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Studies Uncover Stark Impact Social Determinants of Health Have on Youth and Adult Populations with Diabetes

Research Presented at the ADA's Scientific Sessions Highlights Need to Address Health Equity to Improve Diabetes Management and Outcomes

NEW ORLEANS, La. (June 4, 2022) – Today, two studies provide evidence that social determinants of health account for disparities in health outcomes related to diabetes. Both studies were released as poster presentations at the 82nd Scientific Sessions of the American Diabetes Association® (ADA) in New Orleans, LA.

This research comes at a time when individuals with lower socioeconomic status are more likely to develop diabetes, experience more complications, and die sooner than those with a higher socioeconomic status.

National Institutes of Health (NIH): Impact of Food Insecurity and Diet Quality on Diabetes

The ADA recommends that people with diabetes consume a high-quality diet to achieve diabetes treatment goals. Further, current research shows that Americans that have greater access to nutritious foods experience lower diabetes rates on average. However, new research from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), part of the NIH, reveals that among a national sample of U.S. adults with diabetes, more than 30% are food insecure and more than one in every six were both food insecure and had low diet quality. Food insecurity refers to a lack of consistent access to enough food for an active, healthy life. Diet quality refers to how well an individual's diet aligns with federal dietary guidelines.

The researchers conducted a study of food insecurity, diet quality, and health indicators that are important for diabetes management including A1C, blood pressure, and cholesterol control using the National Health and Nutrition Examination survey data from 2013–2018.

Among U.S. adults with diagnosed diabetes in this nationally representative sample, 15.3% were living below the poverty threshold, 19.3% were experiencing food insecurity, and 50.7% had low diet quality. Both food insecurity and low diet quality were independently associated with suboptimal

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glycemic (A1C) and lipids (low HDL and high triglycerides) management. Food insecurity had a stronger association with the components of diabetes management than diet quality.

“Food insecurity has a strong impact on people with diabetes, particularly for people from racial and ethnic groups already experiencing health disparities,” said NIDDK Program Director and Author Jean M. Lawrence, ScD, MPH, MSSA. “We hope these results encourage health care providers to include a food insecurity assessment as part of their overall diabetes treatment and move toward treating the whole person including social determinants of health, which is essential for advancing health equity.”

Dr. Lawrence also notes that future research on food insecurity among adults with diabetes might focus on how interventions to reduce food insecurity affects metabolic outcomes and address the multiple pathways that may contribute to these outcomes.

Racial Residential Segregation & Black Youth with Type 1 Diabetes

In the U.S., marginalized communities are [disproportionately exposed to neighborhood environments](#) that are associated with diabetes risk, highlighting the impact of residential location for individuals with diabetes. New research out of Chicago, Illinois and Detroit, Michigan shows that Black adolescents with type 1 diabetes living in more racially segregated areas were found to have worse diabetes health.

The study evaluated racial residential segregation (RRS)—a form of structural racism that includes limited access to resources and increased exposure to stress—and the association with diabetes management and glycemic control in Black youth with type 1 diabetes. The study enrolled a sample of 144 patients from seven pediatric clinics with a mean age of 13.3. Diabetes management was assessed by youth self-report using the Diabetes Management Scale. RRS was calculated at the census block group level based on U.S. census data using location quotients (LQs). The mean LQ for patients was 3.04 (SD=1.49), indicating their residence is in highly segregated neighborhoods.

Results suggest that RRS was predictive of the diabetes health of Black youth with type 1 diabetes even after controlling for effects of family income and neighborhood adversity. Black youth with type 1 diabetes who resided in more racially segregated neighborhoods had higher A1C.

“Our findings indicate that persistent residential segregation is contributing to health inequity for U.S. children with diabetes,” said Deborah Ellis, PhD, professor of family medicine and public health sciences, Wayne State University in Detroit, Michigan. “This reinforces the need for health care providers to screen for and address social determinants of health in order to effectively address children's care needs as we work to reduce the burden of type 1 diabetes nationwide.”

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The authors note that advocacy and policy-making is needed to address inequities and improve diabetes population health overall.

Research presentation details:

- **[The Intersection of Food Insecurity and Diet Quality in Association with Diabetes ABCs Management among U.S. Adults, 2013–2018](#)**
 - Presenter: Jean M Lawrence
 - Presented on Saturday, June 4 from 11:30 a.m.–12:30 p.m. CT
- **[Effects of Racial Residential Segregation on Black Youth with Type 1 Diabetes](#)**
 - Presenter: Deborah A Ellis
 - Presented on Saturday, June 4 from 11:30 a.m.–12:30 p.m. CT

About the ADA's Scientific Sessions

The ADA's 82nd Scientific Sessions, the world's largest scientific meeting focused on diabetes research, prevention, and care, will be a hybrid event held June 3–7, 2022 at the Ernest N. Morial Convention Center in New Orleans, LA. Leading physicians, scientists, and health care professionals from around the world will unveil cutting-edge research, treatment recommendations, and advances toward a cure for diabetes. We are eager to get back to safely participating in person and networking with colleagues while hearing the latest scientific advances and groundbreaking research presentations. Learn more and register at scientificsessions.diabetes.org and join the Scientific Sessions conversation on social media using #ADA2022.

About the American Diabetes Association

The American Diabetes Association (ADA) is the nation's leading voluntary health organization fighting to bend the curve on the diabetes epidemic and help people living with diabetes thrive. For 81 years, the ADA has driven discovery and research to treat, manage, and prevent diabetes while working relentlessly for a cure. Through advocacy, program development, and education we aim to improve the quality of life for the over 133 million Americans living with diabetes or prediabetes. Diabetes has brought us together. What we do next will make us Connected for Life. To learn more or to get involved, visit us at diabetes.org or call 1-800-DIABETES (1-800-342-2383). Join the fight with us on Facebook ([American Diabetes Association](#)), Spanish Facebook ([Asociación Americana de la Diabetes](#)), LinkedIn ([American Diabetes Association](#)), Twitter ([@AmDiabetesAssn](#)), and Instagram ([@AmDiabetesAssn](#)).

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