approach helps people to maximise weight loss in the form of fat mass while helping to maintain muscle mass.

The World Health Organization (WHO) suggests that people can manage their body weight more efficiently¹ by:

- limiting energy intake, especially calories from total fats and sugars;
- increasing consumption of fruit and vegetables, as well as legumes, whole grains and nuts;
- engaging in regular physical activity (at least 150 minutes per week for adults).

Losing just 5-10% of body weight has shown to significantly improve health, including lowering the risk of heart disease, high blood pressure and type 2 diabetes².



Because low calorie sweeteners provide all the sweetness of sugar but with an added value of having significantly fewer calories, they can help people take steps towards achieving a healthy weight and maintaining their optimal weight. As part of a healthy lifestyle, low calorie sweeteners provide people with low or reduced energy-dense foods, which in turn can help reduce calorie intake.³

In 2016, a systematic review and meta-analysis by Rogers et al.⁴ showed that in human intervention studies low calorie sweeteners, when used in place of sugars, consistently reduce energy intake and can help in weight loss and maintenance, when used as part of a weight management dietary programme. Similarly, another systematic review and meta-analysis of existing studies looking at low calorie sweeteners' impact on body weight found that replacing sugar with low calorie sweeteners helps people maintain a healthy weight⁵.

Considering the challenge of increasing rates of obesity and diabetes, limiting added sugars is an important strategy and low calorie sweeteners can provide an alternative to caloric sweeteners.⁶ A review by Raben and Richelsen concluded that low calorie sweeteners can be a helpful tool to reduce energy intake and body weight and thereby risk for diabetes and cardiovascular diseases (CVD)⁷.



Just 5 -10% weight loss can prevent or delay the progression of type 2 diabetes and cardiovascular diseases.²



Data from short- and long-term human studies on low calorie sweeteners point to their beneficial effect on reduced energy intake and body weight management.⁴

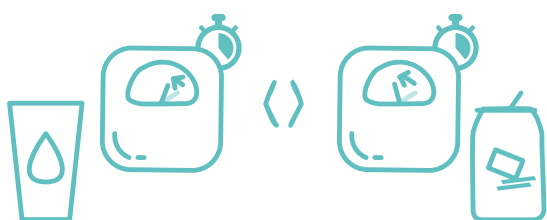


In many instances, the use of low calorie sweeteners is associated with a lower intake of sweet tasting foods and drinks. This suggests that low calorie sweeteners may help satisfy the desire for sweetness and do not encourage a "sweet tooth".⁸

Human studies affirm the beneficial role of low calorie sweeteners in weight control and management

The beneficial role of low calorie sweeteners in weight control has been confirmed in a number of randomised controlled trials (RCTs), the gold standard method in nutrition research.

A recent clinical trial assessed the effects of water versus low calorie sweetened beverages on weight loss and weight maintenance in a year-long programme^{9,10}. The group who consumed diet beverages had significantly higher weight loss and weight maintenance compared to those who drank only water over the same period of time. Specifically, at 12 weeks (weight loss period⁹) the group who drank beverages sweetened with low calorie sweeteners lost 45% more weight versus the group who drank only water, while at 52 weeks (following a weight maintenance period of extra 40 weeks¹⁰) participants who consumed diet beverages lost an average of 6,21±7,76kg compared to 2,45±5,59kg for the water group.



The beneficial effect of low calorie sweeteners has also been confirmed in children. A clinical intervention study showed that replacing sugar-containing beverages with sugar-free drinks reduced weight gain and body fat accumulation in children over the 18-months intervention period¹¹.

Over the years, it has been suggested that low calorie sweeteners might enhance the natural appetite for sweetness and exacerbate the liking for and intake of sweet foods. A review by Bellisle⁸ examined the specific effects of low calorie sweeteners' use on appetite for sweet products in relation to weight management and concluded that the short or long-term use of low calorie sweeteners showed no consistent association with a heightened appetite for sugar or sweet products. On the contrary, in many instances, the use of low calorie sweeteners is associated with a lower intake of sweet tasting foods and drinks.

The question of appetite for sweetness in dieters was also addressed in a randomised controlled trial carried out in 104 obese adults¹². The individuals exposed to a high level of intake of low calorie sweetened beverages for six months significantly reduced their sugar intake from sugar-sweetened foods and beverages during the intervention (more compared to the water group), which suggests a broader suppression of appetite for sweetness in participants with a high daily intake of diet drinks.

Low calorie sweeteners and healthy lifestyle go hand-in-hand

The consumption of low calorie sweeteners (LCS) and foods and drinks containing them is related to a healthier diet quality and overall lifestyle, based on large epidemiological studies.

A study by Drewnowski et al., published in 2014, suggests that individuals who consume low calorie sweeteners tend to have better diet and exercise habits, based on data from more than 22,000 people (National Health and Nutrition Examination Survey – NHANES, 1999-2008)¹³. Specifically, low calorie sweeteners' users had much higher scores on the Healthy Eating Index than non-consumers, which means that they had a better diet quality overall. Also, further analysis showed that individuals who consume low calorie sweeteners tended to be more physically active than those who don't.

Similarly, in 2016 Gibson et al.¹⁴ published evidence from 1590 participants of the UK National Diet and Nutrition Survey (NDNS), which showed that diet drinks' consumers had a better diet quality, compared to sugar-sweetened beverages' consumers. The study found that people who drank diet beverages had also lower total energy, sugars and saturated fats intake, compared to sugary drinks' consumers.

Healthy Eating Index



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