Oral Session 3

Research Study

Title: "The Association Between Social Determinants of Health and Monitoring of Diabetes Mellitus Control: An Exploratory Analysis"

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Category: Diabetes; Health Disparities

Keywords: Diabetes; Health Disparities; HbA1c; SDOH; NHANES

Introduction and Objective. In 2018, 34.1 million people had diabetes, representing 13% of all adults in the United States. Recent literature has recognized the vast influence that social determinants of health (SDOH) have on diabetes outcomes, however few studies have examined the association between SDOH and the monitoring of HbA1c control. The objective of this study was to determine whether there is an association between SDOH and monitoring of HbA1c control among patients with diabetes in the United States.

Methods. Data from the 2017-2020 National Health and Nutritional Examination Survey (NHANES) was used to perform a cross-sectional analysis. Data were obtained from 1,373 U.S. adults with diabetes who responded to the NHANES diabetes questionnaire and met the inclusion criteria. Participants were excluded if they had missing information. The primary outcome variable was whether the participant had their HbA1c level checked in the last year by a doctor. The main independent variables were social determinants of health (education, poverty level, and health insurance). Age, sex, race/ethnicity, BMI, hypertension, physical activity, smoking status, and marital status were included as covariates. Unadjusted and adjusted logistic regression analysis was used to calculate odds ratios (OR) and their corresponding 95% confidence intervals (CI).

Results. In total, 1,201 patients had their HbA1c checked in the previous 12 months. No statistically significant association was found between poverty level or education and the monitoring of HbA1c control. Those without health insurance were 80% less likely than those with health insurance to have checked their HbA1c (aOR 0.20; 95% CI 0.08, 0.50). No statistically significant associations were found for BMI, hypertension, and physical activity. Smokers were nearly 2.5 times more likely to have had their HbA1c checked than never smokers (OR 2.42; 95% CI 1.17, 5.00).

Conclusions-Implications. These findings demonstrate gaps in the monitoring of HbA1c control based on SDOH and areas to improve diabetes monitoring and control. This can be achieved through public health efforts targeting uninsured populations, like expanding federally qualified health centers or health fairs run by academic-community partnerships. Future studies are needed to further investigate the association between SDOH and the monitoring of diabetes control.