RESEARCH ARTICLE

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Demographic correlates of DSM-IV major depressive disorder among older African Americans, Black Caribbeans, and non-Hispanic Whites: results from the National Survey of American Life

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Objectives: To examine the demographic correlates of lifetime and 12-month prevalence of major depressive disorder (MDD) among older African Americans, Black Caribbeans, and non-Hispanic Whites.
Methods: Data are from adults aged 55 years and older ($n = 1439$) recruited to the National Survey of American Life (NSAL; 2001–2003). The Diagnostic and Statistical Manual Version IV World Mental Health Composite International Diagnostic Interview was used to assess the 12-month and lifetime MDD. Weighted logistic regression was used to model demographic correlates of MDD.
Results: The population prevalence of lifetime and 12-month MDD were 11.2% and 4.1%, respectively. Bivariate analyses revealed that younger respondents and those with greater disability had a higher prevalence of both lifetime and 12-month MDD compared with those who were older and who had lower disability. Multivariable logistic regressions controlling for demographic characteristics revealed that non-Hispanic Whites had the greatest odds of lifetime MDD (OR = 2.27, 95% CI = 1.32, 3.93). Women had significantly greater odds of lifetime MDD compared with men (OR = 2.49, 95% CI = 1.14, 5.41); there were no gender differences in 12-month MDD. Other significant predictors of MDD were marital status and region of residence.
Conclusions: The distribution, correlates, and nature of associations with MDD vary as a function of whether we examined lifetime vs. 12-month MDD. Future work should account for within group differences among older adults with depression. Understanding MDD correlates and the nature of intergroup diversity can inform the identification of particularly vulnerable subgroups as well as appropriate treatment approaches. Copyright © 2011 John Wiley & Sons, Ltd.

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Introduction

Major depressive disorder (MDD) is highly prevalent (McKenna *et al.*, 2005; Mathers & Loncar, 2006) and a significant public health concern, having individual, family, and societal tolls (Katon *et al.*, 2003; Kessler *et al.*, 2003; Papakostas *et al.*, 2004; Hasin *et al.*, 2005). Although a serious issue in non-White, as well as older adult populations, relatively few studies have been conducted on these populations; and only recently have studies been conducted on psychiatric disorders experienced by minority elderly in the USA

(Ford *et al*., 2007; Jimenez *et al*., 2010). This study seeks to contribute to this body of knowledge by examining the prevalence and correlates of MDD among a representative sample of older African Americans, Black Caribbean, and non-Hispanic Whites.

Although MDD is common, it is less frequent in older adults compared with younger adults (Brown *et al*., 1995; Ford *et al*., 2007; Scott *et al*., 2008; Gum *et al*., 2009). The prevalence is elevated in women compared with men across all age groups (Piccinelli & Wilkinson, 2000), and is associated with significant medical and functional comorbidity, physiological abnormalities, and even death (Blazer, 2002, 2003; Alexopoulos, 2005; Fiske *et al*., 2009). As seen in younger people, the course of depression in older populations is marked by exacerbations, remissions, and chronicity (Blazer, 2002, 2003). For example, 60% of older adults who recover from a major depressive episode have a subsequent episode, and up to 40% of depressed older adults can experience relapse and chronicity (Salzman *et al*., 2000). It is widely known that geriatric depression differs to some degree from depression in younger cohorts in terms of symptom presentation such that older persons frequently present with somatic symptomatology, psychomotor retardation, as well as higher suicide rates, and cognitive decline (Salzman *et al*., 2000; Blazer, 2002, 2003; Fiske *et al*., 2009).

Studies comparing treatment response in older versus middle-aged depressed patients have found that treatment differences in remission rates were not clinically significant between older and younger patients (Mitchell & Subramaniam, 2005; Cohen *et al*., 2006; Ell *et al*., 2010), thus underscoring older adults' favorable response to depression treatment. Despite evidence that depression is treatable in older adults, comorbid medical and neurological illnesses often co-occur with late-life depression. Comorbidity can negatively influence the diagnosis and initiation of depression treatment (Nutting *et al*., 2000; Rost *et al*., 2000) as well as treatment response (Mitchell & Subramaniam, 2005; Kiosses *et al*., 2011). Unfortunately, depression under-treatment or nonadherence to treatment can be found among geriatric patients as well as among racial and ethnic minorities because of well documented patient, provider, and organizational barriers (Areán & Unützer, 2003; Ell, 2006; Areán *et al*., 2007; Alegria *et al*., 2008; González *et al*., 2010a, 2010b). Ascertaining subgroups with heightened vulnerability for MDD can increase our understanding of the factors underlying disparities in access—and response to—quality depression treatments.

Although lifetime estimates of MDD among adults, including older adults, have varied across epidemiological studies, ranging from 3.0% to 19.0% (Breslau *et al*., 2006; Hasin *et al*., 2005; Kessler *et al*., 2003; Ford *et al*., Gum *et al*., 2009; Jimenez *et al*., 2010; Blazer *et al*., 1994; Eaton *et al*., 1984; Robins, 1991; Takeuchi *et al*., 1998; Weissman *et al*., 1991; Areán *et al*., 2005), they have typically found that non-Hispanic Whites have the highest prevalence compared with other US racial/ethnic minority groups, with a lower prevalence found among racial/ethnic minorities (Hasin *et al*., 2005; Gum *et al*., 2009). Research from the National Survey of American Life (NSAL) by Willams and colleagues (2007) reported similar prevalence estimates of MDD for African Americans and Black Caribbeans, although among those over 60 years of age, African Americans had a slightly lower prevalence (Williams *et al*., 2007). Prevalence estimates for both Black groups were nevertheless lower compared with non-Hispanic Whites. They also found that relative to non-Hispanic Whites, African Americans and Black Caribbeans were more likely to rate their MDD as severe or very severe (Williams *et al*., 2007). In addition, less than half of the African American adults (45.0%) and fewer than a quarter (24.3%) of the Black Caribbeans adults who met the criteria for MDD received any form of treatment.

Until recently, research on psychiatric disorders among older adults based on nationally representative samples has been lacking. In a seminal investigation of psychiatric disorders among older adults, Gum and her associates (Gum *et al*., 2009) examined the correlates of mood and anxiety disorders among adults 65 years and older. They found age, gender, and racial differences in lifetime mood disorders: women, adults 65–69, and African Americans were less likely to have had a lifetime mood disorder (Gum *et al*., 2009).

There is a small but emerging body of research on ethnic and racial differences in the prevalence and correlates of psychiatric disorders among older adults. Using NSAL data, Ford and her associates (Ford *et al*., 2007) presented the first national prevalence estimates of Diagnostic and Statistical Manual Version IV (DSM-IV) anxiety, mood, and substance abuse disorders among older African Americans. Twenty-three percent of African Americans aged 55 years and older met diagnostic criteria for one lifetime disorder; 8.5% met criteria for a 12-month disorder (with alcohol abuse, PTSD, and major depression most prevalent), and prevalence declined with age (Ford *et al*., 2007). Jimenez *et al*. (2010) used the Collaborative Psychiatric Epidemiology Surveys to investigate nativity, number of years in the US, and language differences in psychiatric

disorders across several racial and ethnic subgroups 60 years and older. Contrary to their expectations, the prevalence of disorders was not higher for older adults born in the USA as compared with immigrants (Jimenez *et al*., 2010). Similarly, González *et al*. (2010a) found that the prevalence of MDD was greater for USA versus foreign-born respondents except for foreign-born respondents aged 65 years and older. Both studies (González *et al*., 2010a; Jimenez *et al*., 2010) found that the protective effect of immigrant status on psychiatric disorders was not evident for older racial and ethnic minorities. Yet, neither study investigated associations specifically between socioeconomic or other demographic factors in relation to MDD.

Our study aims to complement this emerging body of research by modeling a wide range of potential demographic correlates of DSM-IV-derived MDD among a nationally representative sample of African American, Black Caribbeans, and non-Hispanic White older adults. We hypothesize that prevalence of MDD would be highest among non-Hispanic Whites compared with African Americans and Black Caribbeans, and lowest among African Americans (Williams *et al*., 2007; Gum *et al*., 2009; Lincoln *et al*., 2010). In line with previous research, we also expect to find elevated MDD prevalence among respondents who are women (Williams *et al*., 2007; Gum *et al*., 2009), younger (Ford *et al*., 2007; Gum *et al*., 2009), are not married (Gum *et al*., 2009; Williams *et al*., 2007), reside outside of the southern region of the USA (Ford *et al*. 2007) and report greater disability (Liao *et al*., 1999; Alexopoulos, 2005; Chapman *et al*., 2005).

Methods

Setting and study design

The NSAL is the most comprehensive study of mental disorders of non-institutionalized adult Americans of African descent ever conducted. Fieldwork for the study was completed at the University of Michigan by the Institute for Social Research's Survey Research Center, in cooperation with the Program for Research on Black Americans (Jackson *et al*., 2004). Data were collected from 2001 to 2003. This study was approved by the University of Michigan Institutional Review Board.

Sample and procedures

A total of 6,082 interviews were conducted with persons aged 18 years or older, including 3,570 African Americans, 891 non-Hispanic Whites, and 1,621 Blacks of Caribbean descent. With a 72.3% response rate, 14% of interviews were completed over the phone and 86% were administered face-to-face in respondents' homes. Final response rates for the NSAL two-phase sample designs were computed using the American Association of Public Opinion Research (AAPOR) guidelines.

The African American sample is the core sample of the NSAL and was recruited from 64 primary sampling units (PSUs). The African American sample is a nationally representative sample of households located in the 48 coterminous states with at least one Black adult 18 years of age or over who did not identify ancestral ties in the Caribbean. Both the African American sample and non-Hispanic White comparison sample were selected exclusively from these targeted geographic segments in proportion to the African American population.

The Black Caribbean sample was selected from two area probability sampling frames: the core NSAL sample and an area probability sample of housing units from geographic areas with a relatively high density of persons of Caribbean descent (more than 10% of the population). Of the total Black Caribbean respondents ($n = 1{,}621$), 265 were selected from the households in the core sample, whereas 1,356 were selected from housing units from high-density Caribbean areas.

Analyses were restricted to 1439 participants aged 55 years and older.

Measures

Major depressive disorder. Presence of lifetime and 12-month MDD was assessed using the MDD battery of the World Mental Health Survey Initiative version of the World Health Organization Composite International Diagnostic Interview (WMH-CIDI). The WMH-CIDI is a fully structured instrument designed to detect psychiatric disorders using DSM-IV criteria, which include affective, cognitive, and somatic symptoms of depression (i.e., depressed affect, difficulty concentrating, and changes in appetite, weight, and sleep). Validation studies of the WMH-CIDI have found high levels of concordance with blind clinical appraisals.

Demographic and socioeconomic correlates. We included self-reported measures of age, gender, race/ethnicity, marital status, education, poverty ratio, and disability. Marital status was categorized into married or partnered, widowed, and "other" (never married, separated, or divorced). Poverty ratio was calculated as household income in relation to the poverty threshold

based on household composition. Region was dichotomized into those living in the South versus those living in other US regions.

A modified version of the World Health Organization Disability Assessment Schedule (WHO-DAS) measured past 30-day disability across seven domains: cognitive; days out of role; productivity; self-care; mobility; social life; and family burden. Items assessed the number of days of impairment in each domain weighted by self-assessed difficulty in performing activities. Scores in each of the seven domains were transformed to range from zero (no impairment) to one (complete impairment in at least two domains) and totaled for a disability summary score ($\alpha = 0.78$).

Statistical analysis

Our descriptive analyses were aimed at providing the distribution of demographic and socioeconomic correlates in the overall sample, and by presence of both lifetime and 12-month MDD. For bivariate analyses of continuous variables (age, education, poverty ratio, and disability score), we created categories using *a priori* cut-points. To test for significant differences in the prevalence of lifetime and 12-month MDD, we used Wald chi-square tests.

We conducted multivariate logistic regressions to predict both lifetime and 12-month MDD. Age, education, poverty ratio, and disability score were treated as continuous variables. We used the Wald *F*-statistic to determine the overall significance of the independent variables. We excluded 71 participants with missing MDD data, and an additional 32 participants with missing covariate data, leaving a total sample size of 1336 participants used in the multivariate analyses. All analyses were weighted and took into account complex survey design characteristics using SAS-callable SUDAAN Version 10.0.0. The NSAL weights were selected to correct for disproportionate sampling, non-response, and to provide representation across various demographic characteristics of the US population residing in the 48 coterminous states.

Results

Characteristics of the NSAL sample by presence of lifetime and 12-month DSM-IV MDD are presented in Table 1. Lifetime and 12-month estimates of MDD were 11.2% and 4.1%, respectively. Wald chi-square tests adjusting for clustering revealed significant bivariate associations predicting lifetime MDD prevalence by the following: age ($\chi^2 = 4.29$, 1 *df*, $p < 0.05$), with younger age associated with a greater prevalence; marital status ($\chi^2 = 6.56$, 2 *df*, $p < .01$), with those who were never married, separated, or divorced ("other" category) having a higher prevalence; and disability ($\chi^2 = 5.34$, 3 *df*, $p < 0.01$), with greater disability associated with a higher prevalence. In predicting 12-month MDD prevalence, we did not find evidence for significant differences by marital status but continued to find associations with younger age ($\chi^2 = 3.82$, 1 *df*, $p < 0.05$) and higher disability ($\chi^2 = 4.83$, 3 *df*, $p < 0.01$).

Results from weighted multivariate logistic regression analyses (Table 2) support the initial descriptive findings presented above regarding the association between demographic and socioeconomic factors and MDD. In the model predicting lifetime MDD, significant associations were found with race/ethnicity, gender, marital status, and disability. Specifically, non-Hispanic Whites had significantly greater odds of having lifetime MDD compared with African Americans (OR = 2.27, 95% CI = 1.32, 3.93). In addition, women had approximately 2.5 times the odds of lifetime MDD compared with men (OR = 2.49, 95% CI = 1.15, 5.41). Marital status was also a statistically significant predictor of lifetime MDD, with those who were widowed having the lowest odds, and those of "other" marital status (never married, separated, divorced) having the highest odds. Disability was a significant predictor, with higher levels of disability associated with significantly greater odds of both lifetime (OR = 2.10, 95% CI = 1.37, 3.23) and 12-month MDD (OR = 3.12, 95% CI = 2.13, 4.56).

Marital status was also a significant predictor of 12-month MDD, but contrary to results of lifetime MDD, those who were never married, separated, or divorced ("other") had significantly lower odds of 12-month MDD compared with those who were married or partnered. In addition, participants living in non-South regions of the US had significantly greater odds of 12-month MDD compared with those living in the South. Race/ethnicity was a significant correlate of lifetime MDD, but not for 12-month MDD ($F = 2.68$, 2 *df*, $p = 0.08$).

Discussion

Our findings revealed that the distribution, correlates, and the nature of associations with MDD vary as a function of whether we examined lifetime versus 12-month MDD. The odds of lifetime MDD were significantly higher among non-Hispanic Whites, women and respondents with high disability. Twelve-month MDD rates were significantly higher among disabled

Table 1 Descriptive characteristics of participants 55 years of age and older (n = 1439) by presence of lifetime and 12-month major depression in the National Survey of American Life (NSAL; 2001–2003)

	Lifetime Major Depression, *n* (%)		12-Month Major Depression, *n* (%)		Total
	No	Yes	No	Yes	*n* (%)
Lifetime MDD					
No					1251 (88.8)
Yes					117 (11.2)
12-Month MDD					
No					1319 (95.9)
Yes					49 (4.1)
Age *,†					
55–64 years	567 (85.0)	74 (15.0)	607 (94.9)	34 (5.1)	669 (46.7)
65–74 years	446 (91.3)	33 (8.7)	468 (97.9)	11 (2.1)	500 (33.9)
≥ 75 years	238 (93.8)	10 (6.2)	244 (94.5)	4 (5.5)	270 (19.5)
Gender					
Men	481 (92.5)	34 (7.5)	497 (95.1)	18 (4.9)	543 (44.6)
Women	770 (85.9)	83 (14.2)	822 (96.5)	31 (3.5)	896 (55.4)
Race/Ethnicity					
African American	729 (93.3)	57 (6.7)	761 (97.1)	25 (2.9)	837 (40.7)
Black Caribbean	276 (88.5)	19 (11.5)	282 (89.3)	13 (10.7)	304 (2.7)
White	246 (85.7)	41 (14.3)	276 (95.3)	11 (4.7)	298 (56.5)
Education					
< 12 years	458 (93.2)	39 (6.8)	476 (96.0)	21 (4.0)	521 (30.4)
12 years	435 (88.2)	39 (11.8)	423 (97.5)	12 (2.5)	460 (33.1)
≥13 years	397 (85.8)	39 (14.2)	420 (94.3)	16 (5.7)	458 (36.4)
Poverty Ratio					
Poor: < 1.00	267 (89.3)	28 (10.7)	280 (95.1)	15 (5.0)	309 (14.5)
Near-Poor: 1.00–1.99	347 (89.9)	33 (10.1)	364 (94.5)	16 (5.5)	403 (24.1)
Non-Poor: 2.00±	637 (88.3)	56 (11.7)	675 (96.6)	18 (3.4)	727 (61.4)
Marital Status**					
Married/Partnered	444 (88.0)	36 (12.1)	461 (94.4)	19 (5.6)	494 (46.0)
Widowed	405 (94.1)	25 (5.9)	419 (97.9)	11 (2.1)	450 (26.0)
Other	400 (85.4)	56 (14.6)	437 (96.4)	19 (3.6)	479 (28.0)
Region					
South	723 (90.5)	57 (9.5)	758 (97.4)	22 (2.6)	820 (56.0)
Non-South	528 (86.8)	60 (13.2)	561 (94.0)	27 (6.0)	619 (44.0)
Disability Score**,††					
0	770 (93.4)	35 (6.6)	798 (99.5)	7 (0.5)	805 (55.9)
0.01–0.99	324 (87.0)	47 (13.0)	354 (95.9)	17 (4.1)	372 (30.3)
1.00-1.99	82 (81.9)	13 (18.1)	85 (83.1)	10 (16.9)	96 (9.6)
≥ 2.00	49 (68.5)	18 (31.5)	55 (79.0)	12 (21.0)	67 (4.2)

Note: Row sum may not equal total because of missing data. Percents by major depression represent prevalence of the outcome. Percents in total column represent distribution of participant characteristics.
Lifetime MDD: $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.
12-Month MDD: $^{\dagger}p < 0.05$; $^{\dagger\dagger}p < 0.01$; $^{\dagger\dagger\dagger}p < 0.001$.

respondents and lower among Southerners and respondents who were never married, separated and divorced.

Although the bivariate analysis did not reveal any racial/ethnic differences in overall MDD prevalence rates, in our multivariate analysis non-Hispanic Whites had greater odds of lifetime MDD than African Americans. The lower MDD prevalence among African Americans is consistent with previous epidemiologic studies (Breslau *et al*., 2006; Kessler *et al*., 2003; Jimenez *et al*., 2010; Williams *et al*., 2007). Several possible explanations exist for the lower prevalence of MDD among African Americans. First, prior evidence suggests that African Americans may express psychological distress differently than non-Hispanic Whites. Namely, symptom presentation is less focused on mood disturbances and more focused on somatic complaints (Brown *et al*., 1996). Second, there may be a higher prevalence of protective factors, such as religion (Taylor *et al*., 2007) and familial support (Chatters *et al*., 1985; Woodward *et al*., 2008) that buffer against poor mental health. For example, older African Americans have higher levels of religious participation than non-Hispanic Whites (Levin *et al*., 1994; Taylor *et al*., 2007), and among African Americans, religious participation has been found to be inversely associated with mood disorders (Chatters *et al*., 2008). Third, Jackson and colleagues (Jackson & Knight, 2006;

Table 2 Weighted logistic regressions predicting lifetime and 12-month major depression among participants ($n = 1336$) in the National Survey of American Life (NSAL; 2001–2003)

	Lifetime Major Depression OR (95% CI)	12-Month Major Depression OR (95% CI)
Race/Ethnicity		
Caribbean versus African American	1.83 (0.57, 5.87)	4.05 (1.11, 14.84)
White versus African American	2.27 (1.32, 3.93)	1.58 (0.63, 3.97)
	$F = 4.74$, 2 df, $p = 0.02$	$F = 2.68$, 2 df, $p = 0.08$
Age	0.96 (0.91, 1.01)	0.98 (0.91, 1.05)
	$F = 3.05$, 1 df, $p = 0.09$	$F = 0.33$, 1 df, $p = 0.57$
Gender: Women versus Men	2.49 (1.15, 5.41)	1.00 (0.47, 2.12)
	$F = 5.53$, 1 df, $p = 0.02$	$F = 0.00$, 1 df, $p = 0.99$
Years of Education	1.08 (0.96, 1.20)	1.14 (0.94, 1.39)
	$F = 1.08$, 1 df, p = 0.19	$F = 1.76$, 1 df, $p = 0.19$
Poverty Ratio	0.98 (0.86, 1.11)	0.75 (0.51, 1.11)
	$F = 0.98$, 1 df, $p = 0.73$	$F = 2.14$, 1 df, $p = 0.15$
Marital Status		
Widowed versus Married/Partnered	0.58 (0.25, 1.34)	0.30 (0.06, 1.65)
Other versus Married/Partnered	1.25 (0.57, 2.75)	0.28 (0.10, 0.76)
	$F = 4.61$, 2 df, $p = 0.01$	$F = 3.24$, 2 df, $p = 0.045$
Region: Non-South versus South	1.44 (0.63, 3.27)	3.82 (1.18, 12.37)
	F = 0.77, 1 df, $p = 0.38$	$F = 5.17$, 1 df, $p = 0.03$
Disability Score	2.10 (1.37, 3.23)	3.12 (2.13, 4.56)
	$F = 12.05$, 1 df, $p < 0.001$	$F = 35.44$, 1 df, $p < 0.001$

Jackson *et al.* 2010; Mezuk *et al.*, 2010) posit that lower rates of mental disorders among African Americans may come at the expense of higher rates of physical disorders. To cope with daily life stressors (*e.g.*, lower socio-economic status, racial discrimination, residing in high crime neighborhoods), African Americans may engage in unhealthy behaviors (e.g., smoking, alcohol use, eating of comfort foods, and overeating). These unhealthy behaviors may reduce the likelihood of having a mental disorder but increase the likelihood of developing chronic physical illnesses in late life (*e.g.*, diabetes, cardiovascular disease). Lastly, research on racial socialization indicates that many African American children are socialized to develop high levels of tolerance for unfair acts (e.g., Thornton *et al.*, 1990). This type of socialization may be a protective psychological resource against the development of depression and other psychiatric disorders.

We also found that respondents who were never married, separated or divorced, had lower odds of 12-month MDD compared with those married/partnered. This finding is inconsistent with previous research indicating that married adults have lower rates of depression than their unmarried counterparts (Williams *et al.*, 1992) and that married older adults have a lower prevalence of lifetime mood disorders (Gum *et al.*, 2009). Although the general literature on marriage and mental health indicates that those with psychiatric disorders have substantially high rates of early marriage and subsequent divorce (Forthofer *et al.*, 1996; Kessler *et al.*, 1998), our findings suggest that among older adults, this may not necessarily be the case. Older adults who have been in stable, long-term marriages may be less likely to divorce because of a spouse's depression. This may particularly be the case for late onset depression or depression that accompanies declining health or disability.

Greater disability was consistently associated with higher MDD prevalence and odds of MDD. Findings also revealed that respondents with greater disability—that is, those with complete impairment in a least two domains—had the highest prevalence of MDD than any other subgroup in the sample (up to 31.5%). These results are consistent with a previous work highlighting the strong link between disability and depression in older adults (Liao *et al.*, 1999; Alexopoulos, 2005; Chapman *et al.*, 2005). This is especially salient to our sample given that prior work has found that African Americans and Black Caribbeans with MDD not only report higher levels of impairment but are more persistently ill than their White counterparts, thus exhibiting a heightened burden of disease (Brown *et al.*, 1996; Williams *et al.*, 2007). Etiologic mechanisms implicated in the relationship between disability and MDD span individual factors (e.g., poor self-care strategies, heightened sensitivity to acute and chronic stress, biological pathways such as increased proinflammatory and cortisone activity) and external factors (inadequate medical care, stigma/discrimination, environmental stress exposure) (Alexopoulos, 2005; Fiske *et al.*, 2009).

Gender was significantly associated with lifetime MDD, with women having greater odds of lifetime MDD than men. This finding is consistent with those

of previous studies reporting higher prevalence of depression for women than men beginning as early as 15 years of age and continuing into late adulthood (Piccinelli and Wilkinson, 2000). Compared with their male counterparts, women face a combination of individual and social factors that place them at elevated risk for depression including differential expressions of psychological distress, multiple role responsibilities, and gender-related oppression (Piccinelli & Wilkinson, 2000). However, we found no significant relationships between gender and 12-month MDD.

Respondents living in non-South regions had greater odds of 12-month MD compared with those living in the South. Although poverty rates are highest in the South, living in the South has been found to be a protective factor for mood disorders among older African Americans (Ford *et al*., 2007). The protective aspects of Southern residence may be due to several factors, including higher levels of religious participation among Southerners (Taylor *et al*., 2007), as well as larger social support networks that can be accessed for mental health problems as well as health issues more broadly (Chatters *et al*., 1985).

There are several caveats to our findings. As with any cross-sectional analyses, causal inferences are problematic and longitudinal data are preferred. For example, without prospective data, it is difficult to ascertain the causal order of our variables as predisposing factors or as consequences of MDD. Because our sample did not include homeless and institutionalized individuals, the findings are not generalizable to these subgroups. Item nonresponse, which is a common issue in survey interviewing, may have led to underreporting of MDD symptoms because of the sensitive nature of the items. Our prevalence estimates by age, particularly for lifetime MDD, may also have been a methodological artifact of recall bias, which is accentuated in older populations (Simon *et al*., 1995). Analyses conducted on 12-month MDD should also be interpreted cautiously, given the small number of participants who met criteria for this outcome. Accordingly, multivariable analyses predicting 12-month MDD had particularly large confidence intervals. Lastly, because of the relatively low number of MDD cases, we were unable to model additional comparisons such as stratifying depression by racial/ethnic groups, or by finer age intervals.

Conclusion

Understanding MDD correlates and the nature of intergroup diversity can inform the identification of particularly vulnerable subgroups as well as appropriate treatment approaches.

Even though there has been an increase in the proportion of Americans treated with depression medications, older African Americans and Black Caribbeans report higher rates of depression-related disability, continue to persist in their depression for longer periods of time, and are less likely to receive any type of therapy or guideline-concordant depression care (Areán & Unützer, 2003; González *et al*., 2010a, 2010b). A national response is needed to bring quality depression care and adequate behavioral health care coverage for older US Americans with depression.

Key points

- Among a national sample of African Americans, Caribbean Blacks, and Whites 55 years of age and older, 11.2% reported lifetime MDD and 4.1% reported 12-month MDD in the last year.
- Similar to previous epidemiological research, non-Hispanic Whites had higher odds of lifetime MDD compared to African Americans.
- Persons with disability are particularly at-risk for both lifetime and 12-month MDD.
- A national response is needed to bring quality depression care and adequate behavioral health care coverage for older US Americans with depression.

Conflict of interest

None known.

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