Research uncovers heart-protective eating patterns for type 1 diabetes

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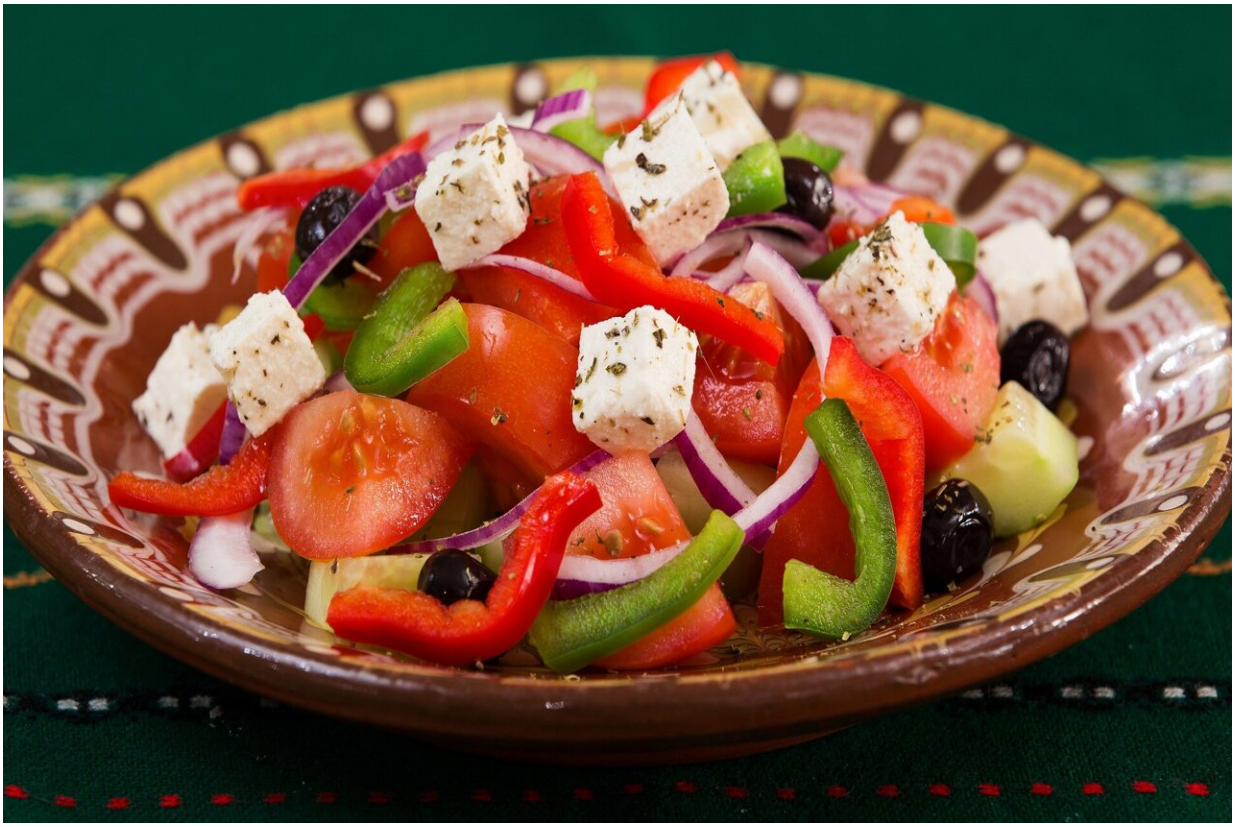

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Eating patterns that align with the Mediterranean diet or the dietary approaches to stop hypertension (DASH) diet could help lower cardiovascular disease risk in adults with type 1 diabetes, according to

results from a six-year study.

The DASH and Mediterranean diets are both considered heart-healthy and emphasize plant-based foods, healthy fats, lean proteins and low intake of processed foods and sugars.

"Type 1 diabetes increases the risk of developing cardiovascular disease, which raises the likelihood of heart attacks, strokes and other serious health complications," said Arpita Basu, Ph.D., RD, associate professor in the department of kinesiology and nutrition sciences at the University of Nevada at Las Vegas.

"We wanted to find out how people's regular eating habits affected blood inflammatory markers that predict cardiovascular disease risk in adults with type 1 diabetes."

Basu presented the findings at NUTRITION 2024, the flagship annual meeting of the American Society for Nutrition held June 29–July 2 in Chicago.

"Both DASH and Mediterranean diets revealed protective associations, which means these dietary patterns can make a difference when consumed regularly," said Basu. "Our findings are more practical than those from clinical studies of these diets because those usually manipulate dietary behavior in a way that may not be sustainable in daily life."

The new study builds on earlier work in which the researchers showed that DASH and Mediterranean dietary patterns were associated with less fat accumulation surrounding heart tissue in adults with and without type 1 diabetes as well as lower odds of coronary artery calcification, an advanced form of cardiovascular disease in adults without diabetes.

"This new study reports the protective associations of these diets with selected blood cardiovascular disease markers that may explain our previous findings and provide new data on how diet affects inflammation in type 1 diabetes," Basu said.

The six-year study included 1,255 adults—563 with type 1 diabetes and 692 without diabetes. The researchers assessed diet using a food frequency questionnaire, which obtains dietary information on different food groups.

This information was used to calculate nutrient intake over the six-year study and to determine how well dietary patterns conformed to three diets commonly used in cardiovascular disease management: the Mediterranean diet, the alternative healthy eating index (AHEI) and DASH.

The researchers also analyzed a variety of blood markers frequently used in clinical settings to determine cardiovascular disease risk and inflammation. These included C-reactive protein (CRP), fibrinogen, plasminogen activator inhibitor-1 (PAI-1) and homocysteine (Hcy).

Overall, those who consumed diets more closely conforming to DASH and Mediterranean patterns—and thus receiving higher scores on those indices—had lower levels of Hcy and PAI-1 after accounting for other demographic and lifestyle factors such as body mass index, age, total caloric intake, blood lipids, blood pressure, smoking and physical activity. No associations were observed between AHEI scores and any of the biomarkers studied.

The researchers note that although Hcy has been consistently shown to increase cardiovascular disease risk, its association with dietary patterns has not been previously studied in type 1 diabetes.

The analysis also revealed that adults with type 1 diabetes generally consume a high-fat diet, mostly as a consequence of decreasing carbohydrates and increasing animal protein foods that are high in saturated fats and cholesterol.

"There is an urgent need to address dietary quality in adults with type 1 diabetes," said Basu. "In a clinical setting, assessing dietary intakes using the DASH and Mediterranean dietary checklists could be an effective way to identify gaps and improve intakes. Specific foods that are part of these dietary patterns, such as olives and nuts in the Mediterranean diet, could be added to the diet even if the entire diet cannot be altered."

Please note that abstracts presented at NUTRITION 2024 were evaluated and selected by a committee of experts but have not generally undergone the same peer review process required for publication in a scientific journal. As such, the findings presented should be considered preliminary until a peer-reviewed publication is available.

More information: Basu presented this research at 11:45 a.m.–12:45 p.m. CDT on Sunday, June 30, during the Nutritional Epidemiology poster session in McCormick Place (abstract; presentation details).

Provided by American Society for Nutrition

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