

# Characterizing Depression and Comorbid Medical Conditions in African American Women in a Primary Care Setting

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**Background:** African American women are more likely to seek treatment for depression in primary care settings; however, few women receive guideline-concordant depression treatment in these settings. This investigation focused on the impact of depression on overall functioning in African American women in a primary care setting.

**Methods:** Data was collected from a sample of 507 African American women in the waiting room of an urban primary care setting. The majority of women were well-educated, insured, and employed. The CES-D-R was used to screen for depression, and participants completed the 36-Item Short-Form Survey to determine functional status.

**Results:** Among the participants with depression, there was greater functional impairment for role-physical ( $z = -0.88$ , 95% CI =  $-1.13, -0.64$ ) when compared to individuals with diabetes and hypertension. Individuals with depression also had greater role-emotional impairment ( $z = -1.12$ , 95% CI =  $-1.37, -0.87$ ) than individuals with diabetes and hypertension. African American women with comorbid hypertension and depression had greater functional impairment in role-physical when compared to African American women with hypertension and no depression ( $t(124) = 4.22$ ,  $p < 0.01$ ).

**Conclusion:** African American women with depression are more likely to present with greater functional impairment in role function when compared to African American women with diabetes or hypertension. Because African American women often present to primary care settings for treatment of mental illness, primary care providers need to have a clear understanding of the population, as well as the most effective and appropriate interventions.

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**Keywords:** depression ■ African American women ■ primary care

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Depression is a major public health problem that has wide-reaching effects on the overall population. The World Health Organization has identified depression as the fourth leading cause of total disease burden and the leading cause of disability worldwide.<sup>1,2</sup> Unfortunately, few Americans diagnosed with depression receive guideline-concordant treatment, with racial/ethnic minority populations receiving even less treatment than non-Hispanic whites.<sup>3</sup>

In primary care settings, the treatment of depression in minority populations requires close attention to management and treatment to insure that patients receive quality care. African Americans are more likely to access mental health services from primary care settings rather than in specialty mental health clinics.<sup>4,5,6,7</sup> However, primary care physicians are less likely to diagnose and effectively treat depression in general, and specifically in African Americans when compared to non-Hispanic whites.<sup>8,9,10,11,12,13</sup>

Although conflicting evidence exists, some studies have shown that African Americans have higher rates of depression and greater severity of depressive

symptoms when compared to non-Hispanic whites.<sup>14,15,16,17</sup> Poorer outcomes following depression treatment were also found when comparing African Americans to non-Hispanic whites.<sup>18,19</sup> These findings demonstrate the importance of providing culturally and socially appropriate treatment interventions for patients.

Patient preference may also play a role in the disparities in access to treatment of depression among African Americans. Previous research has found that when compared to non-Hispanic whites, African Americans are less likely to find antidepressant medications to be acceptable treatment for depression.<sup>20,21</sup> Although negative beliefs and stigma against mental health treatment were found to be more prevalent among ethnic minority populations, this finding does not explain the racial/ethnic disparities that exist in the acceptability of depression treatment.<sup>20,21</sup>

Provider bias may also play some role in the lack of diagnosis and treatment of depression in African Americans. In the past, evidence has demonstrated that providers are less likely to detect certain symptoms of mental illness reported by African Americans when compared to non-Hispanic whites.<sup>22,23</sup> Greater reporting of somatic symptoms by women and African Americans compared to men and non-Hispanic whites may also contribute to lower rates of treatment.<sup>24,25,26,27,28,29,30,31</sup> Previous research has definitively linked various medical conditions to an increased prevalence in the diagnosis of depression, including diabetes, heart disease, and chronic obstructive pulmonary disease (COPD).<sup>32,33</sup> Specifically among individuals with comorbid diabetes and depression, African Americans are less likely to use antidepressants than non-Hispanic whites.<sup>34,35</sup> This increase in prevalence of depression among individuals with physical illness is associated with greater functional impairment, a 50% increase in medical costs of chronic medical illness, and increased morbidity and mortality.<sup>36,37</sup> This association between medical illness and depression further solidifies the role of the primary care provider in the diagnosis and treatment of depression within primary care settings.

Racial-ethnic disparities exist in the prevalence, treatment, and control of many medical conditions that interact with depression. In particular, previous studies have consistently noted a higher incidence overall of type 2 diabetes in African Americans compared with non-Hispanic whites, with even

higher rates of diabetes in African American women than African American men.<sup>38,39</sup> Recent research has focused on the role of socioeconomic status and environmental risk as the underlying cause of these disparities in diabetes diagnosis and treatment.<sup>40,41,42,43</sup> In fact, research has determined that comorbid conditions interact in a multitude of ways among African Americans. For example, African Americans who developed a later diagnosis of diabetes had significantly higher prevalence rates of hypertension than non-Hispanic whites who later developed diabetes.<sup>38,39</sup> Similarly, African Americans have lower rates of diagnosis, treatment, and control of hypertension compared to non-Hispanic whites.<sup>44,45,46,47,48,49</sup>

Because primary care physicians are most likely to encounter patients with comorbid depression and other physical illnesses, it is important to appropriately characterize this population, particularly among racial/ethnically diverse populations. This investigation focused on the impact of depression on overall functioning in a sample of African American women in a primary care setting. Furthermore, we sought to evaluate the impact of depression in African American women with and without comorbid physical illnesses.

## METHODS

### Design

This study was comprised of a convenience sample, and was conducted in the Morehouse School of Medicine (MSM) Comprehensive Family Healthcare Center, a Family Practice Clinic, located in Atlanta, Georgia between May 2000 and July 2002. The primary care site is located in a predominantly residential African American neighborhood, serving primarily African American clients.

## Recruitment and Data Collection

Potential participants in the study were approached in the waiting room of the primary care site to determine their interest in participating in a research study involving assessments of functional impairment associated with nine chronic diseases and including screening for depression. Participants were eligible for the study if they were 18 years or older in age, could speak and understand English, and were able to give informed consent.

The Center for Epidemiologic Studies – Depression Revised (CESD-R) was used to screen for depression.<sup>50,51</sup> Various versions of the CES-D have been widely used in the past to identify depression across a variety of settings and populations, including African American populations.<sup>16,17,52,53,54,55,56,57</sup> The CESD-R is comprised of 20 self-rated items rating symptoms during the past week, including depressed mood (4 items), anhedonia (1 item), somatic symptoms (8 items), cognitive symptoms (6 items), and agitation (1 item). Cut-off scores on the CESD-R are  $\leq 8$  (not depressed), 9 – 15 (possible depression), and  $\geq 16$  (probable depression).<sup>50,51</sup>

Participants also completed the Medical Outcomes Study 36-Item Short-Form Survey (SF-36) which measures functional status in eight domains.<sup>58,59</sup> The eight domains are subdivided into two composite scales. The Physical Composite Scale (PCS) is comprised of physical functioning, role-physical, body pain, and general health. The Mental Composite Scale (MCS) includes vitality, social functioning, role-emotional, and mental health.<sup>58,59</sup> Scores on the SF-36 can range from 0 – 100, with 100 indicating best possible health.<sup>58,59,60,61</sup>

Participants provided demographic data and a short medical history. Medical chart review was done to confirm the medical history and gather information on diagnosis and clinical management of the participants. All participants gave informed consent before participating in this study, and were provided with a participant stipend.

## Study Sample

Data was collected from a sample of 744 adults from the above described clinic. There were 515 African American women in the sample. The CESD-R questionnaire data was present for 50% of women (98.4%). There was no statistical difference in demographic information between the 507 included in the final study sample and the 8 that were excluded due to missing data.

## Statistical Analysis

Analysis was generated using SAS Version 9.2. Z scores for each of the outcomes standardized to the study populations mean were calculated. We then calculated the means and 95% confidence intervals (CI) of the Z scores for each of the domains to allow for between group comparisons. Z scores below 0 indicate a decline of functioning compared with the

entire participant cohort. Functional impairment of depression was compared with two other common diagnoses in primary care settings, diabetes and hypertension.

We also compared means and CIs for depressed and non-depressed individuals. We performed a t-test to compare means between depressed and non-depressed individuals with hypertension.

## RESULTS

The characteristics of the study population are presented in Table 1. The mean age of the women who participated in the study was 43 years old. The participants were predominantly well-educated, with most having some college education (31.1%), being a college graduate (25.9%), or a technical school graduate (14.7%). Most participants were currently employed (73.2%), and most had insurance coverage (91.6%), with private insurance being most common (71.3%).

Figure 1 illustrates the functional impairment in African American women with depression, hypertension, and diabetes. SF-36 Z scores were calculated for each of the eight domains (physical function, role-physical, bodily pain, general health, vitality, social function, role-emotional, and mental health). Among the participants with depression, there was greater functional impairment for role-physical ( $z = -0.88$ , 95% CI = -1.13, -0.64) when compared to individuals with diabetes ( $z = -0.15$ , 95% CI = -0.49, 0.19) and hypertension ( $z = -0.29$ , 95% CI = -0.49, -0.10). From the MCS portion of the SF-36, individuals with depression had greater role-emotional impairment ( $z = -1.12$ , 95% CI = -1.37, -0.87) than individuals with diabetes ( $z = -0.23$ , 95% CI = -0.58, 0.13) and hypertension ( $z = -0.27$ , 95% CI = -0.47, -0.06).

Figure 2 compares African American women with a diagnosis of hypertension who have a diagnosis of depression and those women with hypertension who do not have depression. African American women with comorbid hypertension and depression had greater functional impairment in role-physical ( $z = -1.03$ ) when compared to African American women with hypertension and no depression ( $z = -0.09$ ,  $t(124) = -4.22$ ,  $p < 0.01$ ). In analyzing mental impairment, African American women with both hypertension and depression had greater impairment in role-emotional ( $z = -1.13$ ), and mental health ( $z = -0.96$ ), when compared to the African American women

**Table 1:** Characteristics of African American women presenting to an urban primary care center

	N	%
<b>Age</b>	<b>43.0 ± 12.6</b>	
Education		
Less Than High School	37	7.3
High School Graduate	106	21.0
Technical/Vocational School	74	14.7
Some College	157	31.1
College Graduate/Post Graduate	131	25.9
Marital Status		
Never Married	216	43.7
Married	133	26.9
Previously Married	145	29.4
Employment		
Unemployed	65	12.9
Employed	368	73.2
Retired	18	3.6
Disabled	16	3.2
Other	36	7.1
Insurance Status		
Uninsured	41	8.4
Private Insurance	348	71.3
Medicaid/Medicare	99	20.3

with hypertension and no depression (role-emotional ( $z=-0.02$ ,  $t(124) = -4.75$ ,  $p < 0.01$ ) and mental health ( $z=-0.69$ ,  $t(121) = -2.11$ ,  $p < 0.05$ )).

## DISCUSSION

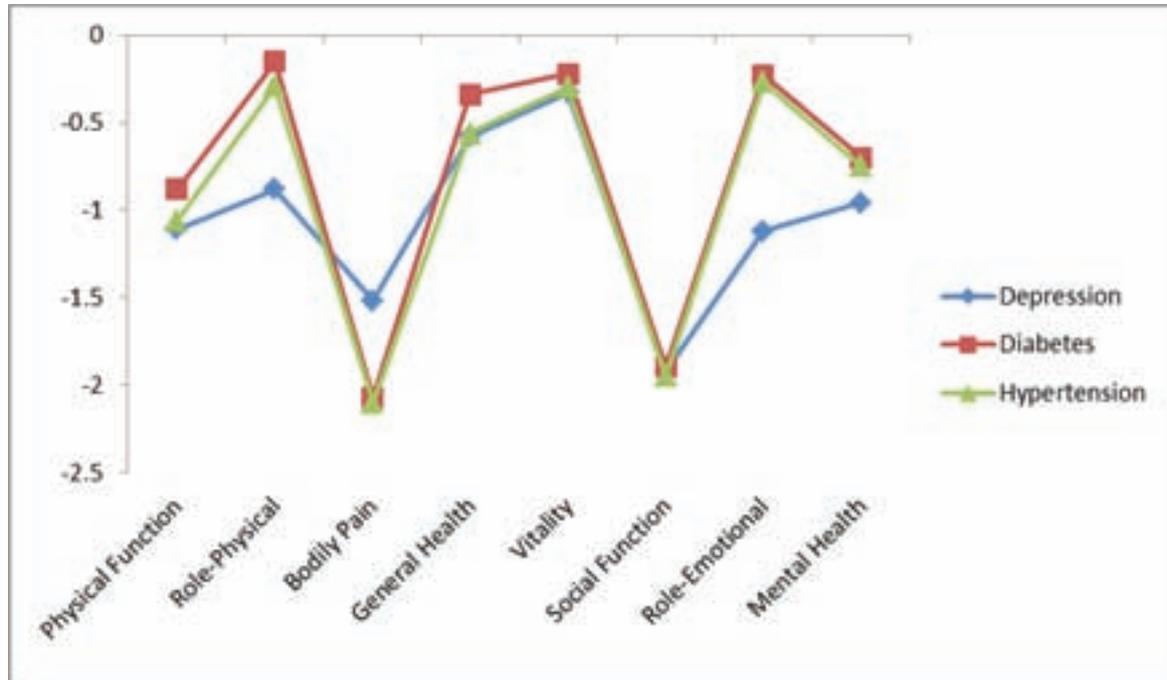
The present study indicates that women with depression have greater functional impairment than those with hypertension or diabetes in both physical (role-physical) and mental health domains (role-emotional). African American women who have comorbid depression along with hypertension show more functional impairment in role-physical, and the mental health domains of role-emotional and mental health compared to African American women with hypertension and no depression.

The SF-36 defines “role-physical” as “problems with work or other daily activities as a result

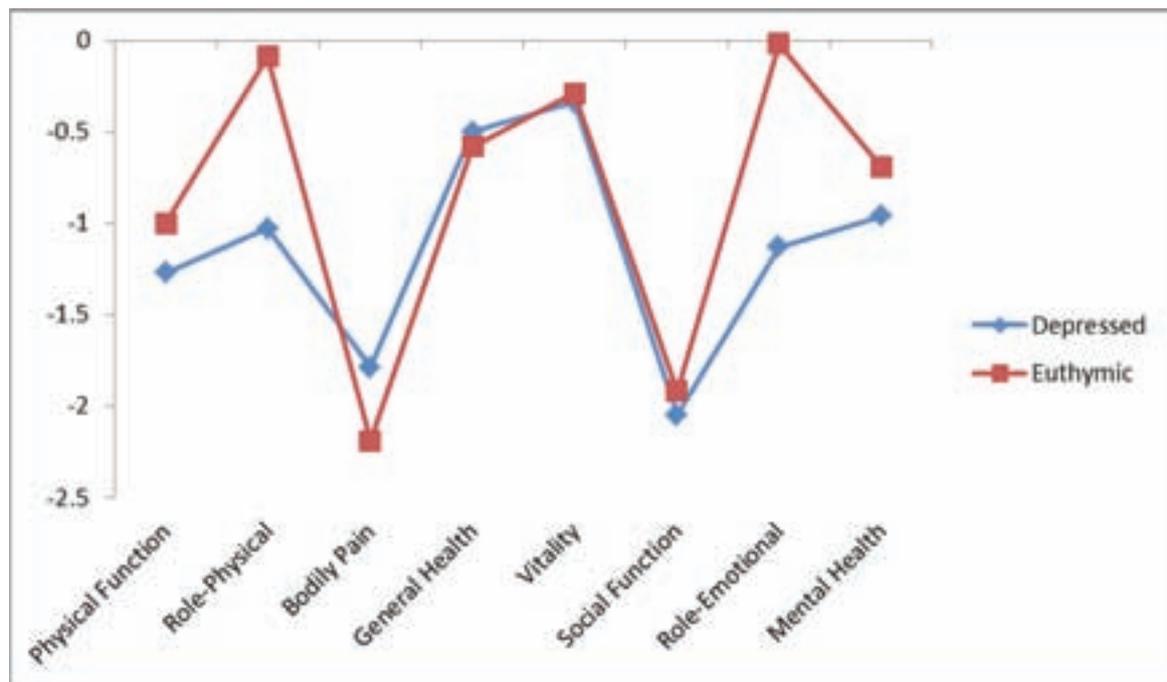
of physical problems,” and “role-emotional” as “problems with work or other daily activities as a result of emotional problems.” Given the impairment seen among depressed African American women in these areas, our findings confirm that depression can be an extremely disabling condition, affecting an individual’s ability to function effectively in life and work. Those individuals with depression have greater functional impairment in role-physical and role-emotional than those with diabetes or hypertension.

The negative impact of depression on overall physical and mental functioning is evident in our findings comparing functional impairment of African American women with depression to African American women with diabetes and hypertension. These findings support previous research on the harmful impact of comorbid depression on other

**Figure 1:** SF-36 Z scores for African American women with depression, diabetes, and hypertension



**Figure 2:** SF-36 Z scores for African American women with hypertension (comparison of depressed and euthymic participants)



chronic diseases and overall health.<sup>62,63,64,65</sup> While it is standard to assess mental functioning when evaluating an individual for symptoms of depression, primary care providers should consider that their patients may

present with significant physical impairment, which may be an important indicator of a possible depression diagnosis. Particularly in examining this population of African American women, greater emphasis may

be placed on the impact of depression from a physical impairment perspective, instead of exclusively from an emotional impairment perspective.

Also, in individuals with comorbid medical conditions, even medical conditions that do not always result in objective functional impairment, comorbid depression can lead to worsening mental and physical impairment when compared to individuals without comorbid depression. Among African American women, greater understanding of the impact of mental health and physical health comorbidities helps to inform the appropriate treatment options. It should be stressed that guideline-concordant treatment interventions are effective in the treatment of African American women, so ensuring that these women have access to these treatment modalities should be a priority of primary care providers.<sup>66,67</sup>

Direct, real-time treatment interventions are often more effective than referrals, and can improve both role and social functioning in African American women.<sup>66,67</sup> Effective medication options and therapy is essential. Our findings support that individuals may present with increased role – physical functional impairment. These findings are of particular importance when we consider that previous studies of African American women have demonstrated greater likelihood of dropping out of treatment or opting for psychotherapy over medications for treatment of depression.<sup>20,21</sup> Given that this is a highly educated, insured sample of African American women, our findings add another layer of understanding and complexity to the existing body of research that largely examines samples of underinsured or less educated African American women.

Culturally competent interventions that focus on improving role functioning may be of particular significance in this population. Limited research has shown that interpersonal therapy aimed at role disputes and role transitions may be particularly effective; however, more focus is needed in this area.<sup>68,69</sup>

While interventions on the patient level are important to addressing disparities in the presentation of depression compared to other medical conditions, the role of the provider is essential to improving the overall quality of care provided. Because of the impact of depression on overall health and the complications that untreated depression can contribute to the management of physical illness, it is important for primary care physicians to not only appropriately screen for depression, but to also

effectively treat depression when it is encountered in the clinical setting. O'Malley, Forrest, and Miranda (2003) found that African American women who perceived their primary care providers as being respectful had greater odds of being asked about and treated for depression.<sup>70</sup> Encouraging primary care providers to view their patients from a whole person, patient-centered perspective can indeed improve the likelihood of more effective treatment of all disease, including depression.

There are limitations associated with this study. While this convenience sample describes a particular subset of African American women in a primary care clinic, these results are by no means fully generalizable to the entire population of African American women in the United States, which are a diverse and heterogeneous collection of individuals. However, there is some benefit to analysis of a population in which there is limited research and evaluation of effectiveness compared to the majority population. Another limitation relates to the population of individuals with diabetes, hypertension, and depression as individuals with discrete diagnoses and not comorbid conditions. Analysis of individuals with all three comorbidities concurrently, while an important endeavor, was beyond the scope of this study.

This study illustrates the need for greater clarity and understanding of the characteristics of depression in African American women. Our findings demonstrate that in a primary care setting, where women may present for various physical health complaints, symptoms of depression may play a significant role in contributing to the decreased physical functioning.

## CONCLUSION

With depression continuing to play such a major role in the overall burden of disease in this country, it is imperative that further improvements in screening and interventions need to be made. Furthermore, because African American women often present to primary care settings for treatment of mental illness, primary care providers need to have a clear understanding and characterization of the population, as well as which interventions are most effective for this population. African American women with depression are more likely to present to primary care settings with greater functional impairment in role function, both physical and emotional, when compared to African American women with diabetes or hypertension. Also, African

American women with hypertension and depression are more likely to have greater physical and mental functional impairment than African American women with hypertension and euthymic mood. These findings illustrate the critical importance of effectively treating depression in African American women, not only to increase rates of remission and recovery from depression, which is in itself is an important public health priority, but also to decrease overall functional impairment within this population.

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