

Cooking, diabetes self-management education, and intervention improve quality of life

August 18 2022



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Researchers at The Ohio State University Wexner Medical Center and College of Medicine have partnered with Columbus-based nonprofit Local Matters on a study that tested whether a cooking intervention that provided food—along with diabetes self-management education to encourage healthy eating and physical activity—would improve A1C hemoglobin levels and diabetes management.

In this randomized, waitlist control study, 48 adults with type 1 or type 2 [diabetes](#) completed the six-week Cooking Matters for Diabetes intervention.

"This study showed that Cooking Matters for Diabetes may be an effective method of improving diet-related self-care and health-related quality of life, especially among individuals living with [food insecurity](#), and should be tested in larger randomized controlled trials," said co-author Amaris Williams, a postdoctoral scholar in the Division of Endocrinology, Diabetes and Metabolism at Ohio State.

Study findings are published in the *Journal of the Academy of Nutrition and Dietetics*.

Cooking Matters for Diabetes was adapted from Cooking Matters and the American Diabetes Association's diabetes self-management education and support program into a 6-week intervention with weekly food provisions. Cooking Matters is a program run by Share Our Strength, a nonprofit working to solve problems of hunger and poverty in the United States and around the world.

Local Matters, a Columbus-area nonprofit that works to create healthy communities through food education, access, and advocacy, partnered in the design and delivery of the intervention, including the culinary instructor, cooking equipment, food provision and Local Matters volunteers. The Ohio State Wexner Medical Center's Diabetes Education

team provided the community facility for the program and the certified diabetes care and education specialists.

The weekly classes included cooking demonstrations along with lessons on diabetes and treatment options; healthy eating; physical activity; medication usage; monitoring and using patient-generated health data; preventing, detecting and treating acute complications; healthy coping with psychosocial issues and concerns and problem solving. In addition, one class was devoted to an interactive visit to a grocery store.

The cooking portion provided education on food safety, knife techniques, nutrition facts and ingredients label reading, meal planning, budgeting and shopping. Each class, except the grocery store tour, involved participants cooking a meal in small groups. All participants then sat and shared the meal together, with the goal of participants building a sense of community.

"Teaching cooking skills has been shown to help reduce the burden of food insecurity. But broader skills required to get food on the table, such as meal planning, shopping, budgeting, food safety and nutrition, are also of critical importance," said Michelle Moskowitz Brown, executive director of Local Matters.

Participants filled out surveys about their diabetes self-care activities along with medical outcomes health surveys, diet history and a food security questionnaire. In addition, the participants' A1C was measured at baseline, post intervention and follow-up at 3 months.

A1C is an important predictor of who will have poor long-term outcomes in diabetes like heart disease, stroke, kidney disease (nephropathy), eye disease (retinopathy) and nerve disease (neuropathy). Keeping the A1c less than 7% for most individuals living with diabetes is key to reducing the risk, said senior author Dr. Joshua J. Joseph, an

endocrinologist and an assistant professor in the Division of Endocrinology, Diabetes and Metabolism at Ohio State.

Diabetes remains one of the most common chronic illnesses in the United States, affecting more than 34 million adults. Diabetes self-management education and support is the cornerstone of diabetes care, yet only one in two adults with diabetes attain healthy hemoglobin A1C targets of less than 7%.

"We found that study participants ate more vegetables and fewer carbohydrates. We saw improvements, including significant changes in diabetes self-management activities and numerical lowering of A1C among food-insecure study participants. This is important, because food insecurity and a lack of access to nutritious food can make diabetes management and A1C control more difficult," said study co-investigator Jennifer C. Shrodes, a registered and licensed dietitian and a certified diabetes care & [education](#) specialist at Ohio State's Division of Endocrinology, Diabetes and Metabolism.

In 2018, 11.5% of U.S. households experienced some food insecurity throughout the year. Several studies have identified a greater prevalence of food insecurity among those with type 2 diabetes compared to the national average, researchers noted.

"Many outcomes improved more substantially among individuals with food insecurity compared to those without. But during the post-intervention follow-up period, the food insecure group experienced greater regression, emphasizing the importance of sustained follow-up in populations made vulnerable related to one or more social determinants of health," Joseph said.

The research team included members from Ohio State's Medical Dietetics; Center for Biostatistics; Department of Biomedical

Informatics; College of Nursing; School of Health and Rehabilitation Sciences; The John Glenn College of Public Affairs and Wake Forest School of Medicine.

More information: Amaris Williams et al, Outcomes of Cooking Matters for Diabetes: A 6-week Randomized, Controlled Cooking and Diabetes Self-Management Education Intervention, *Journal of the Academy of Nutrition and Dietetics* (2022). [DOI: 10.1016/j.jand.2022.07.021](https://doi.org/10.1016/j.jand.2022.07.021)

Provided by The Ohio State University

Citation: Cooking, diabetes self-management education, and intervention improve quality of life (2022, August 18) retrieved 11 May 2023 from <https://medicalxpress.com/news/2022-08-cooking-diabetes-self-management-intervention-quality.html>

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