

Study: Diet high in poor quality carbohydrates increases heart disease and death

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A global study of people living on five continents has found a diet high in poor quality carbohydrates leads to a higher risk of heart attacks, strokes, and death.

The higher risks of a diet high in poor quality carbohydrates, called a high glycemic diet, were similar whether people had previous cardiovascular disease or not.

The study, published in the *New England Journal of Medicine* today, is the largest of a geographically and dietary diverse population on this issue, as previous studies have chiefly focused on high income Western countries.

A total of 137,851 people aged 35 to 70 years old were followed for a median of 9.5 years through the Population Urban and Rural Epidemiology (PURE) study run by the Population Health Research Institute (PHRI) of McMaster University and Hamilton Health Sciences.

The research team used food questionnaires to measure long term dietary intake of participants and estimate the [glycemic index](#) (the ranking of food based on their effect on blood-sugar levels) and glycemic load (the amount of carbohydrates in a food times its glycemic index) of diets. There were 8,780 deaths and 8,252 major cardiovascular events recorded among the participants during the follow-up period.

The investigators categorized dietary intake of carbohydrates depending on whether specific types of carbohydrates increased blood sugars more than others (high glycemic index) and compared this index to the occurrence of cardiovascular disease or death.

Those people consuming a diet in the highest 20 percent of glycemic index were 50 percent more likely to have a cardiovascular attack, stroke, or death if they had a pre-existing heart condition, or 20 percent more likely to have an event if they did not have a pre-existing condition.

These risks were also higher among those people who were obese.

"I have been studying the impact of high glycemic diets for many decades, and this study ratifies that the consumption of high amounts of poor quality carbohydrates is an issue worldwide," said first author David Jenkins, professor of nutritional sciences and medicine at the University of Toronto's Temerty Faculty of Medicine, who is also a scientist in the Li Ka Shing Knowledge Institute of St. Michael's Hospital, Unity Health Toronto.

"PURE study papers have already indicated that not all carbohydrates foods are the same. Diets high in poor quality carbohydrates are associated with reduced longevity, while diets rich in high quality carbohydrates such as fruit, vegetables and legumes have [beneficial effects](#)," he said.

PHRI research investigator Mahshid Dehghan added: "This study also makes it clear that among a diverse population, a diet low in both its glycemic index and load has a lower risk of cardiovascular disease and death."

Most fruits, vegetables, beans, and intact whole grains have a low glycemic index, while white bread, rice, and potatoes have a high glycemic index.

"The present data, along with prior publications from the PURE and several other studies, emphasize that consumption of poor quality of carbohydrates are likely to be more adverse than the consumption of most fats in the diet," said Salim Yusuf, senior author of the study.

"This calls for a fundamental shift in our thinking of what types of [diet](#) are likely to be harmful and what types neutral or beneficial."

Yusuf is also the principal investigator of the PURE study, executive director of the PHRI, and a professor of medicine at McMaster.

Provided by McMaster University

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