

# High intake of refined grains linked to higher risk of heart disease and death

February 3 2021

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High intake of highly processed (refined) grains is associated with higher risk of heart disease and death than whole (unrefined) grains, finds a study published by *The BMJ* today.

Cereal grains, such as oats, rice, barley and wheat make up around 50% of daily caloric intake across the world and up to 70% in low and [middle income countries](#), particularly in Africa and South Asia.

Whole grains tend to be higher in dietary fibre, vitamins, minerals, and essential fatty acids than refined grains. Previous studies have shown that higher whole grain intake is associated with lower risk of cardiovascular disease and death, but no clear associations were found for refined grains.

To address this evidence gap, researchers set out to assess the association between intakes of refined grains, whole grains, and white rice with [cardiovascular disease](#) (CVD) and mortality.

Their findings are based on data for 137,130 people aged 35 to 70 years across 21 low, middle and [high income countries](#) who had no history of heart disease and were taking part in the Prospective Urban and Rural Epidemiological (PURE) study.

They examined white rice separately from all other refined grains because more than 60% of the PURE population live in Asia where rice is a [staple food](#).

Detailed information on participants' education, wealth, lifestyle and medical history was collected at the start of the study and validated food questionnaires were used to assess intakes of refined grains, whole grains, and white rice.

Deaths from cardiovascular causes or serious cardiovascular events including heart attack, stroke, and heart failure were then tracked over an average of 9.4 years

After taking account of other potentially influential factors, the

researchers found that the highest category of intake of refined grains (at least 350 g or about 7 servings per day) was associated with a 27% higher risk of death and a 33% higher risk of serious cardiovascular events compared with the lowest category of intake (less than 50 g per day).

Higher intakes of refined grains were also associated with higher blood pressure, but no significant associations were found between intakes of whole grains or [white rice](#) and health outcomes.

This is an observational study, so can't establish cause, and the researchers point to some limitations, such as relying on recall for food questionnaires, which may have affected the accuracy of results.

However, with data from 21 countries across five continents, the researchers were able to analyse broad patterns of diet, meaning the results are likely to be robust and widely applicable to populations across the world.

As such, they suggest that, globally, a lower intake of refined products should be encouraged while promoting a higher intake of whole [grains](#). "Reduction in quantity and improvement in quality of carbohydrate is essential for better health outcomes," they conclude.

**More information:** Associations of cereal grains intake with cardiovascular disease and mortality across 21 countries in Prospective Urban and Rural Epidemiological study: prospective cohort study, *BMJ* (2021). [DOI: 10.1136/bmj.m4948](https://doi.org/10.1136/bmj.m4948)

Provided by British Medical Journal

Citation: High intake of refined grains linked to higher risk of heart disease and death (2021, February 3) retrieved 18 May 2024 from <https://medicalxpress.com/news/2021-02-high-intake-refined-grains-linked.html>

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