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Antidepressant Use among Blacks and Whites in the United States

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Abstract

Objective—The study objective was to estimate the prevalence and correlates of antidepressant use by black and white Americans.

Methods—Data from the Collaborative Psychiatric Epidemiology Surveys (CPES) were analyzed to calculate nationally representative estimates of antidepressant use by black and white Americans.

Setting—The 48 coterminous United States was the setting.

Participants—Household residents ages 18 years and older (N=9,723) participated in the study.

Main Outcomes—The primary outcome was past-year antidepressant use (n=1,004).

Results—Among individuals with 12-month depressive and anxiety disorders (n=516), blacks (14.6%) had significantly lower ($p < 0.001$) antidepressant use than whites (32.4%). Depression severity was significantly associated with higher antidepressant use for whites, but not blacks. Psychiatric disorders and vascular disease significantly increased the odds of past-year antidepressant use. The increased prevalence of antidepressant use associated with vascular disease was independent of diagnosable psychiatric disorders. Among respondents not meeting criteria for 12-month depressive and anxiety disorders, lifetime depressive and anxiety disorders and vascular disease significantly increased the odds of antidepressant use.

Conclusions—Few white and fewer black Americans with depressive and anxiety disorders receive antidepressant treatment. Higher depression severity was associated with more antidepressant use for whites, but not blacks. Antidepressant use was associated with medical conditions related to vascular disease, and these medical conditions were independent of coexisting psychiatric conditions. The results also indicate that many antidepressants are used for maintenance pharmacotherapy for

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depressive and anxiety disorders as well as common medical conditions associated with vascular disease.

INTRODUCTION

Mental disorders are leading causes of disability in the U.S. (1), and antidepressant medications are a mainstay of treatment for depressive and anxiety disorders (2). However, many people do not receive effective treatment, particularly ethnic minorities (3–5). Substantial racial and ethnic differences in access to and quality of mental health care have been reported, including antidepressant pharmacotherapy (6–10), and the substantial general under-treatment of mental disorders is even greater for black Americans (11). Previous reports have indicated that less than half of black Americans with depressive conditions were prescribed antidepressants compared to about two-thirds of whites (5,12). These differences in mental health care may contribute to the persistence and severity of mental disorders and the burden of non-lethal suicidality among black Americans (13,14). Understanding some of the reasons for the racial and ethnic differences in antidepressant use could inform methods for improving access to mental health care.

A substantial proportion of individuals who met criteria for 12-month mental disorders have been found not to receive mental health services; however, the types of therapies used or not used (e.g., psychotherapy or pharmacotherapy) are not specified (15–18). Those studies specifying antidepressant therapy indicated that many drugs were prescribed for non-mental health indications and that nearly half of all antidepressant users did not meet criteria for current psychiatric disorders (19–21). Furthermore, previous work has shown that several common medical conditions, such as cardiovascular and cerebrovascular disease and risk factors for these conditions, are associated with depressive symptomology and antidepressant use (22–25). Given the prominence of antidepressant drugs for treating common mental conditions and the rise in the number of prescriptions and costs in the United States over the past decade, we sought to examine the distribution of antidepressant use at the national level (26). To better understand factors for antidepressant use among ethnic and racial groups, we applied a modification of Andersen's behavioral model of health services use to large nationally representative samples of black and non-Latino white Americans (27,28). The behavioral model posits three major factors (i.e., predisposing, health need, and enabling) related to accessing health services. We anticipated that these factors, particularly need, would be associated with access to health services (i.e., antidepressants).

METHODS

Data Collection

The National Institute of Mental Health's Collaborative Psychiatric Epidemiology Surveys (CPES) initiative combined nationally representative studies: the National Survey of American Life (NSAL), the National Comorbidity Survey-Replication (NCS-R) and the National Latino and Asian American Study (NLAAS). Only data from the NSAL and NCS-R were used in this study. Sampling weights created by CPES staff enable analyses of pairs of studies within the CPES, which allows population estimates specific to populations of interest (29). Data were collected by the University of Michigan, Survey Research Center.

Face-to-face computer-assisted interviews were used to collect data from integrated national household probability samples of non-institutionalized adults. Specially trained non-clinician interviewers administered the World Mental Health (WMH) Composite International Diagnostic Interview (CIDI) to respondents (30). Fair to good concordance values have been reported between non-clinician administered WMH-CIDI interviews and clinician administered Structured Clinical Interview for DSM-IV reappraisals in the NSAL and NCS-

R (13,15,31). The NSAL data were collected between February 2001 and June 2003; 6,082 adults age 18 and over who self-identified as African Americans (n=3,570), blacks of Caribbean descent (n=1,621), and non-Hispanic whites (n=891) participated. The overall NSAL response rates were 72.3% for blacks (70.7% for the African American sample, 77.7% for Caribbean blacks) and 69.7% for whites. NCS-R data were collected between February 2001 and April 2003. Part I of the survey included a core diagnostic assessment of all respondents lasting approximately one hour. Part II included questions about risk factors, consequences, other variables, and additional disorders. To reduce respondent burden and control study costs, Part II was administered to 5,692 of the 9,282 Part I respondents, including all Part I respondents with a lifetime mental disorder and a probability subsample of all other respondents. The overall NCS-R response rate was 70.9%. Final response rates for the sample designs of the NSAL and NCS-R were computed following the best practice guidelines of the American Association of Public Opinion Research, incorporating disproportionate sampling, household screening and two-phase sampling for non-response follow-up (32).

Analysis Subpopulations

We analyzed specific subpopulations of the NSAL and NCS-R data sets. The NSAL subpopulation (n=4,826) was limited to African American (n=3,424) and Caribbean black (n=1,402) respondents who had sufficient drug information to assess their antidepressant use in the prior 12 months (past-year); this subpopulation represented 96.4% of the original African American and Caribbean black NSAL respondents. Because of cost limitations, whites in the NSAL were not asked medication use questions and therefore were not available for these analyses. Because the NSAL Wide Area Sampling Procedures (WASP) were used to survey blacks living in areas with high and low densities of black populations, the NSAL data represented a unique sample that was highly representative of black Americans at the time of data collection (33).

The NCS-R subpopulation (n=4,897) was limited to non-Latino whites (n=4,180), and blacks (African Americans [n=679] and Caribbean blacks [n=38]) with sufficient drug, psychosocial and other correlate information. The Institutional Review Board of Wayne State University approved this study.

Measures

In both the NSAL and NCS-R, antidepressant drug use was determined by responses to the question “Did you take any type of prescription medicine in the past 12 months for problems with your emotions, substance use, energy, concentration, sleep, or ability to cope with stress? Include medicines even if you took them only once.” Additionally, interviewers recorded prescription antidepressant generic and trade names from pill bottles during interviews. The prescription drug use question appeared before a section of the interview on the use of mental health services in the NSAL; it appeared after the mental health services section in the NCS-R. Generic and trade names were reviewed by two board certified psychiatrists and a psychiatric nurse specialist to verify that the drugs were antidepressants prior to drug coding for the analyses.

This study utilized DSM-IV criteria for 12-month and lifetime major depressive disorder (MDD), dysthymia, and five specific anxiety disorders (agoraphobia without panic, generalized anxiety, panic, post-traumatic stress and social phobia). With few exceptions, these psychiatric disorders are FDA approved indications for antidepressant use (34). They are also among the most common mental disorders, they are associated with high levels of disease burden in the U.S., they frequently coexist, and they are often misdiagnosed (35,36). The Quick Inventory of Depressive Symptomatology Self-Report (QIDS-SR) was used to measure symptom severity during the worst two-week period of the past year (37). Respondent scores

were summed across all domains, and mapped onto the framework of the full Inventory of Depressive Symptomatology scale using conversion algorithms developed for the QIDS-SR (38). The final converted score was divided into two levels of depressive symptom severity: 1) mild and 2) moderate/severe/very severe. This dichotomy was used to reflect practice guidelines for antidepressant use in depression care (39). Severity of anxiety disorders was not examined because practice guidelines were not available for all five anxiety disorders.

Analysis Variables

The primary outcome variable in the analyses was past-year antidepressant use as indicated by self-report or medication inventory. Independent variables included indicators of meeting diagnostic criteria for MDD, dysthymia, and/or anxiety disorders in the past 12 months. Additional independent variables included self-reported diagnostic histories of medical conditions, gender, age, family income, education, and health insurance status (insured and uninsured). Health insurance coverage included Medicare, Medicaid, or Tricare/CHAMPUS, current or former employee-based coverage, and coverage purchased directly from an insurance company (including group purchasing, e.g., AARP). Categorical variables were created for age (18–34, 35–64, and over 64 years), family income (less than $18,000; $18,000-$31,999; $32,000-$54,999; and $55,000 and over), and education (0–11; 12; 13–15; and 16 or more years).

Analytic Approach

Procedures designed for subpopulation analysis of complex sample survey data in the Stata software package were used for all analyses (40). All statistical estimates were weighted, utilizing NSAL and NCS-R sampling weights to account for individual-level unequal probabilities of selection into the samples, individual non-response, and additional post-stratification to ensure population representation (32). A Taylor Series Linearization approach to variance estimation (41) was used to account for the complex multistage clustered design of the samples when computing estimated standard errors.

Sample estimates describing the prevalence of past-year antidepressant use for blacks and whites were calculated in subgroups based on individual-level characteristics, including diagnoses, socio-demographics, and medical conditions. Design-based F-tests derived from the Rao-Scott Chi-square test were conducted to compare the prevalence of antidepressant use between the two ethnic groups in these different subgroups (42). Multivariate logistic regression models were used to estimate the relationships of the combined 12-month diagnoses, socio-demographic factors, and medical conditions with the odds of antidepressant use, when controlling for the other covariates in the models. Odds ratios (OR) expressing the relative influences of the covariates on the odds of antidepressant use were estimated based on the multivariate logistic regression models in addition to design-based 95% confidence intervals (CI). Additional multivariate logistic regression models considered the correlates of past-year antidepressant use in “healthy” respondents, without past-year diagnoses of depressive or anxiety disorders. Interactions between ethnicity (white / black) and the other correlates in the logistic regression models were examined to assess whether ethnic differences in past-year antidepressant use were being moderated by the other correlates under consideration.

RESULTS

Prevalence Estimates of Twelve-Month Antidepressant Use

Overall, blacks (4.5%) had a significantly lower prevalence of past-year antidepressant use than whites (12.4%; see Table 1). Antidepressant use among blacks who met DSM-IV criteria for 12-month MDD, dysthymia, and anxiety disorders was significantly lower compared to whites. About half of all antidepressant use was by blacks (53.2%) and whites (53.4%) not

meeting criteria for any of the psychiatric disorders we examined. At every level of age, education, household income, gender, and health insurance coverage status, the prevalence of past-year antidepressant use was significantly lower for blacks compared to whites. Among respondents with specific medical conditions, blacks again had significantly lower prevalence of antidepressant use compared to whites, with the exception of respondents having a history of heart disease. Finally, among individuals without mental or medical conditions considered in this study, blacks had significantly lower antidepressant use than whites.

Predictors of antidepressant use

Table 2 presents results from fitting a multivariate logistic regression model to past-year antidepressant use. Among potential predisposing factors, being black was associated with significantly lower odds of antidepressant use compared to being white; whereas being female and middle-aged increased the odds of antidepressant use. Need factors (i.e., any 12-month depressive or anxiety disorder and the presence of any of the four medical conditions examined) significantly increased the odds of past-year antidepressant use. One enabling factor, health insurance coverage, was marginally associated with increased antidepressant use. Interactions between predisposing, need and enabling factors (i.e., health insurance) were tested, but were not significant (not shown, but available on request).

Depression severity

The prevalence of blacks and whites with moderate/severe depression ratings was similar (χ^2=0.14, p= 0.656), which is consistent with previous findings by Williams et al (2007). Antidepressant use by depression severity ratings groups based on the QIDS were examined. The proportions of antidepressant use by blacks with mild (13.5%) and moderate/severe (17.6%) depression were similar (χ^2=0.20, p= 0.706); however, antidepressant use among whites with mild (21.6%) and moderate/severe (40.3%) depression was significantly different (χ^2=10.12, p= 0.003).

Antidepressant use among blacks and whites without 12-month depressive or anxiety disorders

About half of all the antidepressants inventoried were used by respondents not meeting criteria for 12-month depressive or anxiety disorders. To better understand the predictors of antidepressant use among these respondents, we excluded respondents who met criteria for 12-month major depression, dysthymia or anxiety disorders in the analyses shown in Table 3. Being black (a predisposing factor) was associated with significantly lower odds of past-year antidepressant use compared to whites. Being middle-age and being female (other predisposing factors) significantly increased the odds of antidepressant use. Lifetime depressive and anxiety disorders and having any of the medical conditions we examined (need factors) also significantly increased the odds of past-year antidepressant use. None of the enabling factors were significant in this model, and no significant interactions were found (not shown).

DISCUSSION

We found that who you are matters with regard to antidepressant use in the United States. Nationally, black Americans with depressive or anxiety disorders were one-third less likely as white Americans to have used antidepressants. Psychiatric need (i.e., symptom severity) was associated with more antidepressant use for whites, but not for black Americans. Antidepressant use was also associated with medical conditions related to vascular disease; however, these associations were independent of coexisting psychiatric conditions. Finally, we found evidence that many antidepressants may be used for maintenance pharmacotherapy of past depressive and anxiety disorders.

The racial differences in antidepressant use we found are much larger compared to previous reports, and we suggest these possible explanations (5,6,12). First, respondents were selected into the NSAL and NCS-R regardless of medical care access, compared to clinic-based or administrative data that are often restricted to populations that have used medical care services. This has particular importance for ethnic minorities. Non-elderly blacks (21%) are nearly twice as likely as whites (13%) to lack health insurance and other factors that enable access to care, and thus would likely be excluded from administrative and clinic-based studies (43). In this study, insurance coverage was only modestly associated with antidepressant use. Nevertheless, systematically excluding a large portion of uninsured individuals could introduce selection bias that could inflate treatment rate estimates. Second, attempts to explain the comparatively lower use of mental health services by black Americans have focused on racial differences in preferences for social support or alternative treatments (44,45). While these hypotheses are plausible, other explanations should be considered (13,46). For example, most Americans receive mental health treatment in busy primary care settings where recognition and treatment of depressive and anxiety disorders can be difficult, particularly for black patients (47). Physicians providing care for black Americans report being less well-trained and having less access to important clinical resources and specialists than those who treat white Americans (48). The finding that depression severity was related to antidepressant use for whites but not blacks is consistent with the hypothesis that the quality of mental health care available to black Americans is inferior. The large differences in antidepressant use suggest unmet need that may stem from substandard and unaffordable health care encountered by blacks (49,50). Attitude and preference differences for antidepressants between blacks and whites may also explain the present findings. Research suggests antidepressant treatment is less acceptable to blacks compared to whites (45). For instance, Givens and colleagues found that blacks are more likely to prefer counseling to taking antidepressants (51). Additional work is needed to determine the degree to which differences between blacks and whites in antidepressant use found in this study results from unmet need, differences in attitudes and preference for treatment or some combination of these and other factors.

Psychiatric need increased the odds of antidepressant use, but so did the presence of common medical conditions associated with vascular disease. Medical “need” in the form of risk factors for vascular disease also predicted antidepressant use in this study. Mental disorders are associated with medical conditions, particularly vascular disease; however, the causal nature of the associations is not fully clear. As previously suggested, vascular disorders may be directly associated with the etiology of some forms of depressive conditions (52). Furthermore, medical conditions symptoms may mimic clinical depression that could lead to antidepressant use. Medical illnesses represent acute stressors that may tip the balance for some individuals and their families toward mental disorder symptomology that may elicit antidepressant use. Alternatively, it is possible that persons with medical conditions have more contact with health care providers, increasing the likelihood their depressive symptoms will be detected and treated. It is clear from our findings that the medical conditions we examined were independently associated with antidepressant use.

Consistent with previous studies, we found that 12-month mental disorders accounted for only about half of antidepressant use (16,53,54). Lifetime depressive and anxiety disorders accounted for a substantial portion of the antidepressant use by individuals not meeting criteria for 12-month disorders. Our findings may reflect the growing awareness and practice by clinicians that psychiatric need may extend beyond the acute phase of these chronic conditions. It remains to be determined if the benefits and potential harm of maintenance pharmacotherapy represent sound preventative clinical practice or overuse.

Together, 12-month and lifetime depressive and anxiety disorders and medical conditions, accounted for 83.3% of all antidepressant use in the U.S. by blacks and whites. This indicates

that about one-fifth of antidepressant use may be for other reasons (e.g., smoking cessation). Mental health cost estimates based solely on antidepressant prescriptions without considering other clinical indications could potentially inflate estimates by as much as 20%. The reasons for antidepressant use among those not meeting criteria for depressive and anxiety disorders requires additional investigation.

This study used sophisticated sampling procedures that make it the largest and most inclusive study of antidepressant use among black and white Americans. Although the present results are most likely the best estimates to date, the results of this study should be interpreted in the context of several limitations. First, the NSAL and NCS-R excluded homeless or institutionalized persons, which could underestimate the unmet need for treatment of depressive and anxiety disorders. Second, systematic survey non-response or selection bias could have had untoward effects on our national estimates (18). Third, as a diagnostic instrument, the WMH-CIDI has a modest sensitivity and high specificity for detecting “true” psychiatric disorders (e.g., major depression) among NSAL and NCS-R respondents (13,15). Thus, it is likely that some cases with “true” psychiatric disorders were missed, which could inflate the proportion of respondents without mental disorders using antidepressants. Fourth, research indicates that self-reports of mental health service use often overestimate actual use (54). Because self-reported use of antidepressants was corroborated with pill-bottle inventories, this potential bias was minimized. Fifth, the medication questions in the NSAL appeared immediately before a section of the interview on the use of mental health services; whereas, the same questions appeared after the same section in the NCS-R. This may have increased antidepressant reporting among blacks while “attenuating” reporting by whites. If such bias was introduced into this comparative study, we may have underestimated the black-white differences in antidepressant use by increasing the estimates for blacks and lowering the estimates for whites. Additionally, other FDA approved indications for antidepressant (e.g., obsessive-compulsive disorder and eating disorders) were not considered in this study which could account for some of the antidepressant use among respondents not meeting criteria for depression or anxiety disorders. Finally, psychosocial treatments were not considered in this report, but are needed to estimate unmet mental health need. On the other hand, antidepressants are by far the most common form of therapy for depressive and anxiety disorders (2,3). Given the magnitude of unmet need that we observed, the main inferences of our work would be unlikely to change dramatically had we included psychosocial treatments.

Our findings suggest several directions for future research and policy to improve delivery of mental health care for black and white Americans. First, increased availability and initiation of mental health treatment will require new outreach efforts to underserved patients and clinicians who serve those patients. Second, improving mental health care at common points of service delivery (e.g., primary care) may be needed. Collaborative care models show promise for improving care among diverse populations, patient outcomes and clinician satisfaction, while containing costs (55,56). Finally, new independent research to explore the potential value of antidepressant treatment for medical conditions other than the primary indications of depressive and anxiety disorders may be needed.

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Table 1

Prevalence of Past-year Antidepressant Drug Use in Nationally Representative Samples of Blacks and Whites in the United States. Results are based on data collected from the Collaborative Psychiatric Epidemiologic Surveys (CPES).

	Blacks (NSAL / NCS-R) Univariate Statistics				Whites (NCS-R) Univariate Statistics				Comparisons of Estimates		
	n	n using drug	Estimated Prevalence (%)	SE	n	n using drug	Estimated Prevalence (%)	SE	Design-Based F	df‡	p-value
Total Sample	5,543	268	4.47	0.004	4,180	736	12.36	0.006	117.26	(1,96)	< 0.001
Psychiatric Disorders (12-month)*											
Major Depression	402	77	18.34	0.029	571	236	41.04	0.022	31.65	(1,96)	< 0.001
Dysthymia	129	29	17.00	0.034	160	84	51.75	0.049	31.53	(1,79)	< 0.001
Anxiety Disorders†	655	101	14.26	0.017	892	293	32.19	0.019	45.13	(1,94)	< 0.001
Any Disorder Above	867	135	14.58	0.015	1,161	381	32.39	0.017	60.42	(1,96)	< 0.001
No Disorders	4,671	133	2.77	0.004	3,019	355	8.09	0.006	58.13	(1,96)	< 0.001
Age Groups (Years)											
Young Adult (18–34)	2,011	62	2.15	0.004	1,293	176	9.84	0.008	89.79	(1,96)	< 0.001
Adult (35–64)	2,918	183	6.24	0.007	2,275	477	15.29	0.007	71.15	(1,96)	< 0.001
Older Adult (65+)	614	23	3.91	0.011	612	83	7.81	0.010	5.78	(1,95)	0.018
Education Groups											
< 12 years	1,291	71	5.31	0.008	514	90	11.81	0.014	18.26	(1,95)	< 0.001
12 years	1,937	87	4.00	0.006	1,238	212	12.53	0.012	48.26	(1,96)	< 0.001
13–15 years	1,387	67	3.91	0.006	1,271	246	13.48	0.013	59.52	(1,96)	< 0.001
16+ years	928	43	5.22	0.011	1,157	188	11.19	0.008	12.23	(1,96)	< 0.001
Gender											
Male	2,021	46	2.26	0.004	1,802	199	7.55	0.007	48.30	(1,96)	< 0.001
Female	3,522	222	6.20	0.006	2,378	537	16.69	0.007	109.82	(1,96)	< 0.001
Household Income Groups											
$0 – $17,999	1,818	120	5.71	0.007	637	138	15.44	0.019	0.019	(1,96)	< 0.001
$18,000 – $31,999	1,382	56	3.72	0.007	564	104	12.48	0.012	0.012	(1,96)	< 0.001
$32,000 – $54,999	1,253	50	3.77	0.007	956	169	12.46	0.014	0.014	(1,95)	< 0.001
$55,000 or more	1,090	42	4.28	0.009	2,023	325	11.27	0.008	0.008	(1,96)	< 0.001
Health Insurance Status											
Yes	4,464	233	4.77	0.005	3,735	687	12.65	0.006	92.78	(1,96)	< 0.001
No	1,077	35	3.14	0.007	445	49	9.60	0.021	13.39	(1,95)	< 0.001
Medical Conditions											
High Blood Pressure	1,748	138	7.03	0.009	989	206	14.67	0.014	25.27	(1, 96)	<0.001
Diabetes	606	41	6.63	0.012	273	67	18.32	0.032	16.73	(1, 96)	<0.001
Stroke	160	16	7.34	0.020	109	24	17.63	0.050	5.44	(1, 83)	0.022
Heart Disease	387	49	12.86	0.024	241	57	18.09	0.030	1.93	(1, 94)	0.168
Any Condition Above	2,076	161	6.93	0.008	1,223	261	15.32	0.012	37.3	(1, 96)	<0.001
No Psychiatric or Medical Conditions	2,967	49	1.72	0.003	2,140	224	7.09	0.006	55.84	(1, 96)	<0.001

*Based on World Mental Health Composite International Diagnostic Interview

†Includes Agoraphobia with and without panic, Generalized Anxiety, Panic, Post-traumatic stress and Social phobia

‡Degrees of freedom for the design-based F-statistics vary due to the fact that various less common subgroups (e.g., respondents with a past-year diagnosis of Dysthymia) may not appear in all sampling strata

Table 2

Predictors of 12 Months Antidepressant Use in a Nationally Representative Sample of Blacks and Whites (n = 9,721). Estimates Based on a Multivariate Logistic Regression Model.

	OR	95% CI
Predisposing Factors		
Race		
White	1.00	
Black	0.29//	0.23–0.36
Gender		
Male	1.00	
Female	2.25//	1.86–2.7
Age Groups (Years)		
Young Adult (18–34)	1.00	
Adult (35–64)	1.75//	1.45–2.11
Older Adult (65+)	0.81	0.53–1.24
Need Factors		
Medical Conditions		
No Medical Conditions	1.00	
One or More	1.54//	1.22–1.93
12 Months Disorders*		
No Disorders	1.00	
Major Depression, Dysthymia, or Anxiety Disorders†	4.91//	3.88–6.21
Enabling Factors		
Household Income Groups		
$0 – $17,999	1.32	0.80–2.17
$18,000 – $31,999	1.08	0.75–1.56
$32,000 – $54,999	1.00	
$55,000+	0.98	0.74–1.30
Education Groups (Years)		
< 12	0.93	0.70–1.23
12	1.00	
13 – 15	1.07	0.79–1.43
16+	0.87	0.64–1.17
Health Insurance Status		
Yes	1.70‡	0.99–2.91
No	1.00	

*Based on World Mental Health Composite International Diagnostic Interview

†Includes Agoraphobia with and without panic, Generalized Anxiety, Panic, Post-traumatic stress and Social phobia

‡p < 0.10

//p < 0.001

Table 3

Predictors of 12 Month Antidepressant Use in a Nationally Representative Sample of Blacks and Whites without Psychiatric Disorders in the past 12 months (n = 7,688). Estimates Based on a Multivariate Logistic Regression Model.

	OR	95% CI
Predisposing Factors		
Race		
White	1.00	
Black	0.29‡	0.21–0.41
Gender		
Male	1.00	
Female	2.63‡	2.07–3.33
Age Groups (Years)		
Young Adult (18–34)	1.00	
Adult (35–64)	1.61‡	1.26–2.06
Older Adult (65+)	0.82	0.49–1.36
Need Factors		
Medical Conditions		
No Medical Conditions	1.00	
One or More	1.66‡	1.27–2.18
Lifetime Disorders*		
No Disorders		
Major Depression, Dysthymia, or Anxiety Disorders†	2.98‡	2.40–3.68
Enabling Factors		
Household Income Groups		
$0 – $17,999	1.58	0.85–2.93
$18,000 – $31,999	1.11	0.68–1.83
$32,000 – $54,999	1.00	
$55,000+	1.08	0.78–1.50
Education Groups (Years)		
< 12	0.94	0.62–1.41
12	1.00	
13 – 15	0.98	0.69–1.39
16+	0.78	0.53–1.16
Health Insurance Status		
Yes	1.28	0.57–2.87
No	1.00	

* Based on World Mental Health Composite International Diagnostic Interview

† Includes Agoraphobia with and without panic, Generalized Anxiety, Panic, Post-traumatic stress and Social phobia

‡ $p < 0.001$