

Wholegrains May Improve Survival in People with Type 2 Diabetes

Stockholm, Sweden — Higher consumption of whole grains, fish, fiber, and omega-3 polyunsaturated fatty acids reduces deaths from all causes in people with type 2 diabetes, show new data.

Results from the systematic review and meta-analysis were presented here at this year's European Association for the Study of Diabetes (EASD) Annual Meeting by lead author Janett Barbaresko, Ph.D., a researcher from the German Diabetes Center in Düsseldorf.

Adding just one serving (around 20 g/day) of whole grains from foods such as brown bread, brown rice, or breakfast cereals was associated with about a 16% reduction in all-cause mortality, and each portion of fish consumed per week was associated with a 5% lower risk of all-cause mortality. As well, eating 5 g/day of fiber was associated with a 14% reduction in all-cause mortality, and 0.1 g/day of omega-3 polyunsaturated fatty acids with a 13% reduction.

Diet Also Has Role in Improving Survival in Those with Type 2 Diabetes

Barbaresko explained that most dietary recommendations for people with type 2 diabetes are not evidence-based or are derived from studies of the general population and that the degree to which different components of diet are associated with all-cause mortality, or indeed the prevention of morbidity and mortality, remains unknown.

By way of example, she noted the American Diabetes Association 2022 [guidelines](#) for the prevention and management of diabetes complications advises limited intake of saturated and trans fatty acids, higher intake of polyunsaturated fatty acids, and following the Mediterranean or DASH (Dietary Approaches to Stop Hypertension) diets.

"Our findings show that dietary factors do not only play a role in the prevention of type 2 diabetes, but also seem to be relevant for improving survival in people with diagnosed diabetes," she said, adding that, "in particular, we found some key aspects of a healthy diet such as higher intakes of whole grains, fiber, fish, and omega-3 polyunsaturated fatty acids may improve survival of individuals with type 2 diabetes."

She noted that individuals with type 2 diabetes are known to be more prone to circulatory diseases, dementia, cancer, and bone fractures, and that lifestyle modifications, including diet — with or without medications — underpin most management strategies.

"For the first time, we have provided a summary of all published studies on any dietary factor in association to all-cause mortality in individuals with type 2 diabetes," said Barbaresko.

"Moreover, the certainty of evidence has been evaluated for the first time."

Matthias Schulze, MD, head of the German Institute of Human Nutrition, Nuthetal, Germany, moderated the session.

The new work "summarizes the available evidence, providing important dietary advice for patients with diabetes, for example, recommending whole grains," he remarked.

"However, the study also points to gaps in knowledge, so for many diet factors, we have either no or few studies, or study quality considered to be low, which calls for more research to fill the gap."

High Versus Low Intake of Various Dietary Factors

The researchers performed meta-analyses based on published studies of all-cause mortality in individuals with type 2 diabetes aged 18 and over, as associated with dietary patterns, macronutrients (carbohydrates, protein, fat), micronutrients (vitamins and minerals), secondary plant compounds (for example, polyphenols); and supplements.

Studies were conducted mainly in the United States and Europe with a mean follow-up of 10 years. Low and high intakes were compared, and a dose–response relationship between different dietary factors and all-cause mortality was explored to generate summary risk ratios (SRRs). The researchers also explored how the certainty of evidence was determined.

Decreased mortality from any cause was found for a higher intake of fish (SRR per serving/week: 0.95, over six studies); whole grain (SRR per 20 g/day: 0.84; two studies); fiber (SRR per 5 g/day: 0.86; three studies), and omega-3 polyunsaturated fatty acids (SRR per 0.1 g/day: 0.87; two studies).

A low certainty of the evidence was found for an inverse association between all-cause mortality and vegetable consumption (SRR per 100 g/day: 0.88; two studies) and plant protein intake (SRR per 10 g/day: 0.91; three studies).

Eggs were associated with an increased risk of all-cause mortality (SRR per 10 g/day: 1.05; seven studies), as was dietary cholesterol (SRR per 300 mg/day: 1.19; two studies).

Regarding other dietary patterns, including the Mediterranean diet and low-carbohydrate diet, either no association was found and/or the evidence was very uncertain. Likewise, evidence was uncertain for foods including nuts, dairy, meat, sugar, and sweets; macronutrients, including carbohydrates; and micronutrients, such as caffeine and vitamin D.

"With the Mediterranean diet, we saw an inverse association [with all-cause mortality] comparing high adherence with low adherence to the Mediterranean diet, but the certainty of the evidence was very low, indicating really uncertain meta-evidence," remarked Barbaresko.

She concluded that a greater number of studies is needed to investigate the association of dietary factors with all-cause mortality in type 2 diabetes to strengthen the evidence for several other dietary factors. She also cautioned that meta-analyses are affected by unmeasured and residual confounding.

Barbaresko and Schulze have reported no relevant financial relationships.

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