

- Low-carbohydrate diet / Diabetes

## Low-carb diet may enable type 2 diabetics to reduce medication

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A low-carbohydrate diet may help adults with type 2 diabetes gain better blood sugar control and make it possible to decrease diabetes medication, a new study suggests.



The study was published Tuesday in the Endocrine Society's Journal of Clinical Endocrinology & Metabolism.

Compared with a higher-carbohydrate diet, carbohydrate-restricted intake improved the function of compromised beta-cells in the pancreas during the 12-week trial, researchers said. Beta cells produce and release insulin, the hormone that regulates blood sugar.

"Beta-cell failure is responsible for the development of type 2 diabetes," the study's corresponding author, Marian Yurchishin, a doctoral student at the University of Alabama at Birmingham, told UPI.

"We aimed to investigate if a carbohydrate-restricted diet could be a feasible approach to improve beta-cell function in the context of a short-term study," particularly without requiring weight loss, Yurchishin said.

Participants on the low-carb diet had their initial beta cell responses improve twice as much as those on the high-carb diet, researchers noted.

In comparing the participants by race, they found that Black adults on the low-carb diet had an average improvement that was 110 percent greater than Black adults on the high-carb diet.

Meanwhile, white adults on the low-carb diet had 48 percent greater average improvement than white adults on the high-carb diet, researchers observed.

"Our data suggests that a carbohydrate-restricted diet provides the opportunity to improve beta cell function without the need for weight loss and after any diabetes medications were withheld," Yurchishin said.

"This approach may be more appealing and effective for some persons with type 2 diabetes, particularly in patients of African descent," she said. "Health care professionals could discuss this dietary option for their patients who may be amenable to a carbohydrate-restricted meal plan."

More than 38 million Americans — about 1 in 10 — have diabetes, and 1 in 5 of them don't know it, according to the Centers for Disease Control and Prevention.

About 90 percent to 95 percent of people with diabetes have type 2, the CDC reports. With this chronic condition, the body doesn't use insulin well and can't maintain normal blood sugar.

Type 2 diabetes most commonly affects individuals 45 or older, but more children, adolescents and young adults are developing the illness, the agency noted.

Researchers collected data from 57 white and Black adults with type 2 diabetes. Half of the participants consumed a low-carb diet, while the other half ate a high-carb diet and reviewed their beta-cell function and insulin secretion at the outset of the study and after 12 weeks.

All participants received their meals through the study. People on the carbohydrate-restricted diet ate 9 percent carbs and 65 percent fat, while those on the high-carb diet consumed 55 percent carbohydrates and 20 percent fat.

“Additional research would be necessary to understand the specific mechanisms that allow a lowcarb diet to repair beta-cell function,” Yurchishin said, adding that “treatment of type 2 diabetes optimally involves lifestyle interventions featuring healthy meal patterns in conjunction with medical therapy,”

However, she added, “Our research should not be interpreted to mean that a carbohydrate-restricted diet can replace medical therapy in those who need it.”

Among patients who still need medications are those at risk of cardiovascular disease, heart failure or chronic kidney disease, Yurchishin noted.

“No one therapeutic approach is universally effective,” she said. “Treatment should be individualized and input from patients should be taken into account by health care professionals.”

The study received funding from the National Institute of Diabetes and Digestive and Kidney Diseases, the Nutrition Obesity Research Center of the University of Alabama at Birmingham, the Diabetes Research Center, and the National Heart, Lung, and Blood Institute. Dr. Jill Crandall, director of the Fleischer Institute for Diabetes & Metabolism at Albert Einstein College of Medicine in the Bronx, N.Y., said “it’s premature to draw conclusions” about a very low-carb diet’s impact on insulin secretion. She was not involved in the study. “This study was conducted in people with mild type 2 diabetes — relatively short diabetes duration, good blood sugar control and no prior use of insulin,” so the results may not apply to those with more advanced or severe disease, said Crandall, who also is chief of endocrinology.

Including African Americans with European Americans in the study sheds light on how diabetes affects different groups, said Dr. Leah Wilson, an assistant professor and endocrinology fellowship program director at the Harold Schnitzer Diabetes Health Center of Oregon Health & Science University in Portland.

Wilson added that “there can be improvements in some parameters of beta-cell function with a very low carbohydrate diet even in the absence of weight loss.”

It’s helpful to consult with a registered dietitian who is a certified diabetes care and education specialist for personalized advice. They offer support in collaboration with the primary care physician and endocrinologist, said Janice Baker, a spokesperson for the Association of Diabetes Care & Education Specialists.

“There are as many as 42 factors that can impact glucose levels,” Baker said. “Food is one part of the picture, not all of the picture.”