

Occurrence and severity of depression, antidepressant use among Alzheimer’s Disease and Related Dementia (ADRD) patients across race/ethnicity

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Background

- In the US, around 5.8 million adults over 65 are living with ADRD. The number is expected to more than double to 14 million by 2025.
- In 2020, the US healthcare costs for ADRD treatments is about \$305 billion. It will grow to \$1 trillion as the population age.
- Co-occurring physical and mental chronic conditions burden is high, with depression being one of the most prevalent chronic psychiatric conditions in this population.
- African American patients with dementia had more dementia risk factors, as well as greater cognitive impairment and neuropsychiatric symptom severity than White participants; African American older patients received significantly less depression treatment compared with white older patients.
- Racial disparities are significant health concerns in the context of dementia and depression.

Methods

- We used the 2005-2022 National Alzheimer’s Coordinating Center’s (NACC) dataset and selected the diagnoses of ADRD and depression.
- ADRD was defined using both cognitive status and the etiologic diagnosis of Alzheimer’s disease; depression was defined using self-reported depression within 2-years before enrollment and on-study clinical diagnosis at each visit.
- Depression severity was assessed by the 15-item Geriatric Depression Scale (GDS-15); Use of an antidepressant was obtained using Multum/Lexi-Comp therapeutic drug categories and identified prescription antidepressants.
- Multiple logistic regression analyses to model the association between race/ethnicity and depression occurrence and antidepressant use; analyses of variance (ANOVA) analyses to model the association between race/ethnicity and depression severity.
- All analyses were performed in SAS OnDemand for Academics.

Results

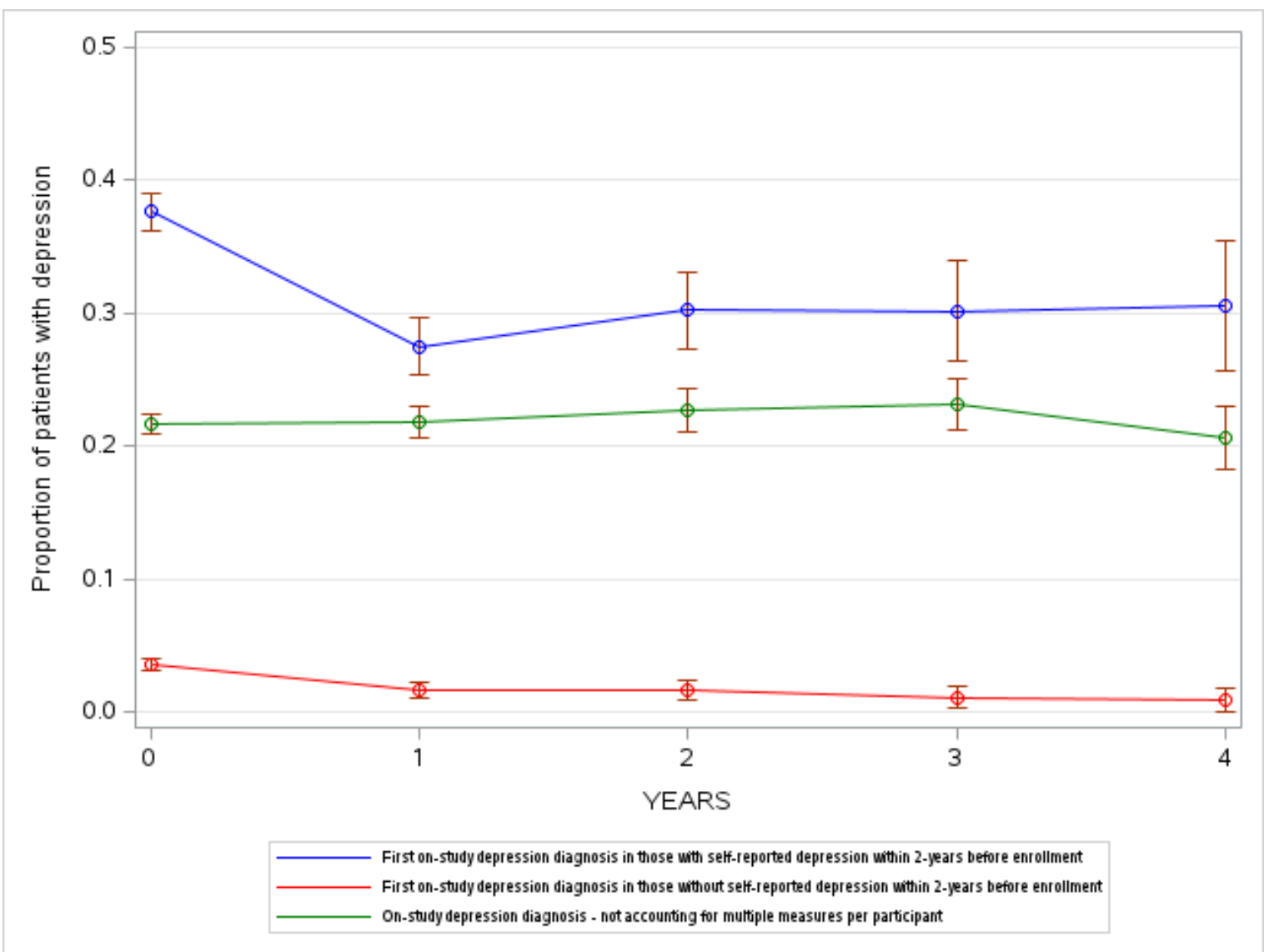
- 45,100 total NACC participants, 12,007 of them had ADRD at baseline. Among these patients, 6,115 have been diagnosed with depression at some point, 5,809 have no depression at any time point and 83 of them have no data on their depression status.
- Overall depression occurrence is 51.3% among ADRD patients.

Table 1. Table of Demographics at Baseline

	No Depression (N=5809)	Depression (N=6115)	Total (N=11924)
Antidepressant use, n (%)			
Yes	1059 (18.4%)	3547 (58.4%)	4606 (38.9%)
No	4705 (81.6%)	2525 (41.6%)	7230 (61.1%)
Sex, n (%)			
Female	2996 (51.6%)	3629 (59.3%)	6625 (55.6%)
Male	2813 (48.4%)	2486 (40.7%)	5299 (44.4%)
Age, mean (SD)	75.3 (9.80)	72.9 (10.32)	74.1 (10.14)
Race, n (%)			
White/Caucasian	4185 (78.5%)	4447 (80.4%)	8632 (79.5%)
African American	715 (13.4%)	560 (10.1%)	1275 (11.7%)
Hispanic	248 (4.7%)	394 (7.1%)	642 (5.9%)
Asian	145 (2.7%)	109 (2.0%)	254 (2.3%)

- Among patients with ADRD at baseline, 4737 (39.5%) patients have self-reported depression within 2 years before enrollment, 7105 (59.2%) patients didn’t have self-reported depression within the 2 years before enrollment.
- Figure 1 shows the proportion of patients with first on-study depression diagnosis is much higher among patients with self-reported depression within 2 years before enrollment; approximately 20% of the participants had an on-study depression diagnosis at at least one follow-up visit.

Figure 1. Proportions of depression patients among patients with ADRD at baseline



Race/ethnicity association with depression and antidepressant use

- There is a significant difference in depression occurrence and antidepressant use between race/ethnicity groups.
- African Americans (AAs) and Asians have lower occurrence compared to white patients, while Hispanics have a higher occurrence.
- Among depressed ADRD patients, antidepressant use is significantly lower among AAs, Hispanics and Asians compared to white patients.

Table 2. Association between race/ethnic groups and depression occurrence, antidepressant use

Depression occurrence		
	OR (Reference: white)	95% CI
Race/ethnicity		
AA	0.737	0.655, 0.830
Hispanic	1.495	1.268, 1.762
Asian	0.707	0.550, 0.910
Antidepressant use		
	OR (Reference: white)	95% CI
Race/ethnicity		
AA	0.405	0.338, 0.485
Hispanic	0.588	0.473, 0.730
Asian	0.541	0.365, 0.803

Race/ethnicity association with depression severity

- There is a significant difference in depression severity measured by GDS-15 between AA and white patients, Hispanic and white patients.

Table 3. Association between race/ethnic groups and depression occurrence, antidepressant use

Depression severity (GDS-15)		
	Difference between means (Reference: white)	95% CI
Race/ethnicity		
AA	0.5128	0.1243, 0.9012
Hispanic	0.8830	0.4290, 1.3370
Asian	0.4213	-0.4623, 1.3048

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