

Health Care Disparities in Outpatient Imaging for Cognitive Impairment

PURPOSE

Alzheimer's Disease and other dementias disproportionately affect African American and Hispanic patients compared to White patients. However, these groups are less likely to have a diagnosis and are diagnosed at a later stage. Imaging is a critical component for the work-up of cognitive impairment (CI) and is ideally performed with MRI. The purpose of this project is to examine if there are differences in the age at which imaging is obtained or the modality selected for evaluation of CI between racial groups at our safety net academic medical center.

METHODS AND MATERIALS

This IRB exempt retrospective study used Philips Performance Bridge to identify all outpatient CT Head, CTA Head, and MRI brain examinations performed for CI at our safety net academic medical center between 3/1/2018 and 2/28/2022 (n = 1699). Patient self-identified race was obtained from the hospital Clinical Data Warehouse. Racial groups included Black/African American (AA) (n=697), White (WH) (n=377), Hispanic or Latino (HI) (n=275), and other groups collapsed into an Other (OT) group (n=275). Average age at imaging and percentage undergoing MRI were calculated for each group. Statistical analysis for age at imaging was performed with Kruskal-Wallis followed by Steel-Dwass method and percentage undergoing MRI was evaluated by Chi-square followed by groupwise Chi-square corrected for multiple comparisons with Bonferroni correction.

RESULTS

There was a significant difference in average age at imaging for CI amongst the groups ($p < 0.0001$) with AA patients (average age \pm 95% confidence interval, 72.5 ± 0.91 years) getting imaged significantly later than WH (67.8 ± 1.4 years), HI (66.5 ± 1.6), and OT (66.7 ± 1.6) patients ($p < 0.0001$ for AA vs all other groups), but there were no significant differences between the other groups in the average age at imaging (WH vs HI $p = 0.532$, WH vs OT $p = 0.6987$, and HI vs OT $p = 0.99$). There was a significant difference in the percentage undergoing MRI for CI amongst the groups ($p < 0.0001$) with a lower percentage of AA patients (50.9%) undergoing MRI compared to WH (60.0%), HI (67.0%), and OT (68.2%) patients ($p < 0.05$ for AA vs all other groups), but there were no significant differences between the percentage of other groups undergoing MRI for CI (WH vs HI $p = 0.411$, WH vs OT $p = 0.12$, and HI vs OT $p = 0.80$).

CONCLUSIONS

Self-identified Black/African American patients were imaged for cognitive impairment at an older age and were less frequently imaged for cognitive impairment with MRI. Further work is needed to understand these racial disparities and reduce barriers to obtain ideal imaging for Black/African American patients.

CLINICAL RELEVANCE/APPLICATIONS

Delays in obtaining imaging and obtaining suboptimal imaging may contribute to racial disparities in diagnosis of dementia.