

Incident Cognitive Impairment in Persons Aging with Diabetes: Examining Potential Race, Sex, and Geographic Differences

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Objective: Prior research has shown that Type 2 diabetes mellitus is related to increased risk of incident cognitive impairment (CI) in older adults. We will examine population characteristics and predictors of CI among people with diabetes.

Methods/Study Population: Participants with diabetes were identified from an overall sample of 30,239 Black/African American (AA) and White participants aged ≥ 45 years enrolled in the national Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study. Diabetes was defined as self-reported use of diabetes medications, fasting glucose ≥ 126 mg/dL, or non-fasting glucose ≥ 200 mg/dL. CI was defined as scoring ≤ 4 on the last two administrations of the Six-Item Screener. After excluding participants with CI or stroke at baseline, logistic regression was used to examine incident CI among those with diabetes in models that included age, sex, race, and Stroke Belt residence.

Results: At baseline, 6,398 participants (22%) of the sample had diabetes. Among those with diabetes, 52% were female, 58% were Black/AA, 79% had hypertension, and 28% had a history of heart disease. Those with a baseline history of stroke (836) were excluded. A total of 608 participants had baseline CI. Average time interval between the first and last cognitive assessment was 8.79 years. In Chi-square and t-test bivariate analyses, compared to those without CI at baseline, participants with CI were more often of older age, Black/AA race, had less than a high school education, and had a lower income level than expected. Baseline CI was not associated with insulin use or Stroke Belt residence. In a logistic regression analysis, incident CI was significantly associated with older age, Black/AA race, and Stroke Belt residence.

Discussion: Preliminary results indicate potential racial and regional disparities in the diabetes-related outcome of cognitive impairment. Future analysis will examine potential mediators of these disparities as well as predictors of decline in individual cognitive domains such as learning, memory, and language within the REGARDS sample.