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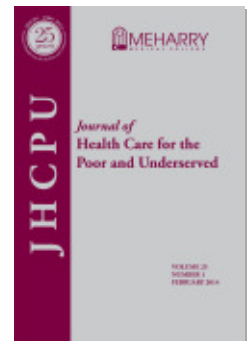
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## Prevalence and Correlates of Depressive Symptoms and Resiliency among African American Women in a Community-Based Primary Health Care Center

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*Abstract:* The purpose of this cross-sectional pilot study was to determine the prevalence and correlates of depressive symptoms and resiliency among 290 African American women (AAW) in a community-based primary health care center. Descriptive statistics, Pearson product-moment correlation, and logistic regression analyses were conducted. Findings indicate that depressive symptoms are experienced by 49% of the participants, while 10% indicated a history of suicidal ideation. Participants had moderately high resiliency scores that had a statistically significant inverse relationship with depressive symptoms. This suggests that resiliency is potentially a protective factor for depressive symptoms. Depressive symptoms were positively correlated with participants' diagnosis of at least one chronic disease. The strongest predictors of depressive symptoms were previous diagnoses of a mental health condition and unemployment. This study identifies risk and potential protective factors for depression among a clinic sample of AAW.

*Key words:* African American women, depressive symptoms, resiliency, primary care.

Depression is a major public health problem that has deleterious effects on the overall U.S. population. Major depression is a mental disorder that significantly impairs the social, physical, and emotional functioning of its sufferers,<sup>1,2,3,4</sup> and manifests with the symptoms that are physiological, emotional, motivational, behavioral, and cognitive as specified by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*.<sup>5</sup> Major depression is one of the most common mental health problems in the United States affecting approximately, 14.8 million adults; and women ages 18 to 45 years old account for the largest proportion of this group, and experience considerable levels of functional impairment.<sup>6</sup> Women are at greater risk for major depression, being

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twice as likely as men to suffer from it, and one woman in four is likely to suffer from a serious depressive episode at some time in her life.<sup>7,8,9</sup>

**Risk factors for depression and African American Women.** A paucity of research studies on depression in AAW (African American Women) has existed for decades; and this paucity contributes to the problems of misdiagnoses, under-diagnoses, and under-treatment of depression for this population.<sup>10</sup> Additional empirical data are needed to determine effective strategies for improving diagnoses and culturally centered psychotherapeutic treatment of depression among AAW.

Stressful life events (SLE), either in childhood or current, are the most significant environmental risk factors in developing depression.<sup>11,12</sup> Indeed, the risk for developing depression increases as the number and severity of stressful life events increases.<sup>13</sup> This may be particularly challenging for AAW since this population of women may face extra stress due to their gender and ethnic minority status while simultaneously attempting to manage daily life circumstances.

African American women are frequently not confronted with isolated stressors, but with a constellation of multiple issues that can engender stress, such as balancing work and home life demands, managing personal relationships, nurturing identity development, and creating a purpose in life that motivates them toward positive goals and an orientation for achievement and success.<sup>14</sup> Unlike White women, AAW's low socioeconomic and structural position in United States society, and their experiences of institutional racism and sexism, may provoke mental and emotional distress that can add to their vulnerability for depression. For example, in a cross-sectional study conducted by McKnight-Eily *et al.*,<sup>15</sup> correlations were established between depression and poor social support, problematic employment/work issues, difficulties managing physical health problems, and general dissatisfaction with life.

Addressing the issues that may elevate adult AAW's risk for depression is critically important, in part due to their significant roles regarding economic responsibility, emotional support, and socio-cultural foundations of stability that they characteristically contribute to enhancing the stability of African American families and communities. Specifically, 32% of AAW represent single-female-headed parent households in the U.S.,<sup>16</sup> often as the primary caretakers of their children. In another report, it is suggested that nearly 72% of the births to Black women are out of wedlock; this figure eclipses that of most other groups: 17% of Asians, 29% of Whites, 53% of Hispanics, and 66% of Native Americans were born to unwed mothers in 2008.<sup>17</sup> Untreated depression increases the chance of risky behaviors such as drug or alcohol addiction; it can ruin personal relationships, contribute to problems at work, make it difficult to overcome serious illnesses, and increase one's risk for suicide.<sup>18</sup> Furthermore, co-morbidities exist for depression and selected chronic diseases which may negatively impact the quality of life and life expectancy for AAW.<sup>19</sup> These ramifications could stimulate negative and damaging consequences for African American families and communities.

Previous research has suggested that certain psychosocial variables also contribute to the risk for developing depression among vulnerable populations of women. A spectrum of psychological-personality, emotional and behavioral constructs<sup>8,20</sup> interpersonal-expectations, maladaptive motivations, and negative beliefs about self, others and situations<sup>21,22</sup> have been identified as antecedents to depression.

The concept of resiliency may be an important consideration as a buffer for African American women at risk for depression, and depressive symptoms. Resiliency emphasizes the presence of positive factors which allow an individual to thrive in the face of adversity, with optimal social and interpersonal functioning.<sup>23,24</sup>

The implications for mental health and illness are clear: individuals with high resiliency have low psychopathology, while individuals with low resiliency report more psychopathology, e.g., in depression, generalized anxiety disorder, post-traumatic stress disorder, and schizophrenia.<sup>23,25</sup> Higher resiliency in individuals that have these disorders is associated with better treatment response, and importantly, may improve with treatment outcomes.<sup>23</sup> Imperative in the consideration of potential protective factors, resiliency may be enhanced by training individuals to strengthen this construct.<sup>26,27,28,29,30,31,32</sup>

**Role of mental health in primary care.** Depression is a *treatable* medical illness that can occur in any woman, at any time, and for various reasons, regardless of age, race, or income.<sup>33</sup> Research centered on improving mental health outcomes in the primary care setting is considered a public health priority.<sup>34</sup> Not only do a large percentage of individuals receive all or part of their mental health treatment in primary care settings,<sup>35</sup> but racial minorities in particular are more likely to report depressive symptoms to primary care physicians than to mental health practitioners.<sup>36,37,38</sup> However, primary care physicians are less likely to diagnose depression among African Americans;<sup>39,40,41</sup> additionally, African Americans are underrepresented in outpatient mental health settings.<sup>38,40</sup> However, more women than men reported that they prefer advice about depression from their primary care physician.<sup>42</sup> Thus, the primary care setting may be a critical link to aid in identifying and addressing depression and associated issues for AAW.

However, when many African Americans enter treatment for mental health concerns, they are often exposed to inequalities in care.<sup>36</sup> For example, African Americans may be under-diagnosed and under-treated for affective disorders, and over-diagnosed and over-treated for psychotic disorders.<sup>43</sup> Furthermore, African Americans are less likely than Whites to receive newer and more comprehensive treatment modalities.<sup>44</sup> These inequalities have been attributed to a lack of cultural competency and bias in service delivery on the part of mental health and medical professionals.<sup>44,45</sup> Such disparities concerning mental health services and quality care have resulted in poorer mental health outcomes for African Americans.<sup>46</sup>

Nationwide attention was focused on racial/ethnic disparities in mental health services and outcomes in the Surgeon General's Report, *Mental Health: Culture, Race and Ethnicity*.<sup>47</sup> This report documented that minorities receive lower quality mental health care in general than Whites; wide disparities in mental health services for African Americans, Latinos, and Asian Americans persist to this day. Moreover, Holden and Xanthos<sup>44</sup> reported that African Americans experience more mental health disadvantages relative to European Americans with respect to financial barriers, barriers to help seeking, and poorer quality services. In a study among AAW, mental health treatment seeking barriers included poor access to care, stigma, and lack of awareness about mental illness.<sup>48</sup> Additionally, AAW's failure to perceive the need for care, may partially account for the low rates of care for depression among this population.<sup>49</sup>

**Summary.** Limited research investigations exist about the prevalence and correlates

of depressive symptoms and resilience among AAW in community-based primary health care settings. The lack of adequate and sufficient research contributes to the problems of misdiagnoses, under-diagnoses, and under-treatment of depression and depressive symptoms for AAW. We will add to the limited body of empirical research concerning risk and protective factors of depressive symptoms for AAW. Focusing on resilience is particularly relevant and promising in part because AAW have a history of being strong and self-reliant in their families and communities, which may yield a considerable capacity for resilience. Furthermore, there is a need to better understand some of the complexities of depressive symptoms and resilience, which this investigation will also help accomplish. Our exploratory study was guided by the following research hypothesis: There is a relationship between depressive symptoms and resilience. Ultimately, our multi-disciplinary investigative team seeks to contribute to the reduction of mental health disparities, promote better mental health and well-being for AAW, families, and communities.

## Methods

This cross-sectional pilot study was guided by the following research question: What is the relationship between depressive symptoms and resilience among AAW attending a community-based primary health care center? This study was approved by the Institutional Review Board and Comprehensive Family Health care Center (CFHC) Research Oversight Committee at Morehouse School of Medicine to ensure that the protection of human subjects and ethical practice standards of research for the investigation were achieved.

**Research participants and study site.** The research participants included a convenience sample of 290 adult AAW that were patients at a community-based primary health care center, the CHFC. The CFHC is located in an urban area of metro Atlanta, Georgia and was established to provide complete medical and preventive health care services to local communities, with a special focus on minority and underserved populations. It serves approximately 3,500 clients per year, predominantly (>90%) African Americans. The CFHC physicians are committed to providing the highest quality of care to the members of the community through clinical services, community health education, and research. The staff comprises highly trained professionals in the fields of psychology, nutrition, and health education. This team of health care providers is dedicated to offering comprehensive patient care and preventive care services to all members of the community.

Recruitment, informed consent process, and screening activities took place in a private section of the clinic waiting area. All of the potential research participants were patients of the CFHC who were scheduled for a visit. Interested individuals who—based on the inclusion/exclusion criteria—were eligible for participation were approached in the general waiting area by a research assistant and provided information on the study. Upon providing consent to participate, the subject was asked to complete the battery of assessment tools in a separate private section of the waiting area.

**Assessment measures.** Several self-report paper-and-pencil psychosocial measures were given to the research participants. All of these assessment measures are designed

for literacy at or below the eighth grade level. The tools have adequate psychometric properties as indicated by reliability and validity information reported in the literature; and based on previous use of the assessment measures in other investigations that involved African Americans conducted by the principal investigator. The entire battery of assessment measures took approximately 10–15 minutes for each of the research participants to complete.

*Measure of depressive symptoms (dependent/outcome variable).* The Patient Health Questionnaire (PHQ-9)<sup>50</sup> is a nine-item self-report screening tool of depressive symptoms experienced by individuals during the past two weeks. The items of the questionnaire correspond with the symptoms of depression indicated in the DSM-IV that is used for diagnostic purposes. The PHQ-9 has been widely used with primary care patients and demonstrated excellent psychometric properties with ethnic minorities (including African Americans), with Cronbach's alpha reliability coefficients ranging from .79 to .89.<sup>51,52</sup> It has been validated against the gold standard of individuals receiving a diagnosis of depression and with the Beck Depression Inventory (construct validity). Primary Factors of the PHQ-9 include: factor 1: depressive symptoms (worthlessness, sadness, lack of concentration, low libido, suicidal thoughts and speech and motor retardation); and factor 2: indulgence and withdrawal (overeating, weight gain and excessive sleep). A sample question is: "feeling bad about yourself or that you are a failure, or have let yourself down" (not at all, several days, more than half the days, nearly every day). Severity score ranges include: 0–4 (no depressive symptoms), 5–9 (mild depressive symptoms), 10–14 (moderate depressive symptoms), 15–19 (moderately severe depressive symptoms), and 20–27 (severe depressive symptoms).

*Measure of resilience (independent variable).* The Connor-Davidson Resilience Scale (CD-RISC)<sup>23</sup> is a 35-item self-administered scale with questions that load to five factors (personal competence, trust in instincts, positive acceptance of change/secure relationships, locus of control and spiritual influences). It has been used in a wide variety of populations including community, primary care and psychiatry outpatients. Among African Americans, it has shown psychometric properties with Cronbach's alpha reliability coefficients ranging from .87 to .92.<sup>53,54</sup> The CD-RISC's construct validity has been validated with measures of self-esteem, task-oriented coping, and life satisfaction.<sup>55,56</sup> A sample question on this tool is: "I think of myself as a strong person when dealing with life's challenges and difficulties" (not true at all to true nearly all of the time). The range of scores is: 0–48 (low resilience), 49–96 (moderate resilience), and 97–144 (high resilience).

*Measure of background/demographic factors (independent variable).* A demographic questionnaire was developed by the principal investigator that queried basic background information about the respondent, including age (years); annual household income (range); employment (unemployment, employment, other-student, homemaker, retired, disabled); level of education completed (no formal schooling to post-graduate degree); marital status (never married, married, separated, divorced, widowed, cohabitating); health insurance status (private, government, uninsured); previous diagnosis of health conditions (diabetes, high blood pressure, heart condition, arthritis, stomach problems, back problems); and previous diagnosis of mental health conditions (anxiety disorders, depression, bipolar disorder, schizophrenia).

**Procedures.** Study recruitment flyers were posted in various areas within the CFHC. Interested women participated in the informed consent process with trained research assistants in the clinic waiting room. Next, research participants participated in the informed consent process and subsequently completed the self-report assessment measures (which took approximately 15 minutes) administered by trained research assistants. Each of the research participants received \$5.00 as an incentive for study participation. No further contact was made with the research participant.

**Data analysis plan.** Data analyses were carried out through the use of the Statistical Package for the Social Sciences.<sup>57</sup> Basic descriptive statistics such as mean, standard deviation, standard error of the mean, range, proportion and 95% confidence intervals were used describe continuous and/or nominal or categorical variables. Pearson product-moment correlation analysis was performed to determine significant relationships between depressive symptoms, resilience and demographic/background variables. Binary logistic regression analysis was used to identify significant associations of depressive symptoms (categorized as yes-PHQ-9 scores  $\geq 5$  or no-PHQ-9 scores  $\leq 4$ ). Finally, Cronbach's alpha reliability coefficients will be generated for each of the assessment tools in order to determine their psychometric applicability for the target population under investigation.

## Results

**Assessment measures.** *Demographic/background factors.* Among the 290 AAW in the sample the mean age reported was around 42 years with reported ages ranging from 18 to 82. Approximately 42% had never been married and over three-quarters of the women reported household incomes ranging from under \$5,000 to \$49,999. Almost half of the women were high school graduates (24.1%) or completed some college (21.7%). More than half of the women reported being employed (56.4%) and having private insurance (58.3%). Additional demographic information is provided in Table 1.

*Diagnosed health and mental health conditions.* Table 2 presents the distribution of diagnosed health and mental health conditions reported by study participants. Overall, the women reported being diagnosed with an average of 1.67 (SD = 2.46) health or mental health conditions. As shown (Figure 1) high blood pressure was the most frequently reported diagnosed illness (42.8%,  $n = 123$ ), followed by back problems (21.1%,  $n = 61$ ), arthritis (20.5%,  $n = 59$ ), and diabetes (15.6%,  $n = 45$ ). Depression (16.7%,  $n = 48$ ) was the most frequently reported diagnosed mental illness.

*Depressive symptoms.* The PHQ-9 had good internal consistency (9 items;  $\alpha = .87$ ). A mean PHQ-9 score of 5.84 (SD = 5.62; range = 0–25) was observed among study participants. Half of the women reported some level of depressive symptoms, with 20% reporting moderate to severe depressive symptoms (31% reported mild depressive symptoms, 9% moderate depressive symptoms, 7% moderately severe depressive symptoms, and 3% severe depressive symptoms).

*Resilience.* The modified CD-RISC scale showed excellent reliability with the sample (36 items;  $\alpha = .96$ ). The average modified CD-RISC score was 110.64 (SD = 24.64), with scores ranging from 4–144. Most of the women in the sample (76%) reported high levels of resilience.

**Table 1.**  
**DEMOGRAPHIC PROFILE OF THE SAMPLE**

<b>Demographic Factors</b>	<b>N</b>	<b>Percent (%)</b>
Age (n = 290)	Mean 41.78 (SD = 15.71)	Range = 18–82
Marital Status (n =290)		
Never Married	122	42.1
Married	76	26.2
Separated	15	5.2
Divorced	53	18.3
Widowed	15	5.2
Co-habiting/Living together	9	3.1
Total Household Income (n =273), \$		
Under 5000	46	16.8
5000–9,999	33	11.4
10,000–14,999	23	8.4
15,000–24,999	22	8.1
25,000–34,999	43	15.8
35,000–49,999	46	16.8
50,000–74,999	36	13.2
75,000–99,999	13	4.8
100,000 and over	11	4.0
Education (n = 290)		
No School	2	.7
Middle or Grade School	6	2.1
Some High School	27	9.3
High School Graduate	70	24.1
Technical or Vocational School	37	12.8
Some College	63	21.7
College Graduate	57	19.7
Post Graduate Degree	28	9.7
Health Insurance Coverage (n = 288)		
Private Insurance	168	58.3
Government (Medicaid/Medicare)	114	39.6
Uninsured	7	2.1
Employment (n = 289)		
Employed	163	56.4
Unemployed	48	16.6
Other (homemaker, student, retired, disabled)	78	27.0



**Table 2.**

**DIAGNOSED HEALTH AND MENTAL HEALTH CONDITIONS**

Diagnosed Condition	N	Percent (%)
Diabetes	46	15.9
High Blood Pressure	123	42.4
Heart Condition	12	4.1
Arthritis	59	20.3
Depression	48	16.6
Anxiety Disorders	21	7.2
Bipolar Disorders	10	3.4
Schizophrenia	6	2.1
Asthma	39	13.4
Chronic Stomach Problems	17	5.9
Back Problems	61	21.0
Number of Diagnosed Conditions	Mean	SD
Range = 25 (0-25)	1.67	2.441

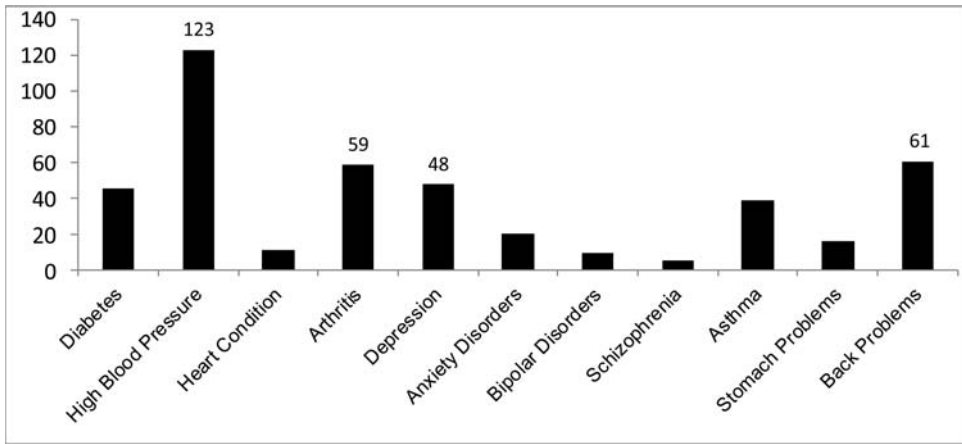


Figure 1. Diagnosed health and mental health conditions.

**Correlation of variables.** Tables 3 and 4 present correlations between depressive symptoms and resilience and select demographic variables, as well as diagnosed health and mental health conditions. Depressive symptoms have a strong inverse association with resilience ( $r = -.589, p \leq .01$ ), a strong positive association with a diagnosed mental health disorder ( $r = .458, p \leq .01$ ), and a weak positive association with having at least one health condition ( $r = .201, p \leq .01$ ). Resilience has a weak positive association with education level ( $r = .201, p \leq .01$ ), a weak negative association with health insurance coverage ( $r = -.246, p \leq .01$ ), a moderate negative association with a diagnosed mental health disorder ( $r = -.391, p \leq .01$ ), and a weak negative association with at least one diagnosed health condition ( $r = -.198, p \leq .01$ ).

**Table 3.****CORRELATION OF DEPRESSION AND RESILIENCE SCORES TO SELECT DEMOGRAPHIC VARIABLES**

Selected Variables of Interest	PHQ-9	CD-RISC	Marital Status	Education	Insurance
PHQ-9	—				
CD-RISC	-.589**	—			
Marital Status	-.018	.095	—		
Education	-.128*	.201**	.014	—	
Insurance	-.188**	-.246**	.102	-.393**	—
Employment	.115	-.079	.182**	-.232**	.470**

\*Correlation is significant at the 0.05 level

\*\*Correlation is significant at the 0.01 level

PHQ-9 = Patient Health Questionnaire

CD-RISC = Connor-Davidson Resilience Scale

**Table 4.****CORRELATION OF DEPRESSION AND RESILIENCE SCORES TO DIAGNOSED HEALTH AND MENTAL HEALTH CONDITIONS**

Selected Variables of Interest	PHQ-9	CD-RISC	Diabetes	HBP	Heart Condition	Mental Health Condition
PHQ-9	—					
CD-RISC	-.589**	—				
Diabetes	.101	-.038	—			
HBP	-.020	.019	.458**	—		
Heart Condition <sup>a</sup>	.049	-.095	.152*	.175**	—	
Mental Health Condition <sup>b</sup>	.458**	-.391**	.040	.126*	.118*	—
At Least One Diagnosed Health Condition	.201**	-.198**	.406**	.430**	.199**	.581**

\*Correlation is significant at the 0.05 level

\*\*Correlation is significant at the 0.01 level

<sup>a</sup>Includes Heart Attack, Angina, and Heart Failure<sup>b</sup>Includes Depression, Anxiety Disorders, Bipolar Disorders, and Schizophrenia

PHQ-9 = Patient Health Questionnaire

CD-RISC = Connor-Davidson Resilience Scale

**Table 5.**  
**REGRESSION ANALYSIS FOR PREDICTORS OF**  
**DEPRESSIVE SYMPTOMS<sup>a</sup>**

Constant	20.79** (1.52)
Resilience	-0.11** (0.01)
Diagnosed Mental Health Condition	3.68** (0.84)
Unemployed status	1.674* (0.80)
R-Squared	0.41

\*Indicates significance at the  $p \leq .05$  level  
 \*\*Indicates significance at the  $p \leq .01$  level  
<sup>a</sup>Standard errors are reported in parentheses

**Associations with depressive symptoms.** Binary logistic regression analyses (Table 5) indicated that three associations explained 41% of the variance ( $R = .41$ ,  $F(3, 204) = 46.74$ ,  $p < .01$ ). Resilience was found to be the strongest association of depressive symptoms, with a significant inverse association ( $\beta = -.47$ ,  $p < .01$ ). Being diagnosed with a mental health condition ( $\beta = .26$ ,  $p < .01$ ) and unemployment status ( $\beta = .11$ ,  $p < .05$ ) had significant positive associations in predicting of depressive symptoms. Results also suggest that resilience may serve as a buffer for depressive symptoms.

**Discussion**

This exploratory investigation yielded important information about depressive symptoms and resilience among adult AAW; and our research hypothesis is supported. Depressive symptoms were prevalent among adult AAW in a primary health care center; since 50% of research participants indicated that they experienced some level (mild, moderate, severe) of depressive symptoms.

The majority of research participants (98%) had moderate to high resilience, which emerged as a potential buffer for depressive symptoms among this sample of AAW. High levels of resilience may support some degree of protection from the severity of overall depressive symptoms; however, the experience and consequences of isolated depressive symptoms may not be protected and may increase AAW’s propensity for a depressive episode.

Low resilience and high depressive symptoms were associated with unemployment, less than a college education, previous diagnosis of a mental disorder, diagnosis of at least one chronic disease, and lack of health insurance coverage.<sup>15</sup> These bio-psychosocial factors may be characterized as major stressors for AAW which could increase their experience of depressive symptoms and their ability to cope with challenges in a resilient manner.

This study has implications for research, practice, and prevention. One implication is addressing the need for consistent, quality mental health treatment options for this specific population. Clinicians tend to assume that there is a universal psychotherapeutic treatment system that can be applied to all ethnic and racial groups.<sup>46</sup> Findings from this study can be added to the existing knowledge of this particular field and increase overall knowledge to make findings more generalizable to this specific population and to devise treatment options based on the needs of those reporting. As such, it is recommended that primary care clinicians devote more time into deriving mental health diagnoses and more time in discussion with patients in regards to their respective mental health, which will lead to better interventions and care strategies for those with depressive symptoms; this will contribute to efforts in preventing the increase of severity of these symptoms.

The present study will add to the limited body of research about risk and potential protective factors for depressive symptoms among a community-based primary health care sample of AAW. It may also provide implications for better integration of screening for depressive symptoms, assessment, and support for AAW at risk for depression in a primary care clinic. Additionally, the study identifies bio-psychosocial factors related to depressive symptoms for AAW that may support the development of psycho-educational prevention materials and strategies. A report of the World Health Organization, entitled *The Global Burden of Disease* demonstrated that major depression presents the greatest disease burden for women when compared with several other chronic diseases; women of color reported symptoms of depression as their greatest impairment in functioning.<sup>58</sup> Depression among African American women (AAW) may be disproportionately under-recognized and under treated.<sup>59,60,61</sup> Furthermore, due to cultural influences, depression may be exhibited differently among African American women than among others.<sup>62,63,64,65</sup> When compared with males and women of differing ethnicities, reports indicate that AAW make approximately three million mental health visits each year; they are also reported to have a higher risk than men of initial episode and onset of depression.<sup>8,36</sup> Findings from the Summit on Women and Depression convened by the American Psychological Association in 2000 suggested that the examination of genetic factors, sex hormones, life stress and trauma, interpersonal relationships, and cognitive styles may provide greater insight into contributors to depression for women.<sup>66</sup>

**Study limitations.** Despite many strengths, this study has several limitations including (1) a moderately small sample size, (2) use of a convenience sample, (3) use of self-report assessment measures, and (4) use of a cross-sectional design which does not allow for the determination of antecedent-consequence relationship(s). These issues may affect the external validity of the study, specifically concerning the generalizability of the findings that were ascertained.

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