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Depression treatment disparities among older minority home healthcare patients

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Abstract

OBJECTIVE—Determine the racial/ethnic effect on depression treatment among home healthcare patients.

DESIGN—Cross-sectional analyses of administrative data.

SETTING—A large home healthcare agency in Bronx, NY.

PARTICIPANTS—Patients 65 years and older admitted to homecare in 2010 (N=3744).

MEASUREMENTS—Patient Health Questionnaire (PHQ)-2 depression screen. Other data, such as diagnosis, medications, and demographics, were collected from the patient electronic medical record.

RESULTS—6.52% of the sample had a depression diagnosis, 11.11% screened positive for depression (+PHQ-2), and 13.39% were prescribed antidepressants. The odds of receiving an antidepressant among those who screened positive for depression were 0.42 (95% CI: 0.22–0.79) for African Americans and 0.49 (95%CI: 0.26–0.93) for Hispanics compared to Caucasians.

CONCLUSIONS—These findings suggest that disparities continue to exist in depression treatment for older minority home healthcare patients compared to older Caucasians.

Keywords

Geriatric Depression; Race/ethnicity; Home Healthcare

Objective

Late-life depression treatment, particularly in those with chronic medical comorbidity or disability, has advanced in recent years¹. Home healthcare (HH) is an area of growing interest for depression care, especially with the recent Medicare mandate to assess and document depressive symptoms for all HH patients. These changes began January 2010, resulting in most agencies incorporating the Patient Health Questionnaire (PHQ)-2, a

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depression screening measure widely used in primary care², into their routine nursing assessment. Results of national survey data have shown lower antidepressant prescription rates in older minorities, specifically African American home healthcare patients, compared to Caucasians³, but these data were collected prior to changes in Medicare regulations. Therefore, any change in depression treatment based on the effects of widespread use of the PHQ-2 in home healthcare have not yet been reported. This study examines the racial and ethnic effect on treatment for HH patients with positive depression screens. We hypothesize that disparities in depression treatment will continue to occur in older HH patients.

Methods

The data collected for these analyses were extracted from the electronic medical record of a large, urban home healthcare (HH) agency in the Bronx, NY, from 1/1/2010 to 12/31/2010. HH patients aged 65 and older, admitted to the certified home healthcare agency (CHHA), and having a valid depression screen were included in the sample (N=3744). Racial and ethnic groups were identified from a single variable in the medical record, providing no distinction between race and ethnicity. Only Caucasians, Hispanics, and African Americans were included in these analyses, with other groups (Native Americans, Asians, Pacific Islanders) excluded due to small sample sizes (>4% of sample). Approval for this study was obtained by the Institutional Review Boards of the Montefiore Medical Center and the Weill Cornell Medical College.

PHQ-2 scores were obtained from the first start-of-care nursing assessment in the calendar year. A cut-off of 2 points instead of the traditional cut-off of 3 points was used here because a cut-off of 2 was found to have greater sensitivity and negative predictive value, therefore reducing the number of false negative findings⁴. Antidepressants were identified from medication records at the start-of-care and reviewed by the physician investigator (YRP) for accuracy. Gender, age, and Activities of Daily Living (ADL) impairments were also collected from medical records. Depression diagnoses were determined from patient ICD-9 codes and represented all forms of unipolar depression disorders (major depression, dysthymia, minor depression, subthreshold depression, or adjustment disorder with depressed mood) that may require treatment. Medicaid eligibility was obtained from patient insurance information and used as a proxy for socioeconomic status since income was not recorded. The Chronic Disease Score (CDS)⁵, a measure of medical comorbidity, was calculated using an algorithm adapted by R. Greenberg based on 2010 American Hospital Formulary Service (AHFS) medication codes.

Descriptive statistics of associations between race and the other covariates were reported as analysis of variance for continuous variables and Chi-square for categorical variables. Chi-square tests were repeated for antidepressant use by race, stratifying by positive or negative PHQ-2 screen. Multiple logistic regression was used to determine odds ratios for antidepressant use by race overall, and then stratified by positive or negative PHQ-2 screen while controlling for age, gender, and other covariates (Medicaid eligibility, living arrangement, CDS, and depression diagnosis) statistically significant at $p < 0.10$ on bivariate analyses. The statistical program used to conduct these analyses was STATA Statistical Software Release 10 (Statacorp, College Station, TX).

Results

The racial composition of this sample was 29.27% (1096/3744) Caucasian, 37.90% (1419/3744) African American, and 32.82% (1229/3744) Hispanic. The overall rate of documented depression diagnosis in the sample was 6.52% (244/3744), with 11.11% (416/3744) of the sample reporting depressive symptoms by PHQ-2. There were 13.39% (497/3711) of the total sample with an antidepressant prescription and 33 patients with missing medication data.

Caucasians were generally older than African Americans or Hispanics [Caucasians (C)=81.04 years (8.78); African Americans (AA)=78.05 years (7.97); Hispanics (H)=76.81 years (7.80); F-statistic=81.79, df=2; p<0.01], and had a higher rate of depression diagnosis [C=8.30% (91/1096); AA=4.72% (67/1419); H=7.00% (86/1229); $\chi^2=13.71$, df=2; p<0.01]. African Americans were more often female than Caucasians and Hispanics [AA=71.39% (1013/1419); C=58.58% (642/1096); H=63.27% (777/1228); $\chi^2=46.92$, df=2; p<0.01] and had lower rates of positive PHQ-2 screens [AA=9.37% (133/1419); C=13.50% (148/1096); H=10.98% (135/1229); $\chi^2=10.71$, df=2; p<0.01]. A greater proportion of Hispanics received Medicaid compared to Caucasians and African Americans [H=56.71% (697/1229); C=15.60% (171/1096); AA=25.09% (356/1419); $\chi^2=505.02$, df=2; p<0.01], and were more likely to have chronic disease [Mean CDS: H=6.29 (3.16); C=5.54 (2.94); AA=6.00 (2.97); F-statistic=17.86, df=2; p<0.01]. There were no statistically significant differences in ADL impairments.

In Table 1, the rate of antidepressant prescriptions as indicated from medication records was reported overall, and then stratified by PHQ-2 scoring. Caucasians consistently had the highest rates of antidepressant use among the racial/ethnic groups and African Americans consistently had the lowest. The unadjusted likelihood of an African American patient receiving an antidepressant prescription was about a third of that for Caucasians among those with negative depression screens; and more than half for those with positive screens. Hispanics had consistently greater odds of receiving an antidepressant compared to African Americans regardless of PHQ-2 score, but less than Caucasians. The racial differences became more apparent when adjusting for patient demographic and clinical factors. Among all patients with antidepressants, the proportion of those with a negative depression screen was consistent across racial/ethnic groups: C=77.67% (160/206); AA=74.34% (84/113); and H=77.53% (138/178).

Conclusion

The results of this study confirmed our hypothesis of racial and ethnic disparities in depression treatment of older home healthcare (HH) patients. Specifically, this study showed an increased likelihood of antidepressant medications prescribed to older Caucasian patients rather than older minorities regardless of depression screen results. African Americans repeatedly had the lowest odds of receiving an antidepressant prescription, compared to the other racial/ethnic groups, a finding also reported in previous work from our group on racial disparities in depression treatment within HH³.

There are several plausible explanations for differences in prescribing patterns to various racial/ethnic groups. Stigma related to mental health treatment often seen in older adults may be more common in older minorities⁶, resulting in patients who underreport symptoms or refuse treatment. Older minority patients may refuse medications because of preference for psychotherapy or nonactive treatments, such as religious activities or watchful waiting⁷. Older minority patients may have also had antidepressants discontinued by the physician due to a greater likelihood of them experiencing adverse effects or a lack of response to antidepressants⁸, however alternative treatment options should have been explored in such cases. We also reported consistent rates of negative screening among all racial groups with an antidepressant. This finding is similar to another report that shows equivalent rates of symptom remission among racial groups for those who actually filled their prescriptions and were adherent to treatment⁹, suggesting that lack of treatment initiation in minorities may play a major role in treatment disparities.

It is important to note that a greater proportion of Hispanics received antidepressants than African Americans, a finding consistent with previous reports of older Hispanic adults being more accepting of medication therapy than African Americans¹⁰. Hispanics in this sample had a greater proportion of Medicaid eligibility, and while this may have indicated lower socioeconomic status, it also represented more affordable healthcare and access to health-related services (i.e. home health aides to escort patient to appointments, transportation to medical visits, lower pharmaceutical co-payments) which could have contributed to higher rates of antidepressant treatment compared to African Americans. The odds of Hispanics receiving antidepressants were significantly reduced when adjustments were made for demographic and clinical factors. The variables that contributed most to this effect were age, Medicaid eligibility, and CDS, with Medicaid having the single greatest contribution.

Data for this study were taken from the electronic medical record, which can confirm the prescribing patterns of physicians but does not accurately reflect adherence with the recommended treatment. Therefore these data may reveal more about physician behavior than patient behavior. Another limitation of using administrative data is the identification of race or ethnicity. It is unclear if these categories were assigned based on self identification by the patient, or assignment from the nurses. We also recognize that there could be differences within racial/ethnic groups that were not accounted for in this study.

This study showed that racial and ethnic differences in depression treatment continue to exist among older HH patients; even within a large urban HH agency where African Americans and Hispanics represent the majority of patients. It also showed that wide-spread use of depression screening resulted in similar disparities in depression recognition by nurses as previously observed in depression diagnosis by physicians. Future research should be aimed at better understanding the barriers that prevent older minority patients from achieving the same quality of depression care as Caucasians. Once we have a better understanding of why these disparities exist, interventions can be designed to alleviate the barriers and reduce the disparities that prevent minority racial and ethnic groups from achieving the same quality of treatment as Caucasians.

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Table 1

Percentage of Antidepressant Use in Home Healthcare Patients 65+ years by Race and Depression Screening Status (PHQ-2 2) with Odds Ratios.

Race By Depression Status	N	% Antidepressant Use	Chi- square, df	p-value	Unadjusted Odds Ratio, 95% Confidence Interval	Adjusted Odds Ratio*, 95% Confidence Interval
Overall (N=3711)			64.66, 2	<0.01		
Caucasian	206/1089	18.92			1.00	1.00
African American	113/1403	8.05			0.38 (0.29, 0.48)	0.33 (0.25, 0.43)
Hispanic	178/1219	14.60			0.73 (0.59, 0.91)	0.56 (0.43, 0.73)
PHQ-2 2 (N=410)			3.20, 2	0.20		
Caucasian	46/146	31.51			1.00	1.00
African American	29/130	22.31			0.62 (0.36, 1.07)	0.42 (0.22, 0.79)
Hispanic	40/134	29.85			0.93 (0.57, 1.54)	0.49 (0.26, 0.93)
PHQ-2 < 2 (N=3328)			58.99, 2	<0.01		
Caucasian	160/943	16.97			1.00	1.00
African American	84/1273	6.06			0.35 (0.26, 0.46)	0.32 (0.23, 0.43)
Hispanic	138/1085	12.72			0.71 (0.56, 0.91)	0.58 (0.43, 0.79)

* Adjusted for age, gender, Medicaid eligibility, living alone, CDS, and depression diagnosis