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Racial differences in the discussion and treatment of depressive symptoms accompanying type 2 diabetes

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Abstract

Objective—To compare rates of discussion and treatment for depression among African Americans and Whites with diabetes.

Methods—Measures of diabetes status, depressive symptoms, and history of discussing and being treated for depression were collected from 56 adults with depressive symptoms accompanying diabetes who were drawn from a larger study of type 2 diabetes.

Results—Analyses adjusted for confounders and multiple tests indicated that relative to Whites, African Americans were 6–12 times less likely to have ever: discussed depression with anyone (p=.007), discussed depression with their primary care physician (p=.008), been prescribed an antidepressant (p=.002), and they were 25 times less likely to have seen a psychiatrist (p=.003). There were no significant differences in discussing depression with clergypersons, or family members/friends.

Conclusions—Compared to their White counterparts, African Americans with depressive symptoms accompanying diabetes are unlikely to discuss depression with healthcare professionals, be prescribed antidepressant medication, or be seen by a psychiatrist. Minority diabetes patients' medical and psychiatric outcomes may improve if healthcare providers more actively initiate these discussions, provide culturally-tailored education about the nature of depression and its management, incorporate patient preferences into treatment plans, and establish relationships with persons more likely to learn about African American patient symptoms.

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Keywords

Depression; Treatment Seeking; Disparities; Diabetes

Introduction

Among people with type 2 diabetes, major depression is approximately twice as common as in the general population (1), and is associated with diabetes complications (2) and early mortality (3). Depression can be effectively treated in diabetic patients through pharmacotherapy (4), cognitive-behavioral therapy (5), and collaborative care (6). Depression interventions may also improve diabetes-related physiological outcomes such as glycemic control (5) and survival (7).

Unfortunately, effective treatment of depressive symptoms accompanying diabetes is limited by low rates of detection and treatment. A four year VA-based study concluded that depression screening for diabetes patients remain below those of patients without diabetes (8). Another large HMO-based study indicated that among diabetic patients with clinician-detected depression, only 43% received antidepressant medication and only 7% received psychotherapy (9).

Compared to Whites, people of color are at elevated risk for type 2 diabetes, and minorities with diabetes have at least the same depression risk as their White counterparts (10). More concerning are preliminary findings that among patients with depressive symptoms accompanying diabetes, African Americans are less likely than Whites to be recognized as depressed (10), receive any depression treatment (10), or receive guideline consistent depression treatment (11). Unfortunately the interpretation of existing data is complicated by methodological issues including a small ratio of African American relative to White patients and suboptimal accounting for known disparities in socioeconomic status, healthcare access, and diabetes control. Moreover, we know little about the extent to which failure to recognize depressive symptoms among African American patients reflects system failures in diagnosing the condition despite patient reports of depressed mood, or whether part of the problem is patient reluctance to discuss mental health issues. For these reasons, the aim of this study was to examine racial variation in the discussion and treatment of depressive symptoms accompanying diabetes.

Methods

Participants

Participants were drawn from a larger longitudinal study (12) which identified patients with type 2 diabetes within a large, urban, midwestern US healthcare system using the following criteria: (a) at least one hospitalization with a diabetes-related international classification of disease code (ICD-9 code), (b) or at least two outpatient visits coded with a diabetes-related ICD-9 code, (c) or at least one prescription for a glucose control medication or monitoring supplies. Participants were also required to be 18–80 years of age and able to complete self-report instruments. All were enrolled in a single private healthcare plan and therefore had similar health care access and the same mental health benefit package. The subset of participants who reported significant depressive symptoms in the larger study comprised the sample for the present study.

Procedures

Eligible patients were mailed a study invitation letter followed by a recruitment telephone call for screening and enrollment. Consenting participants then attended an appointment for assessment of depressive symptoms, glycemic control, and medical status. Depression was reassessed by telephone two and four months after the baseline visit, and six months after baseline participants attended a second appointment for reassessment of glycemic control and depressive symptoms. To be entered into the present study, participants from the larger study needed to demonstrate significant depressive symptoms on any of the first three assessments, as evidenced by at least one Patient Health Questionnaire - 9, (PHQ-9; described below) total ≥ 10. This depressed subset of patients provided supplemental data on their depression disclosure and treatment history. The study was approved by the institutional review boards at all respective institutions.

Measures

Depressive symptoms were assessed with the PHQ-9 upon which respondents indicate how often during the past two weeks they experienced each of nine depressive symptoms using a 4-point scale ranging from “not at all” to “nearly every day.” The PHQ-9 is 88% sensitive and 88% specific for interview-detected major depression in medical patients (13). Using the established total cutoff score of 10, participants were classified as either depressed or not at each assessment occasion.

Depression disclosure and treatment were assessed using the Treatment Seeking Scale (TSS), a self-report instrument developed at the University of Michigan. The TSS has five main dichotomous items about various types of assistance sought for “feelings of sadness, anxiety, or other psychological problems” including: talked to health professional, minister, or friend/family member, took antidepressant medication, participated in formal mental health counseling. Follow-up items elicit details about the confidante including family doctor, gynecologist, psychiatrist, psychologist, social worker, clergy (pastor, priest, rabbi, imam), friend or family member, pharmacist, alternative healer, other. Overall, participants were considered to have disclosed their depressive symptoms to anyone if they endorsed any of these confidante response options. Follow up items also elicit details about miscellaneous help-seeking activities including social support, vacation, massage, and herbal remedies.

Glycemic control (HbA1c) was measured with the DCA 2000 (GMI, Inc., Ramsey, MN), which analyzes capillary blood samples through a monoclonal antibody method and has a reference range of 4.3 – 5.7%. Comorbid medical illnesses were assessed by abstracting electronic medical records using a 13-item checklist that has been successfully used in prior primary care studies, (14) developed by identifying prevalent conditions that account for overall functioning and health-related quality of life rather than mortality per se. Participants classified themselves using US Census racial/ethnic categories. Socioeconomic status (SES) was assessed using the US Census Bureau Index of Socioeconomic Status (15) adjusted for regional Consumer Price Index.

Data analysis

Data were analyzed using STATA/IC^{TM} 10.1 software for Mac (StataCorp, College Station, Texas). Variables prominent in the literature (e.g., glycemic control) or theoretically important (e.g., depression severity) were considered as potential covariates. Bivariate associations were examined to identify potential confounders using t tests and chi-squared analyses. Although we adjusted all models for SES, subsequent potential confounders (age, glycemic control, insulin use, and number of elevated PHQ-9 scores) were selected for inclusion using stepwise entry criterion of $p(\text{entry}) < .10$ in order to ensure model parsimony. Racial variation in rates of discussion and treatment was then examined using adjusted logistic regression models to

test the effect of race against a conservative Bonferroni-adjusted criterion of p<.0083 (i.e., standard alpha of .05 divided by 6).

Results

Enrollment and attrition

Of 828 patients solicited for the larger study, 289 (35%) consented. The resulting sample had a racial composition of 45% Caucasian and 55% African-American, and rate of PHQ elevation did not vary significantly by race (23% versus 23% respectively, p=0.928). Of the 253 protocol completers, 56 (23%) had elevated depressive symptoms, and thus constituted the present study sample. Sample characteristics are provided in the top panel of Table 1. Age ranged from 35 to 74 years (median=57), 57% were female, and 60% were African American. Compared to Whites, African Americans were significantly more likely to be treated with insulin (p=.038). See Table 1.

Frequencies of depressive symptoms, disclosure, and treatment

The mean PHQ-9 total score was 11.0, which falls within the range of moderate depressive symptoms and probable depressive disorder. The mean number of elevated PHQ-9 scores (out of the four separate administrations) was 1.8 (see Table 1). Only about half of participants (55.4%) reported ever discussing their depressive symptoms with anyone. These discussions were most likely to be with a counselor/psychologist (71%) or a family physician (61%); with lower rates seen for psychiatrist (35%), clergy person (26%), other physicians (6%), and pharmacists (0%). While 41% had been prescribed an antidepressant, only 18% reported current antidepressant use. The remaining depression treatments were reported by less than 10% of participants and were not further analyzed.

Racial variation in depression disclosure and treatment

Results are shown in Table 2. The logistic models of racial variation in disclosure and treatment were adjusted for SES. Additional adjustments were made for age, glycemic control, treatment with insulin, and number of depressive symptom elevations if p(entry)<.10. African Americans were 5.9 times less likely than Whites to have discussed their depressive symptoms with anyone (OR=.17, p=.007). As can be seen in Table 2, African Americans were also significantly less likely than Whites to have discussed their depressive symptoms with a primary care physician (p=.008), been prescribed an antidepressant (p<.002), or to have seen a psychiatrist (p<.003). There were no differences in the likelihood of discussing depression with a friend or family member (p=.140), or with a clergyperson (p=.249), nor in the likelihood of having seen psychologist/counselor (p=.098). Similar results were obtained when analyses were adjusted for mean total depression severity score instead of number of elevated scores, when unadjusted coefficients were tested.

Discussion

This study reveals significant racial variation in the discussion and treatment of depressive symptoms accompanying diabetes. African Americans are significantly less likely than their White counterparts to discuss depression with their primary care physician, be prescribed antidepressant medication, or see a psychiatrist. All effects were estimated after adjusting for potential confounders and multiple statistical tests. These findings are consistent with existing literature suggesting that distrust, stoicism, stigma, and negative attitudes toward antidepressant medication may interfere with depression detection and treatment among African Americans in general. Although not measured in this study, these barriers to depression discussion and treatment may help to explain these findings.

African Americans' relative hesitancy to seek treatment for mental health issues should be considered within the broader context of culture-based mistrust of the medical establishment. African Americans report low levels of trust in their physicians (16). Perceived discrimination in healthcare is associated with a decreased likelihood to disclose depressive symptoms (17). Outside of diabetes, African Americans with heart disease often interpret clinicians as trivializing their complaints and focusing excessively on technological procedures over respectful attention to patient-driven concerns (18).

There may also be a cultural belief within the African American community that depression is a normative experience that should be endured stoically. For example, a large epidemiologic survey indicated that African Americans may be more tolerant of depressive symptoms, and therefore less disposed to seek professional care when they experience low mood (19). Drawing again from heart disease research, African American patients' help-seeking patterns may often be informed by past experiences of marginalization and their self-understanding as people who were strong and who had endured life's hardships (18).

Although not evaluated in the present study, culturally-based mental health stigma may also play a key role. Yet, we found no racial differences with respect to discussing depression with family members, friends, clergypersons and mental health counselors. This suggests that the nature of the confidante may play a greater role than depression-related stigma per se. Larger studies of non-medical confidantes indicate that depressed African Americans are more likely than Whites to seek help from spiritual leaders (20). Perhaps this pattern was not observed in the present study because its balanced design helped minimize the potentially confounding influences of inequities in socioeconomic status and healthcare access. Additionally, the low observed rate of disclosure to clergypersons (26%) may have attenuated this effect. Notwithstanding, the National Survey of Black Americans indicates that regardless of problem type or severity, those who seek help from clergy are unlikely to seek help from other sources. It is therefore recommended that clergy and healthcare professionals actively increase outreach to each other and exchange ideas to increase access to professional care among African Americans with serious personal problems (21).

Our finding that African Americans were less likely to be taking antidepressants also is consistent with major studies of more general samples indicating that African Americans are less likely than Whites to fill antidepressant prescriptions (22). Even after accounting for economic pressures, African Americans with diabetes are less likely to fill prescriptions for antidiabetes and antihypertensive medications out of fear of experiencing harmful side effects (23). While inferior prescription benefits may partly explain these previously reported disparities, the participants in the current study shared equivalent coverage. Indeed, African Americans were more likely to be treated with insulin, suggesting comparable or even better diabetes care than Whites when access to care is equalized, at least in this sample. We therefore suspect that African Americans' negative view of antidepressant medication and mental health services are powerful barriers, as demonstrated in general primary care samples (24).

Given that ethnic minority patients may be reticent to discuss psychological difficulties, healthcare providers might more actively initiate and encourage these discussions. In fact, the Epidemiological Catchment Area study concluded that general medical clinics are crucial to closing racial gaps in mental health care (25). Medical providers are in a unique position to screen for depression and present the range of treatment options when appropriate. Providers without a co-located mental health professional should maintain relationships with community mental health professionals to facilitate referral.

Several study limitations should be considered. First, treatment seeking and pharmacotherapy data were self-reported and retrospectively recalled, which may introduce some inaccuracies.

However, it seems unlikely that this affected the findings, because such biases are not known to vary by race. Second, response rate was suboptimal at 35%. Third, it is possible that patients whose depression was being successfully treated would not be eligible due to normal PHQ-9 scores; thus the sample my underrepresent patients receptive to depression treatment. The PHQ-9 is well validated as a screening measure, but does not allow a diagnosis of mood disorders per se. Perhaps the biggest limitation is the relatively small patient sample, which moreover was drawn from a single geographic region. For these reasons, the findings ought to be replicated in other regions and healthcare systems before they can be broadly generalized. To some extent these shortcomings are offset by study strengths including the longitudinal design, homogeneity across healthcare access and socioeconomic status, and adjustment for multiple tests.

Conclusions

Compared to their White counterparts, depressed African Americans with diabetes are less likely to discuss depression with healthcare providers or see a psychiatrist, and less likely to use antidepressant medication. This may be related to stigma, stoicism, mistrust of the healthcare system, and/or negative beliefs about depression treatment. Healthcare providers should proactively screen for depression in their minority diabetes patients, provide tailored education about the nature of depression and the known risks and benefits of its treatment, and incorporate patient preferences into treatment planning. To do this, healthcare providers must be knowledgeable about and comfortable discussing both pharmacological and nonpharmacological treatment within the context of diabetes and its common comorbidities. Finally, system-level interventions are warranted to reduce barriers to detection and treatment and facilitate coordination with key community members.

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Table 1

Sample characteristics by race (n=56).

	Mean + SD or percent			
	Pooled	**African-American**	**Caucasian**	**p**
Age [a]	55.7 ± 7.2	54.2 ± 7.2	58.2 ± 6.6	.083
Female	56.6	57.1	52.4	.729
Socioeconomic status index [b]	65.2 ± 20.4	68.3 ± 20.8	59.9 ± 19.1	.138
HbA1c (baseline)	7.87 ± 1.59	8.17 ± 1.71	7.35 ± 1.25	.070
On insulin	55.4	57.1	40.0	.038
Diabetes duration (years)	11.1 ± 9.6	10.0 ± 7.0	13.1 ± 13.0	.294
Two or more comorbid medical conditions [c]	23.2	22.9	23.8	.935
Total number of elevated PHQ-9 scores (out of four possible)	1.8 ± 1.3	1.6 ± 1.3	2.2 ± 1.2	.102

[a] Equality-of-medians test.

[b] US Census Bureau Index of Socioeconomic Status adjusted for inflation and regional Consumer Price Index.

[c] Considering asthma, chronic obstructive lung disease, congestive heart failure, osteoarthritis, rheumatoid arthritis, arthritis associated with lupus (SLE) or scleroderma, peripheral vascular disease, cirrhosis, chronic hepatitis, coronary artery disease, thyroid disease, Addison's disease, and Cushing's syndrome.

Table 2

Analysis of depression discussion and treatment by race.[a]

	Unadjusted		Adjusted [b]	
Dependent variable	**OR (95% ci)**	**p [c]**	**OR (95% ci)**	**p [c]**
Discussed depression with primary care physician	0.11 (0.03 – 0.40)	.001	0.12 (0.03 – 0.58)	.008
Discussed depression with a friend or family member	0.38 (0.11 – 1.26)	.115	0.41 (0.12 – 1.35)	.140
Discussed depression with a clergyperson	0.38 (0.75 – 1.88)	.233	0.38 (0.08 – 1.95)	.249
Been prescribed medication for depression	0.10 (0.02 – 0.35)	<.001	0.08 (0.02 – 0.41)	.002
Seen a psychiatrist	0.04 (0.01 – 0.32)	.003	0.04 (0.01 – 0.33)	.003
Seen a counselor or psychologist	0.36 (0.12 – 1.11)	.076	0.36 (0.12 – 1.19)	.098

[a] Ethnicity was coded as Caucasian = 0, African American = 1.

[b] All models were adjusted for SES; additional covariates (age, glycemic control, treatment by insulin, number of elevated PHQ-9 scores) were included if p(entry)<.10.

[c] Given p values were evaluated against a Bonferroni-adjusted p(criterion) of 0.0083.