

Extreme dietary habits for carbohydrates and fats affect life expectancy: Study

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Extreme dietary habits for carbohydrates and fats affect life expectancy: findings from a large-scale cohort study in Japan. Credit: Reiko Matsushita

A new study, published in *The Journal of Nutrition*, suggests that extreme dietary habits involving carbohydrates and fats affect life expectancy. Researchers from Nagoya University Graduate School of Medicine in Japan led by Dr. Takashi Tamura found that a low carbohydrate intake in men and a high carbohydrate intake in women are

associated with a higher risk of all-cause and cancer-related mortality and that women with higher fat intake may have a lower risk of all-cause mortality.

Their findings suggest that people should pursue a [balanced diet](#) rather than heavily restricting their [carbohydrate](#) or [fat intake](#).

While low-carbohydrate and low-fat diets are becoming popular as a way to promote [weight loss](#) and improve [blood glucose levels](#), their long-term effects on [life expectancy](#) are less clear. Interestingly, recent studies conducted in Western countries suggest that extreme dietary habits for carbohydrates and fats are associated with a higher risk of mortality. However, few studies have explored these associations in East Asian populations, including Japanese individuals who typically have relatively low fat and high-carbohydrate dietary intakes.

The authors conducted a follow-up survey over a period of nine years with 81,333 Japanese people (34,893 men and 46,440 women) to evaluate the association between carbohydrate and fat intakes and the risk of mortality. Daily dietary intakes of carbohydrates, fats, and total energy were estimated using a [food frequency questionnaire](#) and calculated as a percentage of total energy intake for carbohydrates and fats.

Carbohydrate intake quality (i.e., refined compared with minimally processed carbohydrate intake) and fat intake quality (i.e., saturated compared with unsaturated fat intake) were also assessed to examine the impact of food quality on the association with mortality.

They found that men who consumed less than 40% of their total energy from carbohydrates experienced significantly higher risks of all-cause and cancer-related mortality. The trend was observed regardless of whether refined or minimally processed carbohydrate were considered.

On the other hand, among women with five years or longer of follow-up, those with a high carbohydrate intake of more than 65% had a higher risk of all-cause mortality. No clear association was observed between refined or minimally processed carbohydrate intake and the risk of mortality in women.

For fats, men with a high fat intake of more than 35% of their [total energy](#) from fats had a higher risk of cancer-related mortality. They also found that a low intake of unsaturated fat in men was associated with a higher risk of all-cause and cancer-related mortality. In contrast, total fat intake and saturated fat intake in women showed an inverse association with the risk of all-cause and cancer-related mortality. They concluded that this finding does not support the idea that high fat intake is detrimental to longevity in women.

"The finding that saturated fat intake was inversely associated with the risk of mortality only in women might partially explain the differences in the associations between the sexes," Dr. Tamura stated. "Alternatively, components other than fat in the food sources of fat may be responsible for the observed inverse association between fat intake and mortality in women."

This study is extremely important because restricting carbohydrates and fats, such as extremely low-carbohydrate and low-fat diets, are now popular dieting strategies aimed at improving health, including the management of metabolic syndrome. However, this study shows that low-carbohydrate and low-fat diets may not be the healthiest strategy for promoting longevity, as their short-term benefits could potentially be outweighed by long-term risk.

Overall, an unfavorable association with mortality was observed for low-carbohydrate intake in men and for high carbohydrate intake in women, whereas high fat intake could be associated with a lower mortality risk in

women. The findings suggest that individuals should carefully consider how to balance their diet and ensure that they are taking in energy from a variety of food sources, while avoiding extremes.

More information: Takashi Tamura et al, Dietary Carbohydrate and Fat Intakes and Risk of Mortality in the Japanese Population: the Japan Multi-Institutional Collaborative Cohort Study, *The Journal of Nutrition* (2023). [DOI: 10.1016/j.tjnut.2023.05.027](https://doi.org/10.1016/j.tjnut.2023.05.027)

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