

Swapping starch and refined carbs for whole grains and fruit linked to less midlife weight gain

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Increased consumption of carbohydrate from refined grains, starchy

vegetables, and sugary drinks is associated with greater weight gain throughout midlife, while increased fiber and carbohydrate from whole grains, fruit, and non-starchy vegetables is linked to less weight gain, finds a large US study published by *The BMJ* today.

Most of these associations were stronger for people with excessive [body weight](#), highlighting the potential importance of carbohydrate quality and source for long term weight management, say the researchers.

The role of carbohydrates in weight gain and obesity remains controversial, and few studies have evaluated the link between changes in [carbohydrate intake](#) over time and long term changes in body weight. To address this, a team of US researchers set out to examine these associations at four year intervals, over a total follow-up period of 24 years.

Their findings are based on data from 136,432 men and women aged 65 years or younger enrolled in the Nurses' Health Study (1986-2010), Nurses' Health Study II (1991-2015), and Health Professionals Follow-Up Study (1986-2014).

At enrollment, participants were free of conditions including diabetes, cancer, [cardiovascular disease](#), respiratory disease, neurodegenerative disorders, gastric problems, and chronic kidney disease. Participants completed questionnaires on [personal characteristics](#), [medical history](#), lifestyle, and other health related factors at the start of the study, and every 2-4 years thereafter.

The results show that on average, participants gained 1.5 kg every four years, amounting to 8.8 kg on average over 24 years.

Among men and women, increases in [glycemic index](#) and glycemic load (measures of the effects of different foods on blood sugar levels) were

positively associated with weight gain. For example, a 100 g/day increase in starch or added sugar was associated with 1.5 kg and 0.9 kg greater weight gain over four years, respectively, whereas a 10 g/day increase in fiber was associated with 0.8 kg less weight gain.

Increased carbohydrate intake from whole grains (0.4 kg less weight gain per 100 g/day increase), fruit (1.6 kg less weight gain per 100 g/day increase), and non-starchy vegetables such as broccoli, carrots, and spinach (3 kg less weight gain per 100 g/day increase) was associated with less weight gain.

In contrast, increased intake from refined grains (0.8 kg more weight gain per 100 g/day increase) and starchy vegetables such as peas, corn, and potatoes (2.6 kg more weight gain per 100 g/day increase) was associated with greater weight gain.

In further analyses, the researchers found that replacing carbohydrates from refined grains, starchy vegetables, and sugar sweetened drinks with equal servings of carbohydrates from [whole grains](#), fruit, and non-starchy vegetables was associated with less weight gain.

The associations were stronger among participants with excessive body weight than those with normal weight. Most of these associations were also stronger among women.

This is an observational study, so can't establish cause, and the researchers point to several limitations, such as reliance on self-reported estimates of both carbohydrate intakes and the weight outcomes, and potential errors in dietary measurement. However, this was a large study using repeated dietary assessments and validated questionnaires over a long follow-up period, spanning the important period of [weight gain](#) in midlife.

As such, the researchers say their findings "highlight the potential importance of carbohydrate quality and source for long term weight management, especially for people with excessive body [weight](#)."

More information: Association between changes in carbohydrate intake and long term weight changes: prospective cohort study, *The BMJ* (2023). [DOI: 10.1136/bmj-2022-073939](https://doi.org/10.1136/bmj-2022-073939)

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