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Title

Association of social determinants among adult patients seen in primary care with uncontrolled diabetes mellitus type 2

Priority 1 (Research Category)

Diabetes and endocrine disease

Presenters

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Abstract

Context: Control of diabetes remains a significant population health problem throughout US. Mayo's primary care clinics serve approximately 35,900 adult patients ages 18-75 across Midwest region with diabetes mellitus (DM) types 1 and 2; in just one primary clinic site, more than 600 out of 2000 empaneled patients have hemoglobin A1c <8%. Objective: This study identified factors, specifically social determinants associated with community dwelling individuals who have uncontrolled DM type 2, defined as hemoglobin A1c \geq 8%. Charlson morbidity score and demographics were also determined. Study Design and Method: In this retrospective study, records were reviewed of adult patients ages 18-75 with diagnosis of uncontrolled DM type 2 empaneled to either Family Medicine or Community Internal Medicine in two primary care clinic sites between 1/1/2021 and 1/31/2022, and who gave authorization to have their records accessed. Social determinants of health captured included tobacco use, housing, food insecurity and social connections. Results: A total of 1596 empaneled adult individuals had hemoglobin A1c of 8% or higher. Sixty one percent were male (N=976); majority were of Caucasian race and non-Hispanic ethnicity. Close to 50% belonged to age group of >50-65 years; 62% were married or had a partner. Over 68% (N=1,092) fell under the category of obesity with BMI \geq 30. Median hemoglobin A1c was 8.9%. Mean Charlson morbidity score was 4. When study population was divided into tertiles based on A1C level (A1c 8 to <9; 9 to <12 and \geq 12), there was statistically significant difference observed demographically by age, marital status, and BMI. Those aged 30-65 years, single or have obesity, fell within higher A1c tertiles (p-value of <0.0001, <0.0001 and 0.0095 respectively). Majority (84.9%) reported not using tobacco in last 30 days; over 80% responded "no" to housing questions which reflected lapse in mortgage/rent payment. Over half reported no affiliation with any group or organization, one indicator of social connection; only 25% had food insecurity. There was increased odds of having food insecurity and decreased social connection among those in higher hemoglobin A1c tertiles (A1c \geq 9). Conclusion: Social determinants in particular, food insecurity and social connections, were associated with odds of having uncontrolled diabetes mellitus type 2 among adult patients seen in primary care. Addressing this care gap would potentially improve diabetes control.