PERSONAL CHARACTERISTICS, CHRONIC STRESS, AND DEPRESSIVE

SYMPTOMS IN MIDLIFE AFRICAN-AMERICAN WOMEN

by

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Personal Characteristics, Chronic Stress, and Depressive Symptoms

in Midlife African-American Women

Abstract

by

MARGARET A. WHEATLEY

Research has demonstrated the relationship between chronic stress and depressive

symptoms and supported the influence of personal characteristics on chronic stress and

depressive symptoms. However, few studies have examined these relationships in

specific minority populations. This study used Vitaliano's model of chronic stress to

guide a secondary analysis of these relationships in a convenience sample of 206 midlife

(39-65 years) African-American women from a southern rural community. Data were

obtained from a larger study of perimenopausal southern rural African-American women.

The results showed that although the women reported relatively low levels of chronic

stress and depressive symptoms, associations with certain personal vulnerabilities and

personal and social resources emerged. Key findings were that women who rated their

health as better than others reported greater stress (F=4.097; p=.018), and greater

knowledge of menopausal symptoms and greater social support were correlated with

greater chronic stress (r=.18, p<.01 and r=.23, p<.001, respectively). Greater social

support was associated with greater severity of depressive symptoms (r=.15, p=.029).

Chronic stress and depressive symptoms were not correlated. The findings indicate that

although African-American women in midlife may be highly satisfied with their social

support, the support that is received may not necessarily be helpful for managing stress or

depressive symptoms. In addition, it is possible that in rating their health in comparison

with others, the women only considered their physical health while stress reflected their

psychological health. Given the association between their rating of health as better than

others and greater chronic stress, perhaps these women were managing their stress so that

it was not adversely affecting their physical health. Although no relationship was found

between chronic stress and depressive symptoms, the results from this secondary analysis

will inform healthcare professionals about the role of personal vulnerability and personal

and social resources in association with chronic stress and depressive symptoms as

perceived and experienced by African-American women in midlife. The findings

indicate the need for further exploration of new, innovative, evidence-based methods that

are useful for increasing the recognition of and need for treatment of chronic stress and

depressive symptoms among African-American women in midlife.

CHAPTER ONE

Introduction

Prevalence

Approximately, one in four Americans living in the United States (U.S.) will experience a diagnosable mental disorder (Kessler, Chiu, Demler, & Walters, 2005). African Americans have a higher prevalence of mental disorders and are more likely than Caucasians to use the emergency room as a primary source of treatment for mental illnesses (Surgeon General's Report on Mental Health, 1999). It is estimated that 9.5% of women and 5.8 % of men will experience a depressive episode in any given year (WHO, 2001). Approximately, 50% of African-American women report depressive symptoms during their lifetime - a rate twice that reported by males and 50% higher than reported rates for Caucasian women (Gatson and Porter, 2001). Of the 18 million African-American women in the U.S., African-American women with depressive symptoms (16%) were less likely than Caucasian women with depressive symptoms (24%) to receive mental health treatment (McKinnon & Bennett, 2005; Surgeon General's Report on Mental Health, 1999). Of these African-American women, 38% are classified as middle-aged because of their ages of 40-60 years (Gary, Yarandi, Rivers, 2001; Glazer et al., 2002)

It is estimated that approximately 25% of the women in midlife have reported significant depressive symptoms (Harlow, 1999). However, this statistic is based on more than 10-year-old data for African-American women versus the current empirical findings of depressive symptoms in Caucasian women. Because of this lack of current data, the level of disability burden from depressive symptoms experienced by African- American

women remains indiscernible, especially as it relates to the difference in occurrences between African-American and Caucasian women.

Disability Burden of Depressive Symptoms

Depressive symptoms are the leading source of disability burden in the U.S. and are a significant public health problem worldwide (Cassano & Fava, 2002; Forsell & Winblad, 1999; Halloran et al., 1999; Lebowitz, et al., 1997, Murray & Lopez, 1996; U. S. Department of Health and Human Services, 1999; Andrews, Sanderson, Corry, & Lapsley, 2000). Furthermore, the burden of morbidity arising from depressive symptoms is as challenging as that of any other illness (Greden, 2001).) Depressive symptoms are the leading cause of disease-related disability in women (Noble 2005). Women, particularly African-American women, are more at risk than men for stressed-induced depressive symptoms because of these women's coping style, social status, socialization, and role stress. These socioeconomic conditions contribute to the economic burden induced by depressive symptoms (Greenberg, et al., 2003). The economic burden of depressive symptoms is driven by three main factors: prevalence rate (how far-reaching the disorder is in the population), treatment rate (the extent to which the disorder is treated by a professional caregiver), and debilitating nature (how impairing the condition is among the group). In African-American women, these compelling factors escalate economic burden beyond bearable levels of emotional wellbeing (Hayward, Crimmins, Miles, Yang, 2000; Warren,, 1997). Although more empirical knowledge about depressive symptoms is necessary to understand the precise impact of the economic burden of this disability upon African-American women in midlife, it nevertheless

remains true that the three factors indicated above do indeed contribute to this economic burden

<center>Midlife</center>

Women who are between 40 and 60 years of age are considered to be in midlife (Gary, Yarandi, & Rivers, 2001; Glazer, et al., 2002; Spraggins, 2006). Midlife presents a challenge to some women because of considerable personal, biological, and social changes (Bromberger & Matthews, 1996). Roles, responsibilities, and relationships of women in midlife typically shift and udergo redefinition (Bromberger & Matthews). Mothers in midlife experience the "empty-nest syndrome" as children mature and leave home. These same women are becoming caregivers for their parents and other elderly relatives. As they enter into the 4th or 5th decade of their lives, through their roles and responsibilities, women begin to review their achievements and the reality of fulfilled or unfulfilled dreams, while assessing the contributions they have made to society. Also, they are re-evaluating established and transient support systems.

All these situations may predispose women in midlife, including African-American women, to stress, thereby placing them at risk for depressive symptoms (Warren, 1997). The literature suggests that depressive symptoms first occure before age 45; that is, during the onset of midlife. For women in midlife, depressive syptoms pose a significant problem (Bromberger, Harlow, Avis, Kravitz, & Cordal, 2004). Twenty-two percent of women in midlife have significant depressive symptoms (Blazer, Kessler, McGonagle, & Swartz, 1994; Harlow, Cohen, Otto, Spiegelman, & Cramer, 1999).

Despite these findings, empirical data are sparse about African-American women specifically. As a result, findings are inconsistent regarding whether they have more or

fewer depressive symptoms than Caucasian women (Miller et al., 2004). The lack of

knowledge in this area only reinforces the questionable nature of empirical findings

related to depressive symptoms in African-American women and strengthens the need for

further research in this area (Blazer, Landerman, Hays, Simonsick, & Saunders, 1998;

Gazmararian, James & Lepkowski, 1995; Miller et al., 2004). Some researchers have

suggested that these interpretations of depressive symptoms are acceptable given the low

rate of participation in research among African-American women in midlife (Brown &

Topcu, 2003; Ford, 100; Freeman, 1998; Fremuth et al., 2001). However, in a study of

women ages 25-64 years, twice as many African-American women were found to have

depressive symptoms as Caucasian women (Gazmararian et al., 1995). In another study

that targeted middle-aged African-American women, higher levels of depressive

symptoms were reported in the African-American women than in their Caucasian

counterparts (Miller et al., 2004). Clearly, then, the very increase in numbers of African-

American women in midlife reporting depressive symptoms indicates the need for more

research to determine more precisely the prevalence of depressive symptoms in this

population.

Some reports of the low prevalence of depressive symptoms in this population

probably stem from the under-representation of this population in epidemiological studies

(Okwumabua, Baker, Wong, & Pilgram, 1997). Yet other studies report that African-

American women are at greater risk for depressive symptoms given their dual minority

status (black and female) as well as their over-representation at and below the poverty

level, creating a triple jeopardy for risk of depressive symptoms (Mills, 2000; Warren,

1997). Moreover, the few studies on African-American women in midlife have been

framed as menopausal research (Gary et al., 2001; Mills, 2000; Okwumabua et al.; Sharps, Phillips, Oguntimalide, Saling, & Yun, 2003). These studies have concluded that African-American women who had reached midlife status and who had experienced previous depressive episodes were susceptible to reoccurrences.

Depressive symptoms tend to decrease after the age of 45. Nevertheless, they remain a significant problem for woman in midlife (Bromberger et al., 2004). Contradictions in findings, such as those mentioned earlier, may have emerged because depressive symptoms present uniquely in African-American women in midlife or because typical research methodologies may not be adequate for recognizing depressive symptoms in this population (Miller et al., 2004). For example, results from the National Health and Nutrition Examination Survey III indicate that the lack of knowledge of prevalence rates in African-American women in midlife may stem from the type of depressive symptoms they display (Riolo, Nguyen, Greden, & King, 2005). Finally, depressive symptoms of African-American women in midlife may be unrecognized, overlooked, underestimated, misinterpreted, poorly assessed, or concealed because of fear of stigma by themselves, family members, and professional caregivers.

Summary of Methodology of Original Study

The findings from the original study from which data for this secondary analysis were taken have been summarized in a publication entitled "Southern Rural African-American Women's Health Status, Knowledge, and Income during the Menopausal Years" (Gary et al, 2001). The principal investigator was Faye Gary, EdD, RN, from 1999 to 2001. Because the grant for the study was not retrievable, Dr. Gary has given

written permission to use the first article, published from that original study and her personal communication of the study for this summary (Gary et al, 2001),

In a population of 206 southern rural African-American women, Gary, et al. (2001) examined the relationship among knowledge, health status, and income. The literature had shown that health status was associated with income in African-American women to a greater extent than with their Caucasian counterparts. In addition, a gap in the literature was evident   regarding African-American women's acquisition of knowledge about menopause. While physicians were the primary source of knowledge about menopause for Caucasian women, African-American women obtained their knowledge from relatives (Agee, 2000; Gary et al., Grisso, Freeman, Maurin, Garcia-Espana, & Berlin, 1999). This familial way of acquiring menopausal knowledge suggested that for African-American women, menopause may be viewed as a natural occurrence rather than a state of disease. Given the limited amount of empirical data on African-American women, Gary and her colleages focused on research questions that addressed relationships and differences in menopausal knowledge, health status, and socioeconomic status among these southern, rural, middle-age African-American women (Gary et al., 2001).

Gary and her associates used a convenience-sampling procedure because of the paucity of scientific data about southern rural African-American women (Gary et al., 2001). The recruitment strategies included informing community leaders about the study; visiting community organizations such as churches, day care centers, and beauty shops; and posting informational leaflets posted in schools, rural grocery stores, churches, gas stations, strip malls, and fast food eateries. To meet the recruitment requirements, the

woman had to be between the ages of 40-60 years, reside in rural communities for at least 5 years, and speak English.

Gary adapted the Menopausal Health Survey (MHS), a 96-item measure, consisting of general information and 7 subscales, from the Satisfaction with Decision Scale (Gary, et al., 2001; Holmes-Rovner, 1996). The subscales of the MHS consisted of the Socio-demographic Information Questionnaire (10 items), Menopausal Health Scale (8 items), the Hormone Replacement Therapy Questionnaire (15 items), the Decision Making Scale (19 items), the Menopausal Symptoms Instrument (12 items), the Symptom Management Self-Care Scale (7 items), the Menopause Information/Knowledge Questionnaire (24 items), and the Utilization Perception Of Health Services Instrument (1 item). The internal consistency of the MHS subscales ranged from 0.77 to 0.97 (Rothert et al., 1997). The entire MHS was administered to each of the206 participants but only data from four of the subscales were used for the original study: (1) the Socio-demographic Information Questionnaire, (2) the Menopausal Health Scale, (3) the Menopause Information/Knowledge Questionnaire, and (4) the Decision Making in Menopause Survey (Gary, et al.). Trained volunteers collected all the data during face to face interviews.

Several findings of the study increased the empirical evidence about African-American women and their knowledge regarding menopausal-related health status, menopausal knowledge, and income. For instance, the investigators found a significant association between greater knowledge about menopause and higher income. Although African-American women in this study received other health information from physicians and other professional caregivers, most of their menopausal knowledge came from their

mother, female family members, and female friends. However, most of the women were unfamiliar with basic bodily processes, risk factors, and symptoms related to menopause and Hormone Replacement Therapy (HRT). Moreover, the women were unaware of their risks for heart disease, bone change conditions, and illnesses that could induce memory loss (Gary, et al., 2001).

Despite the many contributions of the original study to knowledge development, there were limitations. Conceptual definitions for key variables were lacking, which made it difficult for the study to be replicated. Moreover, the findings from the original study could not be generalized beyond settings in small rural southern towns. Finally, third parties (e. g. participant's primary professional caregivers) did not validate reported health status, which meant that the researcher had to rely on patients' perceptions rather than on objective validation through diagnosis.   The findings from the study suggested that further research was needed to discover alternative medical remedies from those administered in the professional medical field, since it is known that 80% of treatment is done outside the professional medical field. More generally, this study made clear the urgent need for the development of culture-specific and evidence-based interventions, which would increase knowledge about African-American women and their health. If this knowledge is imparted to them, they would be able to make more informed decisions about their menopausal status. (Chapter 3 includes additional information about the orginal study).

Purpose of the Proposed Study

The purpose of this secondary analysis was to examine relationships among personal factors within the person and environment and their impact on psychological

distress. More specifically, personal characterisctics of African-American women in midlife, including their personal vulnerabilities, personal and social resources, and biological status were examined in relation to chronic stress and depressive symptoms. The personal characteristics consisted of vulnerabilities (demographics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision making), social resource (social support), and biological status (perimenopause and menopause). Understanding these relationships needs to be placed in the context of the African-American experience.

The African American Experience

There is no question that both diagnosis and treatment of depressive symptoms need to be improved. Baker and Bell (1999) have argued that such improvement requires an understanding of the impact of historical events upon African Americans as well as the influence of African-American value that emphasize community and family. The African American's experience is vastly different from that of other population groups in the United States. Although African Americans have lived in America since the early 1600s as the first African indentured servants, the majority of the ancestors of the African Americans were forcibly brought here as slaves. During slavery, signs of psychological distress were used to rationalize the view that slavery was beneficial for them. These signs were perceived as indications of possible mental illness requiring health treatment. (Jackson, 2001; Thomas & Sillen, 1979)

Signs of psychological impairment among African Americans were reported during the first generation of slaves in the U.S. Benjamin Rush, M. D., one of the signers of the Declaration of Independence, a mental health reformer (he is called the "Father of

American Psychiatry"), described African Americans as suffering from an affliction which he called "negritude," which he claimed was a hereditary disease that caused blackness. The only cure for "negritude" was to become white (Thomas & Sillen, 1979). In the 1800's, Samuel Cartwright of Louisiana hypothesized the existence of two disorders which he called "draptomania" and "dysaethesia aethiopica" that were only observed in slaves. According to Cartwright, "draptomania" (derived from Greek *drapetes*, "*a runaway fugitive*" + mania, ("mania, fury, frenzy") was a psychological condition that predisposed a slave to run away (Cartwright, 2007). Dysaethesia aethiopica, or hebetude, explained the tendency of slaves to create disturbances and to disrespect property rights (Cartwright, 2007). Cartwright prescribed whipping as the cure for this pseudo-disorder. Now, since the "cure" produced lesions, the disorder was declared to be peculiar to African Americans. Thus the lesions were regarded as confirming the existence of the disorder. Given the persistence of racial prejudice and the socioeconomic constraints under which African Americans live, it is conceivable that ill-informed clinicians today could arrive at comparably ill-founded diagnoses. In fact, these two disorders could be readily relegated to obscurity if not for persistent efforts to pathologize the socioeconomic issues that affect African Americans. Indeed, it is possible that the creation of such pseudo-disorders as well as conclusions drawn from them have laid the foundation for the current disparities in mental health and mental health treatment between African Americans and Caucasians.

　　Beginning in slavery, racism underlay the inappropriate and neglectful attention that was paid to the healthcare of African Americans. Although slave owners provided minimal care for what they regarded as their property—thereby protecting their own

economic interests—most slaves in fact lived and died without any health care at all. This minimalist approach to the health of slaves laid the foundation for the disparities in health condition, access, assessment, and treatment that are evident today.

After emancipation and during the post-Reconstruction period, either by law or custom, African Americans continued to receive inferior treatment in the healthcare system, including the mental healthcare system (Randall, 1993; William& Rucker, 2000). Moreover, it was not realized that much mental illness in freed slaves, who were left to fend for themselves, likely stemmed from starvation or poor nutrition. For example, pellagra, a Vitamin B3 (niacin) deficiency caused by malnutrition, produces symptoms of irritability and mental confusion. The incidence of pellagra probably influenced the rate of mental illness in African Americans during and after slavery. Mental illness disproportionately affected former slaves then and poor people today. In sum, slavery and its legacy laid the foundation for today's inequities in mental health and in mental healthcare among African Americans, including African-American women in midlife.

Beginning in the early 20th century, Caucasian physicians were given unprecedented authority over the entire U. S. healthcare system (Byrd & Clayton, 2000). They developed a racially exclusive medical education and research infrastructure that accorded little attention to the mental health problems of African Americans. As late as the 1960s, some psychiatrists believed that physical violence among African Americans was caused by organic brain disease (Thomas & Sillen, 1979) while others perceived it as a reaction to oppression, poverty, racism, and afflictive social circumstances (Mills, 2000). The recommended treatment for the brain dysfunction was psychosurgery, specifically lobotomy. In 1965, a study was designed to test the hypothesis that

Caucasians suffer more depressive symptoms than African Americans (Dovenmeuhle & McGough, 1965). The hypothesis could not be substantiated. On the contrary, the findings indicated that African Americans experienced more disabling depressive symptoms than their White counterparts. However, another study generally supported the earlier findings, but it also revealed that African-American women 25 to 65 years of age were twice as likely as Caucasian women, of the same age range, to have depressive symptoms (Gazmararian, et al., 1995). The reasons for these mental health disparities need to be further researched.

Historically, harsh conditions—including slavery and race-based exclusion from health-related, educational, economical, and social resources—form the roots of disparities in health, education, and socioeconomics experienced by African Americans today (Marmot & Wilkiinson, 2003; Smedley, Stith, & Nelson, 2002; U. S. Department of Health and Human Services, 2001). Yet, few studies have been undertaken to demonstrate precisely how these factors impact the mental health of African Americans generally, let alone African-American women in midlife.

There is little empirical data on African-American women as a unique and diverse group and the incidence of depressive symptoms in this population is unknown (Brown & Topcu, 2003; Ford, 1999; Kohn & Hudson, 2002; Mills, 2000). The paucity of studies may be explained, at least in part, by the negative view of research in general among African Americans, including their fear of being regarded as guinea pigs. There are also comparatively few African American researchers, whose presence might allay these fears. Finally, however, it is possible that the health needs of African-American women

are simply not deemed worthy of serious attention (Arean & Gallagher-Thompson, 1996; Brown, Schulberg, & Madonia, 1996; Steffens, Artigues, Ornstein, & Krishnan, 1997).

African-American women also participate only minimally in research, and their lack of participation poses a serious barrier to research on issues that affect them. However, the reasons for their lack of participation are more complex than those that underlie their mistrust of the majority-dominated healthcare system; nor can it be assumed that they are ill-informed about the need for their inclusion in research (Freedman, 1998). For example, studies have validated that although many African-American women have heard about the Tuskegee study and its ramifications, this information would not deter them from participating in research (Brown & Topcu, 2003). This suggests that the increased participation of African-American women in research does not face an insurmountable barrier. Their participation should therefore be encouraged, because such research—including studies of the incidence of depressive symptoms in this population of women—would lead to the knowledge that is essential for improving the general health and mental health of these women, and in turn, for improving the health of the community (Freimuth et al., 2001).

There are four main reasons why there is a paucity in research conducted so far on depressive symptoms among African-American women in midlife (Carlson & Chamberlain, 2004; Freedman, 1998; Freimuth et al., 2001). First, the focus of research has been on men rather than women. Second, African-American women lack adequate knowledge about the purposes and possible uses of proposed research projects. Third, they often receive care in institutions that don't participate in research; therefore they are

not easily recruitable as subjects or participants. Fourth, they fear bias in researchers toward African-American women.

In a 15-year-long analysis of clinical trials on depressive symptoms, a study involving 10,000 participants, little empirical data were found regarding outcomes of mental heath care for African Americans, including African-American women in midlife (U. S. Department of Health and Human Services, 1999). For 50% of the participants, neither race nor ethnicity was indicated (Miranda, Nakamur, & Bernal, 2003; U. S. Department of Health and Human Services). For another 7% of the participants, it was difficult to ascertain a specific ethnic group although they specified "nonwhite" membership. No study investigated the efficacy of treatment by race or ethnicity (U. S. Department of Health and Human Services).

For African-American women, mental health services are less available and less accessible (U.S.Department of Health and Human Services, 1999). Thus, these women are less likely to receive essential mental health services; and when they do receive treatment, it is more likely to be of poor quality. Moreover, as noted earlier, African-American women have been underrepresented as participants in mental health research (Miranda et al., 2003). The relationship between depressive symptoms and chronic stress is one area in which research is lacking.

<center>Depressive Symptoms</center>

As emphasized by Gary and Yarandi (2004), it is important to distinguish between depressive symptoms and depression, because their cultural implications are different. Depression is a psychiatric disease that is clinically diagnosable on the basis of a person's past psychiatric history and presenting psychiatric symptoms. On the other

hand, depressive symptoms of a certain duration and level of severity may warrant a diagnosis of depression. The symptoms can be classified as either somatic (physical) or non-somatic (psychological) (Okulate, Olayinka, & Jones, 2004; Tylee & Gandhi, 2005). How these symptoms are manifested depends on cultural identity, expressions of symptoms, and explanation for these symptoms. However, whether the issue is depression or depresssive symptoms, culture determines how people will cope with these and other adverse issues, situations, and problems in their lives (Mills, 2000; Smedley et al., 2002; U. S. Department of Health and Human Services, 2001).

When suffering from depressive symptoms, African-American women's most frequent complaints are somatic in nature (Drayer et al., 2005; Katona et al., 1997; Mills, 2000). These somatic complaints include appetite changes, sleep disturbances, pain, headaches, fatigue or lack of energy, respiratory complaints, feelings of numbness in extremities, episodes of feeling hot and cold, and weight loss (Blazer et al., 1998; Judd & Akiskal, 2000; Tyree & Gandhi, 2005). Because African-American women focus on the somatic rather than depressive symptoms, detection by primary caregivers of the actual condition may be weakened (Schwenk, Coyne, & Fechner-Bates, 1996).

Somatic and Non-somatic Symptoms

Somatic symptoms include changes in appetite and libido, lack of energy, sleep disturbance, nonpainful somatic symptoms (e.g., dizziness, palpitations, dyspnea), and general aches and pains (e.g., headache, backache, musculoskeletal aches, and gastrointestinal disturbances (American Psychiatric Association, 2000; Tyree & Gandhi, 2005). As a precautionary measure and sometimes because caregivers are not aware that these symptoms are depressive symptoms, the identification of physiological disease

disease takes place first or may be the only assessment done (Brown et al., 1999). Thus, depressive symptoms may be suspected only if manifested non-somatically; e.g. as depressed mood, anxiousness, restlessness, irritability, excessive crying, loss of interest or pleasure, poor concentration, feeling of worthlessness or hopelessness, and guilt (American Psychiatric Association, 2000; Tylee et al., 2005).

Primary Care

Because of the stigma attached to depressive symptoms, and because African-American women express psychological distress through somatic symptoms, African-American women seek much of their care for depressive symptoms in the primary care setting (Brown & Schulberg, 1998; Judd et al., 1998; Schwenk & Fechner-Bates, 1995; Snowden & Pingitore, 2002).   Even so, in this setting their depressive symptoms are detected less frequently than those of Caucasian women with depressive symptoms in the same setting (Brown et al., 1996). Hypertension is the only condition that outranks depressive symptoms as the most common chronic condition encountered in primary care, but under-recognition (50% of the time) and misdiagnosis (33% of the time) of depressive symptoms are still quite common (Lecrubier, 2001). Empirical data show that African-American women are more likely than Caucasian women to report suspiciousness or paranoia of the healthcare system and its caregivers (Whaley, 1998). This attitude of wariness, along with the way the African-American woman expresses her depressive symptoms may hinder the recognition of depressive symptoms (Brown et al., 1996; Okwumabua et al., 1997). Understandably, these conditions in the patient-caregiver relationship can adversely affect the quality of this relationship and possibly lead to premature termination of treatment.

Another reason why depressive symptoms in African-American are overlooked pertains to the nature of the primary caregiver's training. To a greater extent than psychiatrists and other mental health practitioners, primary care practitioners have to deal with the interplay between psychological and physiological symptoms (Brown & Palenchar, 2005). The non-typical presentation of depressive symptoms (emphasis on somatic complaints) in an African-American woman in midlife therefore makes it difficult for the healthcare giver to recognize that the patient has depressive symptoms (Brown et al., Dana, 2002; Dixon, 2001; Mills, 2001). Of those African-American women in whom the symptoms are accurately identified, 60% receive treatment but the treatment is seldom tailored to the established diagnosis and is appropriate in only about 5% of the cases (Lecrubier, 2001). These disparities in care underscore the need for accurate identification of depressive symptoms of African-American women, especially those in midlife (Snowden, 2001).

Misdiagnosis

African Americans in general and African-American women in particular, are at greater risk than Caucasian women for misdiagnosis of depressive symptoms (Brown et al., 1996; Leo, Sherry, Michalek, & Pollock, 1997; Neighbors, Trierweiler, Ford, & Muroff, 2003). Traditional mental health professionals have not been sensitive enough to the ways that African Americans perceive, define, and express symptoms of psychological distress (Snowden & Pingitore, 2002; Strakowski, 1995; Zhang & Snowden, 1999). Even though the need for cultural competence has been emphasized in the literature since the 1970s, many providers remain culturally incompetent, to the extent

that they do not perceive the differences in the manifestation of depressive symptoms in people who do not look like them (Brown et al., 1996; Mills & Henretta, 2001).

Depressive symptoms are often misdiagnosed in African-American woman in midlife for the following reasons: (1) Cultural barriers, particularly those where the display of depressive symptoms may be masked by language and behavioral mannerisms that are neither familiar nor acceptable to the healthcare giver. (2) African-American women generally mistrust healthcare givers. Their mistrust is based partly on the perception of not being heard or of being misunderstood by the healthcare giver. Such mistrust on the part of the African-American woman is often perceived as suspiciousness or paranoia, which leads the healthcare provider to misdiagnose the condition. (3) Symptoms not commonly associated with depressive symptoms, e.g. somatic symptoms, may be misdiagnosed as physical ailments (Brown et al., 1996)

Stress and Anxiety

Anxiety

Stress and anxiety are often used interchangeably but they are two separate but related concepts (Endler, 1997; Wong, Cheung, Chan, Ma, & Tang, 2006).Anxiety is a feeling of apprehension and fear that has physical, cognitive, and emotional manifestations. Some symptoms of anxiety are similar to symptoms of stress. The physical symptoms, which are more severe than those of stress, include rapid heart rate, shortness of breath, dizziness, irritability, insomnia, or a range of other physical complaints. Cognitively, one who experiences anxiety symptoms also tends to think in catastrophic terms; i.e., "the 'worst' is going to happen". The emotional hallmark symptoms of anxiety include fear or apprehension. Anxiety disorders tend to be chronic

and unremitting if left untreated. Wong et al. (2006) reported that stress, anxiety, and depressive symptoms are highly correlated. Other studies report that anxiety acts as a moderator in the relationship between stress and depressive symptoms. Because data on anxiety were not collected in the parent study, it could not be analyzed in this secondary analysis.

Stress

Some researchers contend that stress precedes one's experience of anxiety (Endler, 1997; Keane, Taylor, & Penk, 1997; Lesse, 1982). Stress is defined as "the non-specific response of the body to any demand," which requires the person to re-adapt patterns of behavior (Selye, 1998). Some individuals may even experience physical symptoms that are associated with being under stress. These include headaches, irritability or short-temperedness, insomnia, experiences of nausea or other forms of stomach distress.   Stress is a normal reaction but can become a problem when environmental demands exceed the person's ability to cope (Marmot & Wilkinson, 2003). Positive events can be just as stressful as negative events. However, most people are able to cope with such events, which may in fact be temporary.

There has been a lack of consensus in definitionsfor various types of stress, e.g., daily hassles, life events, and chronic stress (Hahn & Smith, 1999). Lazarus mistakenly used the word "chronic" when describing daily hassles. However, some researchers have observed that daily hassles are actually events of low intensity and they occur once or infrequently (Hahn & Smith; Pratt & Barling, 1988). Most recent researchers regard hassles as daily, minor, annoying, clusters of events (Pratt & Barling, 1988). Multiple

hassles can occur in a single day, but each of the events is a hassle because each one occured only once (Hahn & Smith; Pratt & Barling).

Pratt and Barling (1988) defined life events as conditions that occur once or infrequently, but have a high impact and intensity. The only clear definition of acute stress found in the literature is so similar to the definition of life events, that it is hard to differentiate them (Pratt Barling). The researchers defined acute stress as stress of short duration, infrequent, but of high intensity or impact. Chronic stress occurs as an arousal to a perceived threat or when one feels beset by life's events (Hahn & Smith, 1999; Pratt & Barling). Chronic stress is an outcome from a major traumatic event that occurs more than once over a period of time. It results from conditions in the environment that are demanding on an ongoing and relatively unchanging basis (Eckenrode, 1984; Hahn & Smith). According to some researchers chronic stress may be of high or low intensity (Pratt and Barling). According to other researchers, the feature that distinguishes chronic stress from other types of stress is its high frequency of occurrences (Hahn & Smith, 1999; Pratt & Barling, 1988).

<div align="center">Chronic Stress</div>

The intensity and frequency of chronic stress have been the major reasons offered to account not only for the differences in depressive symptoms between African-American women and Caucasian women, but also for the extent to which within-group variability of depressive symptoms may be explained (George & Lynch, 2003). African-American women probably experience more chronic stress than Caucasian women. At equal levels of chronic stress, African-American women could react more intensely than Caucasian women (George & Lynch) George and Lynch argued that according to the

stress exposure hypothesis, African-American women report higher levels of depressive symptoms than Caucasian women because they are exposed to greater stress. In a study by Ulbrich, Warheit, & Zimerman (1989), African-American women were more vulnerable than Caucasian women to depressive symptoms when confronting undesirable life events, but less vulnerable when exposed to chronic economic problems.

<div align="center">Personal Characteristics</div>

The manifestation of depressive symptoms in chronic stress is influenced by personal characteristics (Vitaliano, DeWolfe, Maiuro, Russo, & Katon, 1990). This secondary analysis adopted the view of Marmot & Wilkinson (2003) that personal characteristics are specific influencing factors that interact with the environment. Personal characteristics consist of vulnerabilities, personal resources, social resource, and biological status (Vitaliano et al., 2002). Vulnerabilities include demographic characteristics (age, marital status, and health status. Personal resources include self-perception (self-esteem), socioeconomic status, knowledge about perimenopause and menopause, and decision making while a key social resource is social support. Biological status is indicated as perimenopause or menopause. Vulnerabilities are shaped by the individual's traits and proclivities, suggesting that, in general, they are fixed and less controllable by the environment (Vitaliano et al., 2002. The other personal characteristics—personal and social resources and biological status—are more flexible and more controllable by the environment. The personal characteristics selected for this secondary analysis were restricted to the information obtained in the parent study. According to Lundburg (1999), chronic stress has a direct impact on depressive symptoms, unless personal characteristics minimize the impact (Hauenstein, 1996).

Chronic Stress Framework

Vitaliano's (2002) chronic stress model is a parsimonious and systematic representation of the Transactional (cognitive-phenomenologic) Model of Stress devised by Lazarus & Folkman (1984). A core assumption of this model is that any situation may be assessed as threatening or benign, but no event can be considered inherently stressful. This framework holds that stress depends on subjective and cognitive appraisals that develop from the dynamic interplay (interaction) between person and environment (Lazarus, DeLongis, Folkman, & Gruen, 1985). Chronic stress is considered to be a transactional phenomenon that is dependent on the meaning a person ascribes to the stimulus; i.e. the event or experience. Person-environment transactions are accordingly viewed as chronic stress experiences based first on appraisal by the person and then on the resources at the person's disposal.

Vitaliano (2002) used his model to study the interrelationships among chronic stress, psychophysiology, and coronary heart disease. Both Lazarus' framework and Vitaliano's model highlighted relationships between chronic stress and depressive symptoms (Lazarus &Folkman, 1984; Vitaliano et al., 2002). In Vitaliano's model, depressive symptoms were referred to as psychological distress (See Figure 1). In this model, the vulnerabilities of demographic characteristics and health status were viewed as less changeable, less flexible, and less

Figure 1. Vitaliano's Model of Chronic Stress
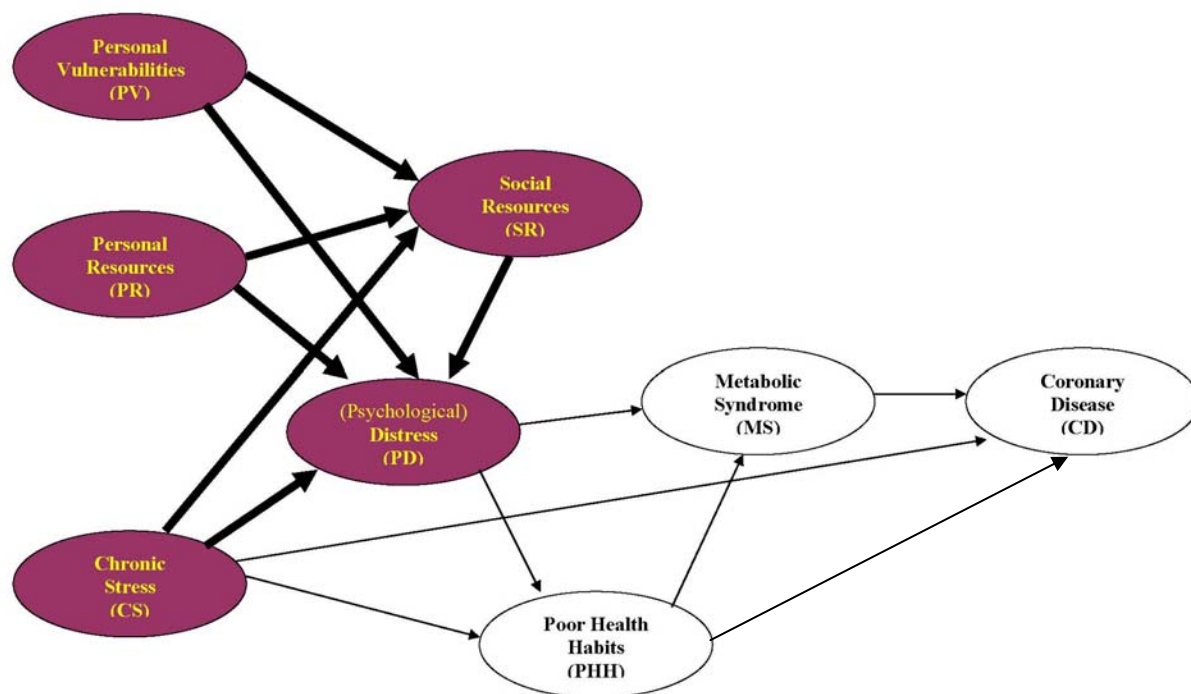
controllable than either personal resources (self-perception, socioeconomic status,

knowledge, and decision making) or social resources (social support). In Vitaliano's

model, one can see how chronic stress, personal resources, and personal vulnerabilities

were related to social resources and these four were related to psychological distress. In

his model, psychological distress was related to poor health habits and metabolic

syndrome, while chronic stress was related to poor health habits, which in turn was

related to heart disease. Finally, poor health habits were related to metabolic syndrome,

which in turn had an indirect effect on coronary disease.

In Vitaliano's model, the antecedents of psychological distress and social

resources were chronic stress, personal resources, and personal vulnerabilities.

Therefore, psychological distress may be an outcome from chronic stress, personal

resources, and personal vulnerabilities, or indirectly through social resources. However,

in this secondary analysis, the relationships among these concepts were interpreted and examined in a different way. In Vitaliano's model, chronic stress was conceptualized as an environmental influence (operationally defined as caring for a spouse with Alzheimer's disease). Vitaliano did not define chronic stress directly but referred to the Transactional Model of Stress designed by Lazarus and Folkman in talking about chronic stress.

Vitaliano's model was chosen and adapted for this secondary analysis for several reasons: (1) his model focused on illness rather than the population; therefore, it can be used with any ethnic group; (2) it is a generic model and thus transcends disease conditions; (3) it is a model that identifies the basic social determinants that influence depressive symptoms; (4) it allows for an almost limitless number of research topics for study; and (5), it can be adapted for future studies. In fact, this study's theoretical framework (see Table 2) is an adaptation of Vitaliano's model of chronic stress. The specific concepts drawn from his model to study are psychological distress, chronic stress, social resources, personal resources and personal vulnerabilities. However, in this study's theoretical framework, psychological distress is inferred from depressive symptoms. Moreover, in the research model, social support was not regarded as an environmental feature, but rather as a personal characteristic because the data reflected perceptions of social support.

Figure 2. Substruction based on theoretical framework of study

Theoretical	Constructs		PERSON		ENVIRONMENT		PSYCHOLOGICAL DISTRESS
System							
	Concepts		Women		Environmental Stress		Mental Illness
Operational	Variables		African-American Women Characteristics		Chronic Stress		Depressive Symptoms
System			Vulnerability Personal Social Biologic				
	Empirical Indicators		Sociodem Q S PQ PIYL MHS		LSQ		BDI-II
			MHS				
			MSI				
			SMSH				
			HRT				
			MI/KQ				
			DMS				
			Sociodem Q				
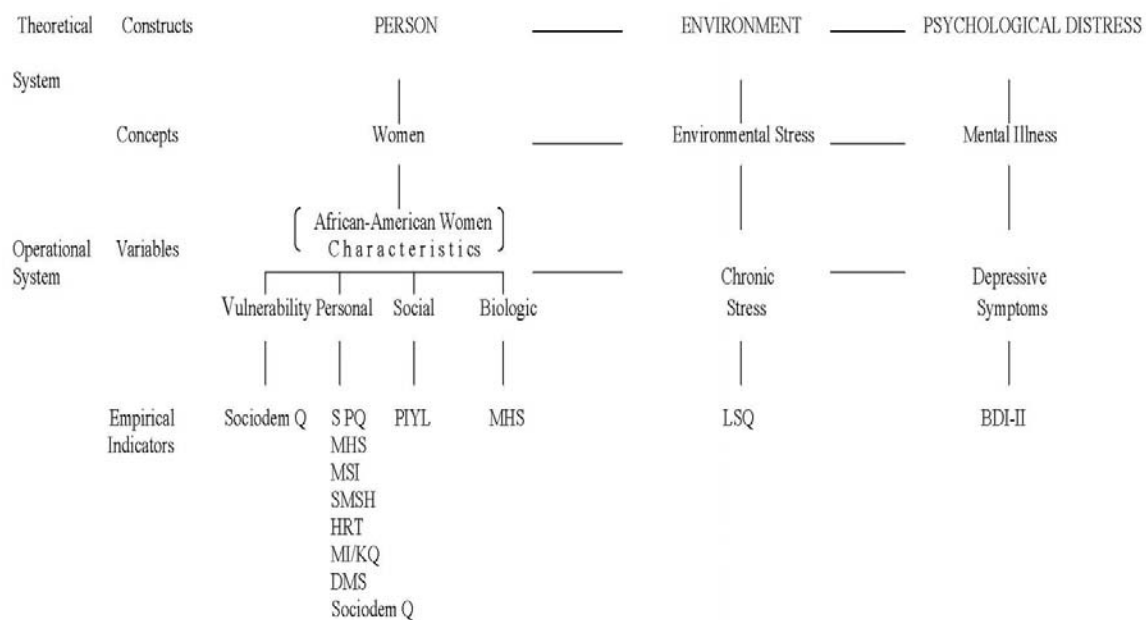
Sociodem Q------- Sociodem Questionnaire
MHS ----------------Menopausal Health Scale
SPQ-----------------Self Perception Questionnaire
MI/KQ-------------Menopause Information/Knowledge Questionnaire
DMS----------------Decision Making Scale
PIYL--------------- People in Your Life Survey
MSI------------------ Menopausal Symptoms Instrument
HRT---------------- Hormone Replacement Therapy Questionnaire
SMSH------------- Symptom Management Self Help
LSQ---------------- Life Stress Questionnaire
BDI-II-------------- Beck Depression Inventory II

Vitaliano's model has been adapted from the perspective of the nursing paradigm.

According to Fawcett (1999) the metaparadigm of nursing is represented by the four

concepts of person, environment, health, and nursing. Person refers to the receiver of

nursing, which includes individuals, families, communities and other groups. The

individuals in this study were African-American women in midlife whose personal

characteristics are operationalized at the measure level. Environment refers not only to

external surroundings, but also to the settings in which nursing takes place. Mental health

refers to the individual's state of psychological condition, and can range from optimal-level psychological wellness to mental illness (Fawcett, 1999). Examining mental health holistically, the Beck Depression Inventory II operationalizes mental health in terms of the absence of depressive symptoms that constitute depression (mental illness). Only three of the four constructs (person, environment, and health) were examined in this study because the study was a descriptive rather than an intervention study. Therefore, nursing actions and activities were not examined. However, the findings from this secondary analysis may suggest possible nursing interventions.

Figure 3. Substruction based on theoretical framework of study
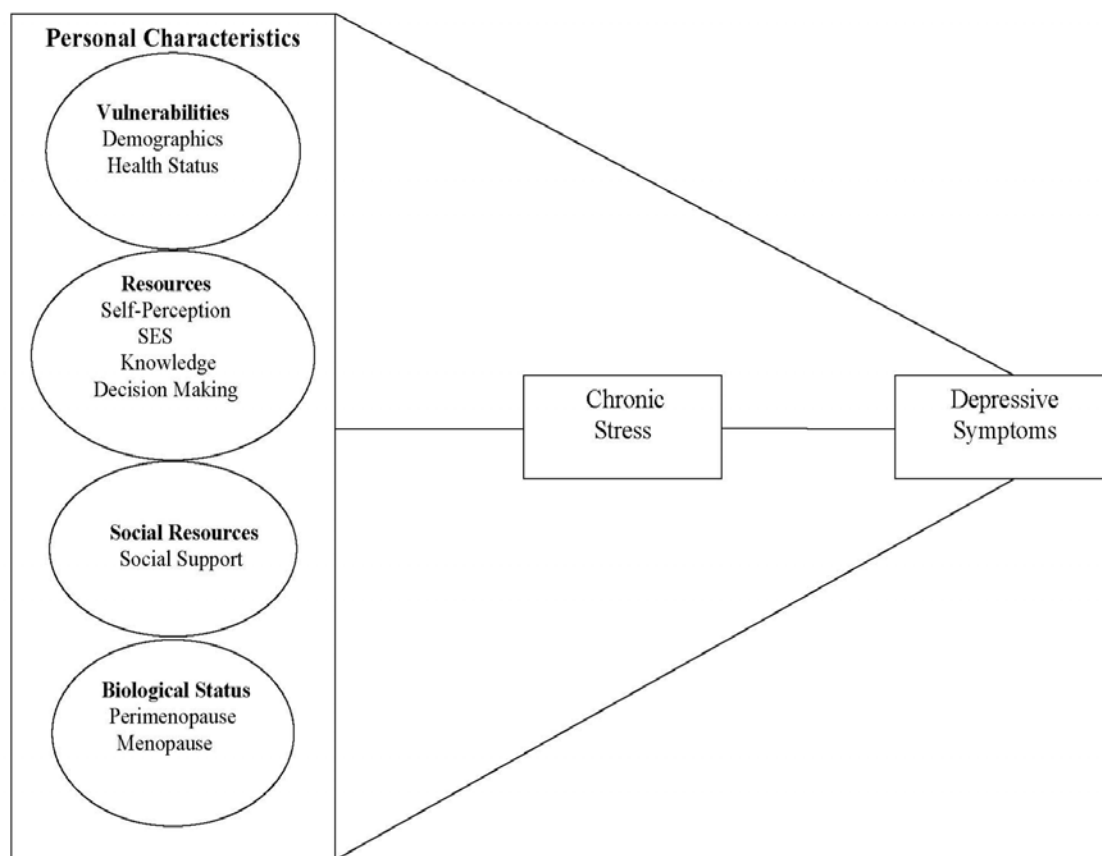
Research Model

This research model was adapted from Vitaliano's (2002) Model of Chronic Stress (see Figure 3). The study's research model was modified to reflect the impact of personal characteristics and chronic stress on the depressive symptoms in African-American women in midlife. Research indicates that interaction between personal characteristics and chronic stress relate to depressive symptoms (George & Lynch, 2003; Lundberg, 1999; Vitaliano et al, 2002). This model suggested a relationship among personal characteristics, chronic stress, and depressive symptoms.

Although there is a dearth of studies, most of which had small sample sizes, there are nevertheless indications that African-American women in midlife have significant depressive symptoms (Freeman et al., 2001). The personal characteristics of African-American women in midlife consist of vulnerabilities, personal and social resources, and biological status. The vulnerabilities comprise demographic characteristics and health status, while self-perception, socioeconomic status, knowledge, and decision making constitute the personal resources and a key social resource was social support; biological status was reflected in perimenopausal and menopausal status.

Research Questions

Vitaliano's (2002) model of chronic stress provides the framework for examining the following research questions.

Research Question 1

What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision making), social resources (social support), biological

status (perimenopause and menopause), and chronic stress in African-American women in midlife?

Research Question 2

What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision making), social resources (social support), biological status (perimenopause and menopause), and depressive symptoms in African-American women in midlife?

Research Question 3

What is the relationship between chronic stress and depressive symptoms in African-American women in midlife?

Definition of Variables

Dependent Variables

Depressive Symptoms

Conceptually, depressive symptoms comprise somatic and non-somatic signs of psychological distress. Somatic symptoms are physical signs that include change in appetite and libido, lack of energy, sleep disturbance, nonpainful somatic symptoms (e.g., dizziness, palpitations, dyspnea), and general aches and pains; e.g., headache, backache, musculoskeletal aches, and gastrointestinal disturbances, (American Psychiatric Association, 2000; Tylee, 2005). Non-somatic symptoms are cognitive and behavioral signs such as depressed mood, anxiousness, restlessness, irritability, excessive crying, loss of interest or pleasure, poor concentration, feeling of worthlessness or hopelessness, and guilt (American Psychiatric Association, 2000; Tylee & Gandhi, 2005). Depressive

symptoms (non-somatic and somatic) were operationally defined by the Beck Depression Inventory II.

Chronic Stress

Chronic stress is an ongoing emotional state that is an outcome of an event that repeats frequently and is of high-intensity (Pratt & Barling, 1988; Thoits, 1995). The operational definition of chronic stress was an event stressor of high intensity that occurred more than once over a period of time. A portion of the Life Stress Questionnaire operationalized chronic stress.

Independent Variables

Personal Characteristics

Personal Characteristics were internal attributes or features that consisted of personal vulnerabilities, personal and social resources, and biological status

Personal Vulnerabilities

Demographic Characteristics

Age.

Age was conceptually defined as midlife between the ages of 39 and 65. Middle age was operationalized by self-identification.

Marital Status.

Marital status was conceptually defined as married, divorced, single (never married), widowed, or separated. It was operationalized by self-identification.

Health Status

Health status was conceptually defined as level of wellness. Health status was operationalized by questions 9 and 10 on the Menopausal Health Survey.

Personal Resources

Self-perception

Self-perception measured the woman's self-esteem and self-outlook. It was operationalized by the use of the Self-Perception Questionnaire

Socioeconomic Status (SES*)*

SES referred to a person's or group's place in the configuration of society, and which determined the level of access to power, privilege, and needed and desirable resources (Williams, Noel, Cordes, Ramirez, & Pignone. (2002). It consisted of the following categories:

Employment Status.

Employment status was conceptually defined as work that one was paid to do. It was operationalized by the following categories: employed fulltime, employed part-time, not employed, and other; and was chosen by self-identification.

Income Status.

Income wass conceptually defined as total household income (before taxes) earned during the year. It was operationalized in the following categories: under $10,000; $10,000 – $14, 999; $15,000 - $19,999; $20,000 – $24,999; $25,000 - $29,999; $30,000 - $34, 999; $35,000 - $39,999; $40, 000 – 49,999; $50,000- $99,999; and $100,000 and above. A category was chosen by each respondent.

Educational Status.

Education was conceptually defined by the level of formal learning received. Operationally it was defined by the highest grade or class one completed in school and was categorized as follows: Less than high school graduation, high school graduate

(included G.E.D.), greater than high school but no degree, technical trade/community college degree, bachelor's degree, master's degree, Ph.D./Professional degree or other. A category was chosen by each respondent.

Knowledge

Knowledge about diseases.

Knowledge about diseases was conceptually defined as how likely the participant thought she would get a disease. Operationally it was defined by answering questions 29 through 33 of the Hormone Replacement Therapy subscale of the Menopausal Health Survey (Holmes- Rover, Padonu, G. et al., 1996; Rothert et al., 1997).

Knowledge about menopausal symptoms.

Knowledge about menopausal symptoms was conceptually defined as how bothersome were the participant's menopausal symptoms. Operationally it was defined by answering questions 53 through 64 of the Menopausal Symptoms Subscale of the Menopausal Health Survey (Holmes- Rover, Padonu, G. et al., 1996; Rothert et al., 1997).

Knowledge about the menopausal process.

Knowledge about the menopausal process was conceptually defined as the participant's general knowledge about the process of menopause. Operationally it was defined by answering questions 75 through 81 of the Menopausal Information /Knowledge Subscale of the Menopausal Health Survey (Holmes- Rover, Padonu, G. et al., 1996; Rothert et al., 1997).

Decision Making

Decision Making was defined as a participant's experienced personal problems related to menopause. The Decision Making subscale (questions 34 through 43) of the Menopausal Health Survey operationalized decision making (Holmes- Rover, Padonu, G. et al., 1996; Holmes- Rover, Padonu, G. et al., 1996).

<u>*Social Resources*</u>

Social Support

Social support referred to interpersonal interactions and included one or more of the following: the manifestation of positive influence that one person expresses toward another; the confirmation or approval of the behaviors, perceptions, or expressed views of another; and finally, the bestowal of symbolic or material aid to another. Social support was operationalized by the People in Your Life Questionnaire (Furukawa & Shibayama, 1997; Henderson, Duncan-Jones, Byrne, & Scott, 1980; Marziali, 1987).

<u>*Biological Status*</u>

Perimenopause

Perimenopause represented a gradual period of transition to menopause. It was characterized by changes in ovarian function, which preceded the final menses from between 2 to 8 years. In the U.S., the median age for the onset of perimenopause is 47.5 years. The operational definition for perimenopause was that time *before* the permanent cessation of menses in which a cycle can occur as reported by each respondent.

Menopause

Menopause is the permanent cessation of menses, and is a discrete point in time. Menopause was determined retrospectively, specifically 12 months after the last cycle

had occurred. For the majority of women, menopause occurred between the ages of 45 and 54 years with the average age being 51.4 years old. There is a Gaussian distribution ranging from 40 to 58 years; however, some women reach menopause in their 30s and a few in their 60s. The definition for menopause is operationalized by the Menopausal Health Survey (Holmes- Rover, Padonu, G. et al., 1996; Holmes- Rover, Padonu, G. et al., 1996), which obtained data about women's knowledge and perception of and their attitude about menopause.

<div align="center">Significance to Nursing</div>

The hypothesized link between personal characteristics, chronic stress, and depressive symptoms pervades lay discourse, but very little empirical data supports this belief particularly in African-American women in midlife. This secondary analysis was conducted to provide evidence-based findings about how personal characteristics and chronic stress influence depressive symptoms in African-American women in midlife, and thereby allow for an understanding based on substantial data. Very few studies have been undertaken on African-American women during midlife; and even fewer studies have researched African-American women in midlife who may likely experience depressive symptoms. Paradoxically, although the literature reveals that these women view menopause as a natural part of life, an increase in depressive symptoms has been documented in African-American women during both perimenopause and menopause. This paradox suggests not only that African-American women in midlife need greater understanding about midlife in relation to depressive symptoms, but also that more research is needed to substantiate and explain why depressive symptoms increase in African-American women during this stage of their lives. Moreover, further research

might determine, in the environment of African-American women, what factors may act as buffers to protect them from developing debilitating depressive symptoms. The findings from this study were expected to lay a foundation for future research, especially in the area of evidence-based intervention studies.

Although chronic stress and depressive symptoms are conceptually and experientially related, each African-American woman experiences them uniquely. Yet, few studies have been conducted with sufficient numbers of African-American women, especially those in midlife, to discern this uniqueness within the cultural dynamic that governs these women's lives. On the contrary, most research so far has entailed studies of women who are Caucasian, well-educated, and middle class. This secondary analysis was conducted to fill this gap in current research, by providing a fresh and enlarged perspective. As a result, the study findings were expected to increase the general body of knowledge within the discipline of nursing.

Chapter Two reviews the relevant scientific literature. Its purpose is to inform the reader about the current status of the scientific literature, and to identify gaps that exist, which, in part, have lead to the research questions that were examined in this secondary analysis.

CHAPTER 2

Literature Review

This secondary analysis examined personal characteristics and chronic stress related to depressive symptoms in African-American women in midlife. This chapter presents a comprehensive review of the literature regarding the variables examined in this secondary analysis—depressive symptoms, chronic stress, and personal characteristics— as they relate to African- American women. This review examined (1) theories of depressive symptoms, (2) African-American women in midlife, (3) depressive symptoms in African-American women in midlife, (4) prevalent non-somatic and somatic expressions of depressive symptoms in these women, (5) chronic stress in relation to depressive symptoms in African-American women in midlife, (6) personal characteristics related to chronic stress and depressive symptoms in these women, and (7) gaps in knowledge.

Theories of Depressive Symptoms

It is broadly accepted that depressive symptoms are caused by a combination of three factors: sociological (environmental), biological (genetic), and psychological. However, what is most important is that depressive symptoms are created by ways in which these factors interact. Since the late 19th century, four main theories have provided the dominant frameworks from which our understanding of depressive symptoms has been derived.

Psychoanalytic/Psychodynamic Theories of Depressive Symptoms

Sigmund Freud developed psychoanalytic theory in the late 19th and early 20th century. It was Freud who first postulated that depressive symptoms arose as a reaction to

loss (Garcia-Toro & Aguirre, 2007). Other researchers such as Alfred Adler, John Bowlby, Erik Erikson, Anna Freud, Erich Fromm, Carl Jung, Melanie Klein, and Harry Stack Sullivan joined Freud in viewing separation from the central figure of attachment, followed by hostility, as the primary cause of depressive symptoms (Marmer, 2003; Pasacreta, 2004). According to (Dubovsky (2003), loss represented the lived event that is most reliably linked to depressive symptoms. Central to psychoanalytic theory are the constructs of the conscious; i.e. awareness of situations, thoughts, and feelings, which can then be recalled; and the unconscious; i.e. thoughts and feelings of which one is unaware, and one does not remember (Mohr, 2006; Videbeck, 2006). However, the psychoanalytic/psychodynamic theories failed to explore the multifaceted nature of depressive symptoms. Furthermore, there is little empirical support for these theories as explanations of depressive symptoms (Pasacreta).

Behavioral/Cognitive Theories of Depressive Symptoms

Behavioral theories emerged in the early 20th century. They were based on the belief that unlike interpretations made by psychoanalysts that could not be validated, only the study of direct, observable behavior and the stimuli and reinforcing conditions, which control behavior, could provide a basis for formulating scientific principles of human behavior (Mohr, 2006).   Unlike psychoanalysis, behavioral and cognitive theorists do not believe that having insight necessarily means that behavior would change. These theorists include Ivan Pavlov, John Watson, Edward Thorndike, and B. F. Skinner (Boyd, 2005; Kalin, 1991; Mohr; Videback, 2006). Although there are many versions of behavioral theories, they are all based on the premise that there is a relationship between learning and behavior (Gary and Kavanagh, 1991; Mohr, 2006). Behavioral theorists

postulate that interpersonal rewards influence behavior, and that depressive symptoms are caused by the lack of reinforcement for adaptive social behaviors. However, it has not been empirically demonstrated that behavioral factors alone create or intensify depressive symptoms.

Cognitive theory, as represented, for example, in the views of Albert Bandura, Aaron T. Beck, and Albert Ellis, is a modification of behavioral theory. Cognitive theory is based on the premise that knowledge and beliefs are primary determinants of mood and behavior. It holds that negative thinking is a cause, not a result, of depressive symtoms; and that distorted thinking plays a mediating role in determining affective state (Pasacreta, 2004). The biological and cognitive theories of depression are the most widely tested and accepted theoretical views (Pasacreta). However, because depressive symptoms are so complex and multifaceted, diverse frames of references continue to be investigated so that knowledge can increase.

Biological/Genetic Theories of Depressive Symptoms

Great strides have been made in the last 30 years in understanding the orgin of depressive symptoms (Mohr, 2006; Price, Adams, & Coyle, 2000)   Researchers in biology and genetics assert that depressive symptoms, as well as other disorders of psychological distress, should be considered brain disorders (Insel & Quirion, 2005). In addition, they assert that because of the adverse impact of mental illness, particularly depressive symptoms, on public health, it is important to re-establish the biological origin of mental illness and most particularly depressive symptoms (Insel & Quirion; Martin, 2002; Price et al,). The biological studies of aphasia by Paul Broca in 1861 and Carl Wernicke in 1874 convinced a number of scientists including Freud, Joseph Babinski,

Emil Kraepelin, James Oppenheim, and Alois Alzheimer that the brain might be the locus of depressive symptoms (Price et al.). However, after World War II psychoanalysis gained popularity as the gap between neurology and psychiatry grew wider. The roots of mental illness, especially depressive symptoms, within biology were abandoned and knowledge about the brain as the organ of cognition and behavior became irrelevant until the 1960s when the search for biological roots began to resurface (Price et al.). In the last two decades, neuroscience has developed a common foundation and language for both itself and psychiatry (Price et al,). Several advances suggest that psychiatry and neurology may be better combined as one discipline rather than remain as two separate, parallel entities (Price et al.). These advances include the development of modern imaging technology to view the brain; acknowledging the inability to separate the mind and the brain; the brain's self-evident flexibility; the redefinition of mental illness, including depressive symptoms, as diseases based in biology and genetics; and the exploration of molecular biology (Insel & Quirion; Price et al.). Thus, if depressive symptoms originate in the brain, then logically it would follow that the neurosciences should be a part of psychiatry (Insel & Quirion; Martin; Price et al.).

Nursing Theories of Depressive Symptoms

Several nursing theories are germane to depressive symptoms. Influenced by Sullivan, Hildegarde Peplau believed that the environment was essential to human development (Peplau, 1992). She developed the first theory of psychiatric nursing, and her focus was on interpersonal relationships. Ida Jean Orlando researched patients on medical-surgical floors, and she asserted that a nursing situation involved the behavior of the patient, the reaction of the nurse, and anything that does not relieve the distress of the

patient (Boyd, 2005; Potter & Bockenhauer, 2000). Orlando's focus emphasized that the nurse should first validate the patient's distress before implementing an intervention to alleviate it (Boyd). Her theory, like Peplau's, emphasized interpersonal communication. Jean Watson's theory emphasized caring as the underpinning of nursing, and this includes caring for those who seek assistance from nurses for their depressive symptoms (Fawett, 2002; McCance, McKenna & Boore, 1999; Rafael, 2000; Ryan, 2005).

Imogene King's Theory of Goal Attainment envisioned the interactions of individuals, interpersonal systems, and social systems.which lead to goal attainment and evidence-based practice (Hanucharurnkul, 1989; King, 2007). King believed that people interact with the environment and that their perceptions of those interactions influence their reactions as well as the interactions themselves (Boyd, 2005; King, 1999). Sister Callista Roy's Adaptation Model is derived from adaptation-level theory, systems theory, and the humanistic view of values (Fawcett, 2002; Tiedeman). Roy reasoned that people are adaptive systems responding to the input of environmental stimuli, which influence a person's behavior. The person is comprised holistically of related units of input (changing environment), control processes (personal characteristics), and outputs (Phillips, 2006). Dorothea Orem's Theory of Self-Care can be used comprehensively as an explanation of depressive symptoms.because the theory emphasizes promoting independence and self-care activities (Boyd; Campbell & Soeken, 1999; Denyes, Orem, & Bekel, 2001).

African-American Women in Midlife

Description

Women 40 to 60 years old are considered to be in midlife. Approximately 38 million (1 in 4) women in the United States belong to this age group (Gary et al, 2001; Glazer et al., 2002; Spraggins, 2006). Until recently, midlife had been viewed as a transitional period rather than a distinct phase of the lifespan (Stewart & Ostrove, 1998; Tangri, Thomas, Mednick, & Lee, 2003). Despite the large population of women who are in midlife, little empirical research has been undertaken on their psychological well-being, and such research is almost nonexistent with African-American women in midlife (Gary, et al.; Glazer et al.; Sampselle et al., 2002; Tangri et al.; Vandewater et al., 1997). Of the women in midlife, 22% to 28% report significant depressive symptoms (Harlow et al., 1999; Woods & Mitchell, 1997). Depressive symptoms most commonly exhibited by these women are tiredness, lack of energy, irritability, depressed mood, nervous tension, headaches, sleep disturbances, aches and pains in the joints, and backaches (Gary, et al.; Glazer et al; Woods and Mitchell). Also, previous episodes of depressive symptoms have been found to increase vulnerability to similar depressive episodes during the midlife years (Bromberger et al.; Harlow, Cramer, & Annis, 1995).

Although chronic stress foreshadows depressive symptoms in African-American women in midlife, it is also likely that chronic stress impacts women's lives directly (Glazer, et al. 2002; Tangri et al., 2003). Several studies indicate that African-American women in midlife are potentially at risk for increased depressive symptoms (Bromberger et al., 2005; Gary and Yarandi, 2004). However, few studies have been undertaken on how personal characteristics either enhance or compromise the psychological well-being

of midlife African-American women, or how chronic stress might impact depressive symptoms in these women (Avis & McKinlay, 1995; Glazer, et al.; Tangri et al.; Sampselle et al., 2002). The most striking gap in the research literature has been the lack of empirical data on the relationship between depressive symptoms and chronic stress in African American women in midlife (Tangri et al.).

Specific Studies of African-American Women in Midlife

Tangri, Thomas, Mednick, and Lee, 2003

Purpose, sample size, and design. The researchers defined psychological well-being in terms of life satisfaction, which they described as a function of relationships, situational conditions, aspirations (what one wants), and accomplishments (what one has achieved). The researchers explored factors that impact satisfaction or dissatisfaction for three groups of age-specific, college-educated African-American women in midlife. The mean age of the 202 participants, who had graduated from Howard University (Cohort I, class of 1958-1959, n = 48; Cohort II, class of 1963-1964, n = 61; Cohort III, class of 1967-1968, n = 93), was 51 years. A pilot study was conducted with 49 African-American females who had graduated from various Black colleges and universities. After the pilot questionnaries were completed, focus groups were held with these same African-American female college graduates. Changes were made to the questionnaire based on information obtained from the pilot study and focus groups. The variables and their measures were *psychological distress* (Symptom Checklist, 0.82), *physical well-being* (a 3-item questionnaire in which participants rated their health status, alpha – 0.77); *life satisfaction* (1-item question used extensively in national survey including factors related to satisfaction during midlife, no alpha), *work satisfaction* (1-item question used

extensively in national survey, no alpha), *personal satisfaction* (31-item satisfaction measures, alpha – 0.79); *role quality* (14-item measure that compared personal and role characteristics, alpha – 0.77); *cohort* (taken from the participants' graduating class as either Cohort I - class of 1958, 59; Cohort II - class of 1963, 64; and Cohort III - class of 1967, 68 matched with cohorts of other longitudinal studies of college-educated women who had attended Mills College, Radcliffe College and the University of Michigan, respectively); *household tasks burdens* (17-item measure adapted from those used in other studies, scored on a 3-point scale, alpha – 0.81), and *personal control* (Mastery Scale, alpha – 0.60). Achievement and autonomy (a pool of items selected on an a priori basis) were subjected to confirmatory factor analysis to reduce the number of highly correlated items into the two factors of achievement and autonomy. Seven items loaded on the achievement factor and 6 items loaded on the autonomy factor while none of the items loaded on both factors; alpha for achievement index was – 0.68 while alpha for the autonomy index was 0.64. Once an eligible participant was identified, the questionnaire was mailed to them, with a returned rate of 56%.

Analysis. Descriptive analysis was done on all study variables. Zero-order correlations were done among the 3 dependent variables of life satisfaction, work satisfaction, and personal satisfaction. Stepwise multiple regression was done to determine the best predictor variables of the 3 dependent variables of life satisfaction, work satisfaction, and personal satisfaction.

Findings. The participants in this study were highly satisfied with their worklife and personal life and generally satisfied with how their life had turned out so far. The participants reported low levels of psychological distress despite high levels of household

burdens and other life stresses, e. g. divorce and single parenting (most participants were unmarried). Overall life satisfaction was best predicted by the women's perceptions of personal control, role quality, household burden, and their cohort status. This indicated that both personal and situational characteristics were important determinants of the participants' satifaction. Personal satisfaction was related to women's perception of their household burden and their physical well-being. Those who reported higher personal satisfaction reported less household burden. Those with higher levels of household burden reported more distress symptoms. Personal control and role quality contributed significantly to the participants' reported work satisfaction. Personal control and role quality contributed significantly to work satisfaction. These findings are consistent with research on Caucasian women in midlife and are consistent with other findings (Stewart and Ostrove, 1998; Vandewater et al., 1997).

Limitations. Reliability values were listed for all of the measures, but no validity values were given for any of the measures. This is a cross-sectional study done with predictor variables and outcome variables both of which are time varying. The findings in this study of college-educated, African-American women in midlife cannot be generalized to all African-American women in midlife.

Sampselle, Harris, Sioban, Harlow, and Sowers, 2002.

Purpose, sample size and design. The purposes of this qualitative study were to (1) explore the meanings that African-American and Caucasian women attached to the experiences they have in midlife, and (2) compare the perspectives on midlife aging and menopause of African-American and Caucasian women. Women (n = 30) between the ages of 35 and 60 years participated in focus-group interviews (2 sessions each for 2

hours) which consisted of two groups divided by perimenopausal and menopausal status of African-American women who lived in a midwestern town with a population of 25,000 and two groups of Caucasian women who lived in a Midwestern rural community of 7,500 divided by perimenopausal and menopausal status. The mean age of the perimenopausal groups was 43

(35-51) years and for the postmenopausal groups the mean age was 51 (44-60) years. Perimenopause was defined as menses in the previous three months with no increase in irregularity, menstrual bleeding in the previous three months with increasing irregularity, and menses in the previous 12 months but not in the previous three months.

Postmenopause was defined as having no menstrual bleeding in the previous 12 months (not due to medication, pregnancy, severe weight loss, hysterectomy, or oophorectomy).

Socioeconomic status was not a confounder of race because both racial groups consisted of working middle-class women. A semi-structured interview guide helped to facilitate discussion. The broad questions used were as follows:

1. What are the major periods/phases/stages in a woman's life?

2. Are you familiar with the terms "menopause and midlife change"? What comes to mind when you hear these words?

3. How does your experience differ from what you have heard about this life change

period from others?

*Data Analysis. Q*ualitative analysis was used to examine the content. Units of analysis consisted of the sentences or groups of sentences that expressed a concept of interest. Transcripts were coded and verified against permitted audiotapes. The

transscipts were reviewed independently by one of the researchers and two research assistants. The level of coding agreement between coders ranged from 71% to 94% across categories, with a mean agreement of 84%. Emerging themes were identifiied.

Findings. All groups consistently identified childbearing, childrearing, and child launching as the major stages in a woman's life. Their comments regarding midlife transition fit into 4 categories: recognizing personal mortality, changing family relationships, increasing authenticity, and revaluing life experiences. The lessening of responsibilities for children appeared to give women more time for self-appraisal and evaluation of life experiences. Women in all the focus groups attributed their enhanced development to getting older and gaining maturity. They attributed their psychological well-being to these attributes. Menopause cessation was mentioned only once in each of three groups and only once in the fourth group, and then only in reference to how it impacted somone else. Menopause was never identified as a life marker. When asked about menopause, the African-American women tended to describe it as a natural event and a welcomed part of life. They tended not to link menopause with physical signs of aging. Although the African-Americans were experiencing physical signs of aging, their attitudes were more positive about aging. Caucasian women, in contrast, tended to experience menopause as evidence of aging and talked of the difficulty they had dealing with the physical evidence of aging.

Depressive Symptoms in African American Women in Midlife

Description

Researchers have postulated that African-American women are at increased risk for depressive symptoms, yet their prevalence rates are no more than, and sometimes

reported as less than, the prevalence rates for Caucasian women (Kohn and Hudson, 2002). The literature is sparse and empirical data are conflicting regarding the extent of depressive symptoms experienced by African-American women in midlife (Beck, Steer, & Brown, 1996; Freeman et al, 2001; Gazmararian et al., 1995; Miller et al., 2004; U.S.Department of Health and Human Services, 2001; Warheit, Holzer, & Schwab, 1973; Warren, 1995). Some researchers have reported that these women experienced more depressive symptoms than Caucasian women (Freeman et al.; Gazmararian et al.; Miller et al.; U.S. Department of Health and Human Services; Warheit et al.; Warren). One study found that the prevalence of depressive symptoms of African-American women in midlife was more than three times that of Caucasian women (Morrison, Ten Have, Freeman, Sammel, & Grisso, 2001). Other researchers reported that there were no differences in the reported depressive symptoms between these women and Caucasian women (Bromberger et al., 2005; Freeman, Maurin, Garcia-Espanna, & Berlin, 2001.). Other researchers have stated that African-American women in midlife experienced fewer depressive symptoms than Caucasian women in midlife (Kessler et al, 1994.). It is not clear what reasons underlie these group differences (Myers et al., 2002). According to other researchers, the reports of lower rates of depressive symptoms in African-American women in midlife may be related to reported somatic symptoms, which resulted in physicians seeking more physiological explanations for these symptoms rather than assessing for depressive symptoms (Leo, Sherry, & Jones, 1998; Okwumabua et al., 1997). Several speculations have been offered to explain group differences in depressive symptoms experienced by African-American women. One explanation asserts that the reasons for group differences included the expression of depressive symptoms (somatic

and non-somatic symptoms); cultural competence, including appropriate assessment of presenting symptoms and misdiagnosis of symptoms; and principal access to primary care (Brown & Topcu, 2003; Brown et al., 1996; LaVeist, Bowie, & Cooley-Quille, 2000; Mezzich, 1999; New Freedom Commission on Mental Health; U.S.Department of Health and Human Services, 2001; Whaley, 1998).

Somatic and Non-Somatic Depressive Symptoms

Depressive symptoms are categorized as non-somatic and somatic (Kalin, Dawson, & Kavanaugh, 1991), and are delineated as (1) mood changes, (2) cognitive changes, (3) behavioral changes, (4) motivational changes, and (5) physical changes. The mood, cognitive, behavioral, and motivational changes represent non-somatic (psychological) depressive symptoms whereas the physical changes represent somatic depressive symptoms (Kalin et al., 1991). Mood changes are manifested as anhedonia, depressed mood, emptiness, lack of humor, sadness, low self-esteem, and crying spells. Cognitive changes are manifested as difficulty in concentrating, problems making decisions, fear of abandonment, and negative or hopeless thoughts. The main behavioral changes are manifested in social withdrawal and isolation, and irritability. Motivational changes are revealed in passivity, immobility, becoming withdrawn or exhibiting escapism (Kalin, et al.). The ultimate form of escapism is suicidal ideation, attempts at suicide, or both. Physical changes include sleep disturbance, psychomotor agitation, loss of energy with or without fatigue, psychomotor retardation, change in appetite leading to weight loss or gain, decreased sexual drive, anxiety, and physical pain (Kalin et al.).

Much thinking regarding the manifestations of depressive symptoms is distorted or imprecise. For instance, somatic symptoms are more difficult to recognize as

depressive symptoms when presented alone, without accompanying non-somatic (psychological) symptoms (Brown et al., 1996; Tylee and Gandhi, 2005). In addition, some studies found that African-American women in midlife tended to report more somatic symptoms than other depressive symptoms (Adebimpe, 1981; Ayalon & Young, 2003; Brown et al., 1996; Brown & Tofcu, 2003; Coyne, Schwenk, & Fechner-Bates, 1995; Gary, 2004; Tylee and Gandhi, 2005; Zhang & Snowden, 1999). The most common somatic symptoms reported in these studies were sleep disturbances, including insomnia, fatigue or lack of energy, weight loss, change in appetite, loss of libido, and general aches and pains. One group of researchers suggested that somatic symptoms should be considered secondary symptoms rather than part of the core group of symptoms considered for diagnosing and treating depressive symptoms (Okulate et al., 2004). However, more recent research findings suggest that evaluation of African-American women in midlife for depressive symptoms should include an assessment of somatic symptoms rather than of mood or cognitive symptoms, because in these women the symptoms may be culturally expressed (Das, Olfson, McCurtis, & Weissman, 2006).

Cultural Competence

Culture affects the manifestation of depressive symptoms (Kirmayer & Young, 1998). Just as specific beliefs and behavior are ingrained in every culture, so are symptoms integrated into the concept of illness (Delea, 2004). According to Delea, most cultures hold the belief that symptoms are the manifestation of illness. In light of this fact, professional caregivers' lack of cultural competence in treating African-American women in midlife is appalling (Mezzich et al., 1999; New Freedom Commission on Mental Health, 2003; U.S.Department of Health and Human Services, 2001). Even

though the need for cultural competence has been emphasized in the literature since the 1970s, the cultural competence of many physicians remains inadequate; and they are therefore unaware of the differences in the manifestation of depressive symptoms in people—particularly African-American women—who do not look like them (Bazargan, Bazargan, & King, 2001; Brown et al., 1996; Mills, 2001). To the extent that somatic symptoms reflect the cultural expression of depressive symptoms, it behooves physicians to develop effective strategies to address the care of African-American women in midlife (Kirmayer and Young). The lack of cultural competence has resulted in inaccurate and inappropriate assessment of depressive symptoms in African-American women in midlife (Borowsky et al., 2000; Kirmayer & Young).

Assessment

Depressive symptoms are often overlooked in the assessment of African-American woman in midlife for two main reasons: (1) cultural barriers, particularly those in which the display of depressive symptoms may be masked by language and behavioral mannerisms which are neither familiar nor acceptable to the physician; and (2) contributing socioeconomic factors such as poverty, lack of education, housing, and transportation (Brown et al. 1996).

African-American women in midlife with depressive symptoms are reported to have significantly more somatic symptoms at the time of assessment than do Caucasian women in midlife. For instance, they suffer sleep disturbance, appetite disturbance, aches, pain, and weight gain or weight loss (Brown et al., 1996; Freeman et al., 2001; Tylee and Gandhi, 2005). Assessment and recognition of depressive symptoms may be difficult because of the predominance of somatic complaints in the presentation of African-

American woman in midlife, and because of the physician's lack of cultural competence (Brown et al., 1996; Okwumabua et al., 1997). Often, because of bias or a lack of cultural competence, physicians rely upon indications of severe psychological distress or severely impaired cognition rather than somatic symptoms to assess depressive symptoms in African-American women in midlife (Smedley et al., 2002; Snowden, 2003). Reliance on such inappropriate diagnostic criteria may result in physicians failing to treat this population by providing appropriate and timely mental health care. Therefore, in order to avoid misdiagnosis, a good rule for a physician to follow is to remember that the greater the number of somatic symptoms in African-American women in midlife, the more likely it is that depressive symptoms are being manifested (Kroenke, Jackson, & Chamberlin, 1997).

Misdiagnosis

African-American women in general, and particularly those in midlife, are more likely than Caucasian women to have their depressive symptoms misdiagnosed (Brown et al., 1996; Leo et al., 1997; Neighbors et al., 2003). Primary care physicians should recognize the variation in the presentation of depressive symptoms in populations such as African-American women in midlife. One study found that physicians were less likely to identify depressive symptoms in these women than in Caucasian women (Borowsky et al., 2000). Practitioners who provide mental health services and primary care are unsure of the culturally specific ways in which African-American women in midlife recognize, define, and express depressive symptoms (Snowden and Pingitore, 2002; Zhang and Snowden, 1999; Strakowski et al., 1995). It has been hypothesized that misdiagnosis

leads to poorer treatment outcomes than do correct diagnosis and prompt appropriate treatment for the patient (Neighbors, 1997).

Depressive symptoms will also often be misdiagnosed because of the midlife African-American woman's mistrust of the healthcare system or her conspicuous guardedness of her own depressive symptoms. The physician attempting to diagnose her condition may regard such behavior as suspiciousness or paranoia, thereby misdiagnosing the patient's actual condition (Brown et al., 1996). In addition, African-American women's own stereotypes about healthcare providers adversely affect their interaction with these caregivers, thus further obstructing the proper route to needed care (Bogart, 2001).

<p align="center">*Primary Care*</p>

It is the tendency of African-American women in midlife to attribute somatic symtoms to non-psychological etiology and then to proceed to primary care to have them addressed (Bower, West, Tylee, &Hann, 2000; Kessler, Lloyd, Lewis, & Grey, 1999; Parker & Parker, 2003). Her culture, past experience, and social conditions dictate her perception of somatic etiology (Bower et al., 2000). These same factors influence her presentation of symptoms and the way she goes about seeking help to alleviate them (Bower et al., Parker and Parker).

Because of the stigma associated with having depressive symptoms, African-American women seek much of their care in primary care settings, which are compatible not only with the women's expression of these symptoms through somatic complaints, but also with their desire to avoid mental health facilities (Brown & Schulberg., 1998; Leo et al., 1998; Schwenk and Fechner-Bates, 1995; Snowden and Pingitore, 2002).

However, both the African-American woman in midlife and the physician whom she consults both bring into the encounter their respective values, beliefs, attitudes, and expectations, that may differ markedly (Gallo, Bogner, Morles, & Ford, 2005. Such conflict may lead to misdiagnosis of the presenting symptoms.

Somatic symptoms are usually the main complaints of African-American women in midlife in the primary care setting (Tylee and Gandhi, 2005). The language used by physicians to describe the somatic expression of depressive symptoms is puzzling and contradictory (Tylee and Gandhi). Researchers report that somatic symptoms have been referred to as somatized symptoms, painful symptoms, chronic painful somatic symptoms, medically unexplained symptoms, physical symptoms, psychosomatic symptoms, somatization, somatoform symptoms, and masked depression (Tylee and Gandhi). Somatic symptoms associated with depressive symptoms are distinguished from somatoform disorders, hypochondriasis, and somatization disorder. When somatic symptoms are reported in primary care, it is still essential that the physician rule out organic pathology. Studies show that most somatic symptoms cannot be linked to an identifiable organic etiology (16% of 1000 cases in one study); and it is logical to then rule out a psychological cause (Kroenke & Mangelsdorff, 1989; Khan, Khan, Harezlak, Tu, Kroenke, 2003.

Specific Studies of Depressive Symptoms of African-American Women in Midlife

Woods, 1997

Purpose, sample, and design. The purpose of this secondary analysis was to test a new multidimensional model of depressed mood experienced in women in midlife using three pathways—menopausal transition, stressful life events, and health status—from

data drawn from a larger 3-year study. The study used a longitudinal design (2 time

points over 12 months) and a convenience sample (n = 337; 8% of African American

descent and 8% of Asian American descent) of women between 35 and 55 years old).

The women had a median education of 15 years with a range from 10th grade to the

completion of a graduate degree. Confirmatory factor analysis was used to assess the

relationship between each domain and its indicators by way of the domain's hypothesized

pathway to depressed mood (See Figure 4).

The domains and their indicators are menopausal changes (change in days between

menses, change in regularity), socialization for midlife (attitudes toward menopause,

attitudes toward aging), health status (health rating, health rating, health perception,

chronic illnesses), vasomotor symptoms (hot flashes, night sweats), and stressful life

context (negative life events score). The indicators for depressed mood outcome

Figure 4. Hypothesized causal model of depressed mood among midlife women.
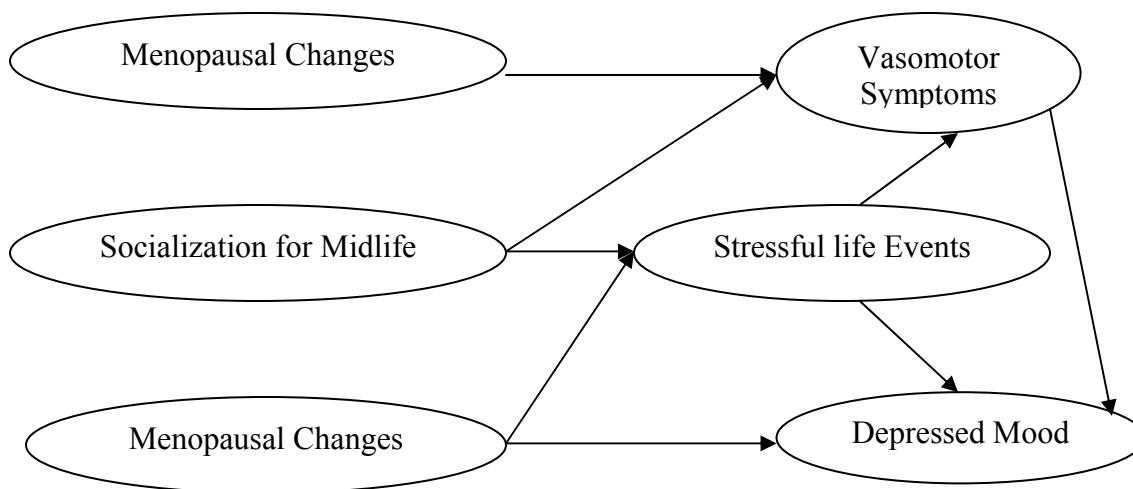
are CES-D depression score, and SCL-90 score. In the hypothesized model, the

menopausal transitional pathway links menopausal changes to depressed mood through

vasomotor symptoms. The stressful life context pathway links socialization for midlife and health status directly to depressed mood and indirectly links them to depressed mood through the vasomotor symptoms pathway. Stressful life context is influenced directly by menopausal changes, socialization for midlife, and health status. Health status directly influences depressed mood. Though not shown in the model, the researchers speculated that menopausal changes, socialization for midlife, and health status were correlated. Cronbach's coefficient alphas range from 0.74 to 0.90 for the measures; however, validity was not given for any of the measures.

Analysis. Confirmatory factor analysis assessed the relationship between each indicator and its hypothesized pathway to depressed mood. The developed causal model was tested using data gathered from face-to-face interviews and 80-day health diaries from each of the participants. Chi-square for the estimated model was statistically nonsignificant. The Goodness-of-fit index and the adjusted Goodness-of-fit Index were both over 0.9 which indicated that the model was consistent with the data.

Findings. Support was established for the hypothesis that stressful life context and poor health status contributed to depressed mood in midlife women. In fact, stress was the major contributor to depressed mood. Women who stated that they had more stressful life context also reported more severe depressed mood. Conversely, women who reported good health status also reported less severe depressed mood. Vasomotor symptoms had no effect on depressed mood. Moreover, women who were socialized to view midlife as a positive stage of life experienced less severe vasomotor symptoms. There were at least two mediating interactions. Socialization for midlife not only had a direct effect on vasomotor syptoms, it also had a significant indirect effect on vasomotor

symptoms through its influence on stressful life context. Health status had a statistically significant indirect effect on depressed mood through its effect on stressful life context. Menopausal changes, socialization for midlife, and health status were correlated. These findings emphasized the need to consider the context of a midlife woman's life to understand her emotional state.

Limitations. Although the article did not list any limitations, there were at least two. The sample (8%) of African-American women was too small to allow comparisons with or generalizations to, other populations. In addition, some of the variables were not conceptually defined.

Chronic Stress

Description

Chronic stress has been confused with both daily hassles and acute life events (Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984); Hahn and Smith, 1999; Thoits, 1995). This confusion in operational definitions contributes to the weak methodology found in many chronic stress studies; moreover, many researchers provide overlapping definitions (Chandola, Brunner, & Marmot, 2006; Hamiltion & Fagot, 1988; Kim & Han, 2006; Lazarus, 1993). At least two reasons have been suggested for this confusion in definitions: (1) lack of conceptual clarity and (2) inadequate and underdeveloped scale development.

Many researchers have used the word "chronic" when referring to daily hassles (Hamilton & Fagot, 1988; Lazarus et al., 1985). However, the conceptual overlap between daily hassles and chronic stress is not reflected in the definitions of Pratt and Barling (1988). They defined a hassle as a temporary emotional state that is an outcome

from a life event that occurred infrequently and was of low-intensity (Hahn & Smith,

1999; Pratt & Barling). Multiple hassles may occur in any one day. Acute stress is a

temporary emotional state that is an outcome of a short-lived but high-intensity life event

(Hahn & Smith; Pratt & Barling). Chronic stress is an ongoing emotional state that is an

outcome of an event that repeats frequently and is of high-intensity (Pratt & Barling;

Thoits, 1995). Chronic stress is the only type of stress that occurs frequently (Hahn &

Smith). Thoit defined life events as acute changes which require major behavioral (and/or

emotional) changes within a short period of time. Although Throits addressed chronic

stress in her research, she does not take it into consideration when defining "life event".

It is the only conceptual definition of life event found in the review of the literature.

Chronic stress has been related to both physiological health and psychological

health (Thoits, 1995). Researchers have studied the relationship between chronic stress

and physiological disorders, e.g., cardiovascular disease, diabetes, gastrointestinal

diseases, and hypertension (Brown, 2004; Grammatopoulos & Chrousos, 2002; Prince,

Harwood, Blizard, Thomas, & Mann, 1997; Troxel, Mattherw, Bromberger, & Sutton-

Tyrell, 2003). However, relationships between chronic stress and psychological

distress—e.g. depressive symptoms, anxiety, fatigue, sleep disturbances, and addictive

behavior—have been studied to a greater degree (Grammatopoulos & Chrousos; Thoits).

The findings show that chronic stress is associated with depressive symptoms (Hall,

Gurley, Sachs, & Kryscio; (Kessler, 1997). Research has shown that quantitatively, with

respect to amount, severity, and duration, depressive symptoms are more evident in

chronic stress than in acute stress. (Mattlin, Wethington, & Kessler, 1990). Therefore, if

chronic stress is not properly recognized and managed, it can create a serious risk for depressive symptoms in African-American women in midlife.

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Chronic Stress in African-American Women in Midlife

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New research has begun to gather empirical data about the role of individual variability in the reaction to chronic stress (Aldwin & Levenson, 2001; Glazer et al., 2002; Woods & Mitchell, 1997; Troxel et al., 2003).   Individual variability is based on the theoretical perspective that the reaction to chronic stress is subjective (Hahn & Smith, 1999). There is strong anecdotal evidence to indicate that an African-American woman's response to chronic stress may be the best predictor of her long-term psychological health. However, empirical research is needed to substantiate the anecdotal evidence. Such research would of course require a significant increase in the numbers of participating African-American women in midlife (Chandola et al., 2006; Hamilton & Fagot, 1988; Kim & Han, 2006; Lazarus, 1993; Woods & Mitchell, 1997),

<div align="center">

Chronic Stress and Depressive Symptoms in African-American Women in Midlife

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Few studies specifically address depressive symptoms and chronic stress in women in midlife, especially in African-American women. Existing research has been conducted in conjunction with studies on menopause (Bromberger & Matthews, 1996; Glazer et al., 2002).

<div align="center">

Studies on Chronic Stress in African-American Women in Midlife

</div>

Kenny, 2000

Purpose, sample, and design. One of the purposes of this descriptive study was to identify differences in women's stressors, personality mediating traits, and symptoms of health problems by age group. A convenience sample of 299 women representing four

ethnic groups (African-American, Caucasian, Hispanic, and Native American) was recruited. Only 16 (5%) of the sample were African American; 11 (4%) of these were in midlife (30-66 years old).

Analysis and findings. An ANOVA indicated a significant difference in the level of stress between age groups (F [2, 2972] =15.47, P=0.01). Women in midlife reported greater stress from daily hassles than women who were either younger or older. Although the difference was not significant, older women (46-66 years of age; n=96; African-American women – N-6) [n=6?] reported fewer stressors than women in other groups. The most frequent chronic stressors were financial problems, health problems of one's own or of family members, problems with spouse or partner, problems at work, and problems with children. Of the five personality mediating traits, significant differences occurred between age groups on two unhealthy personality traits (F [2, 2961] = 6.19, P = 0.003) and hardiness (F [2, 261] = 3.92, P = 0.02). Older women manifested fewer unhealthy personality traits and greater hardiness than did young or middle-aged women. While young women had more unhealthy personality traits, they also were more assertive than other women. Women in midlife were slightly more likely than younger and older women to report trust in, and love for, others and the ability to confide in others; but the differences were insignificant (F [2, 296] – 6.01. P=0.003). There were significant differences between age groups on physical symptoms (F [2, 2981] =5.77, P=0.003), emotional symptoms (F [2, 2981] =3.55, P=0.03), and the combined number of symptoms (F [2, 2971] = 4.86, P=0.008). Young women reported more physical and emotional symptoms than women in midlife or older women. Older women experienced slightly

more physical symptoms, but somewhat fewer emotional symptoms than did women in midlife, but the differences were insignificant.

Limitions. A limitation of this study was the makeup of sample. The majority of the women were college-educated, upper-middle income, Caucasian women; and because the number of participating African-American women in midlife was so small, the findings may not apply to them. Another limitation is that all but one of the instruments were designed by the researcher; therefore, further testing would be required to determine their validity and reliability.

Troxel et al., 2003

*Purpose, sample and design.*This descriptive, cross-sectional secondary analysis examined the factors associated with chronic stress; these included life events, ongoing stressors, unfair treatment, and economic hardship; but also the risk of subclinical carotid disease in African American (n=109) and Caucasian (n=225) women (total n=334). All women were between the ages of 42 and 52 and came from the Pittsburg, PA area. The average age of the sample was 46.24.

Analysis. Analysis discovered that the combined stress from life events, ongoing stressors, economic hardship and unfair treatment were associated with a greater average of carotid intima-media thickness. This was found only with the African-American women. The analysis also indicated possible biological mechanisms through which greater chronic stress might lead to increased risk of cardiovascular disease (CVD) in African-American women. It is believed that these results were found only in African-American women because of their greater susceptibility to chronic stress, which precipitated the condition. Limitations included stress measures based on self-report. In

addition, the composite stress measure was not a comprehensive one. Finally, the analysis of mediators was limited to biological and lifestyle variables.

Findings. This is the first study to examine the effect of unfair treatment on a subclinical end point, and as such it provided an important extension to the limited results from studies on the association between discrimination and health. Thus the study highlighted the possible effects of race on exposure to stress and the role of stress in inducing disease.

Personal Characteristics

Description

Since the findings about the relationship between chronic stress and depressive symptoms in African-American women in midlife are not only parsimonious but also ambiguous, personal characteristics may perhaps explain the difference in experiences of these women (Glazer et al., 2002; Woods and Mitchell, 1997). Also, some researchers believe that in the presence of chronic stress, personal characteristics might have a buffering effect on depressive symptoms. Accordingly, with regard to chronic stress or depressive symptoms, Thoits (1995) asked the question, "What are the personal characteristics that help one to cope?" Personal characteristics consist of personal vulnerabilities (demographics, health status), personal resources (self-perception, socioeconomic status, knowledge, and decision making), social resources (social support), and biological status (perimenopause and menopause).

Vulnerabilities

In various studies, personal vulnerability has been referred to as marker, predisposition, variation, resource, antecedent, or risk factor (Burke & Elliot, 1999;

Hemingway, Nicholson, Stafford, Roberts, & Marmot, 1997; Steptoe & Marmot, 2003; Turner & Turner, 2005). People vary in their personal vulnerabilities to adverse experiences and circumstances (Turner & Avison, 2003). In this seconday analysis, personal vulnerabilities were understood to be predisposed, and defined as an inherited or acquired characteristic of functioning which may render the individual susceptible to chronic stress (Burke & Elliot). For example, given exposure to the same adverse experience, African-American women of lower socioeconomic status may be more susceptible to chronic stress than Caucasian women (Ulbrich et al., 1989).

Demographics

Because all the participants in this study were African-American women, race and gender were not examined.

Age. In industrialized countries, African-American women have a higher rate of mortality than Caucasian women. (Macintyre, Hunt, & Sweeting, 1996).

Marital Status. Married African-American women are at increased risked for depressive symptoms moreso than their Caucasian counterparts or unmarried African-American women across age groups. In one study, it was found that for women who were both nonpoor and married, African-American women were 2.4 times more likely than Caucasian women to be at risk for depressive symptoms (Gazmararian et al., 1995).

Health status

Research has revealed that women, especially African-American women in midlife, are in poorer health because their lives are more stressful than men's lives. Therefore, these women are more susceptible to the adverse health consequences, including depressive symptoms and chronic stress (McDonough, 2001).

Based on empirical evidence, it is apparent that an individual's perception of his or her health status influences their mental health. However, this connection remains poorly understood ({Olfson, 1995 1146 /id}). Also, a perception of poor health status is directly correlated with lower socioeconomic status and indirectly with chronic stress (Hemingway et al., 1997). In a study of adult women, 10% of whom were African-American, perception of poor health status was associated with depressive symptoms (Meurer, Layde, &Guse, 2001.

Specific Studies on Personal Vulnerabilities

Glazer et al., 2002

Purpose, sample, and design. The purpose of this prospective, longitudinal study was to examine predictors (loss and gain of resources), moderators (menopause symptoms, menopausal status, attitude toward menopause, coping and demographic characteristics), and outcome variables (anxiety, depression, and health-promoting activities) associated with the transition to midlife (3 time points over 18 months). The study used a convenience sample (n = 166) of women, including 75 (43%) of African American descent, and all between 40 and 60 years of age. The study examined predictors, moderators, and outcomes related to the transition to midlife in African-American women and Caucasian women. To ensure that the sample was diverse in socioeconomic statuses, a purposive sample was recruited from communities with low, medium, and high socioeconomic status. There were no significant differences between the African American and Caucasian women in age, income, education level, employment or marital status.

Analysis. Descriptive analysis was used to depict the major variables of depressive symptoms, resources, coping, menopausal symptoms, and attitude toward menopause, menopausal status, anxiety, health-promoting activities, and demographic characteristics. Multiple regression was used to identify the predictive variables of depressive symptoms, anxiety, and health- promoting activities, and to measure the degree of variability. Because of the interrelatedness among the variables, multiple regression was used for analysis, especially to help address problems of multicollinearity.

Findings. The study found that although menopause occurs during midlife, it does not cause negative health outcomes such as depressive symptoms. In fact, this study discovered that stress was a better predictor of depressive symptoms than menopausal status in women in midlife, and that loss of resources was the best predictor of depressive symptoms.

Limitations. The findings could not be generalized to midlife African-American women because they were not race-specific. The researchers tested reliability on all the instruments but did not test or report validity of the instruments. In addition, most of the variables were not conceptually defined.

Turner and Avison, 2003

*Purpose, sample, and design.*The purpose of this study was to examine the vulnerability of status variations (race or ethnicity, socioeconomic status and gender) and to assess potentially stressful experiences conceptualized in four dimensions—recent life events, chronic stressors, lifetime major stressors, and discrimination—in order to obtain estimates of stress exposure which may or may not correspond to those based on recent life events. In this study, socioeconomic status was considered a personal vulnerability, in

contrast to Vitaliano's studies, in which it was categorized as a personal resource. This longitudinal study of three years consisted of 899 young adults (African American young adults, n = 406; Caucasian young adults, n = 493) between the ages of 18 and 22 (93% were between 19 and 21 years old). In this study, chronic stressors comprised traumatic events, witnessed violence, bad news, and death events.

*Findings.*The study found that African-American adults experience significantly higher levels of stress than Caucasian adults in every category except traumatic events. Except for recent life events, those in the lowest third of socioeconomic status reported higher stress levels in every category of stress measures; the lower the socioeconomic status, the higher the stress. Within the low socioeconomic group, African American adults also experienced significantly higher levels of exposure to stress on all five measures used in the study. Another finding indicated that differences in the degree of depressive symptoms arise more often from differential vulnerability to events than from differential exposure to events. This is one reason that two people will respond differently to the same event or situation. Status variations in stress exposure depend on the measure of stress that is employed. This helps to explain why current life event measures tend to underestimate differences between African American adults and Caucasian adults in exposure to stress.

Powell et al., 2002

*Purpose, sample, design.*The purpose of this study was to identify physiological markers of chronic stress that can be easily assessed and thus used in further studies of chronic stress in large epidemiological studies. This comparison design consisted of 40 women, of whom 20 in midlife (ages 42 to 52) were experiencing marital stress, while

the other group of 20 women was in a stable marital relationship. There were 14 African-American women evenly divided between the two groups. The chronic stressor was chosen because part studies have shown that women, in contrast to men, have heightened sensitivity to marriage-related stressors and that unhappiness in marriage is associated with poor health and adverse physiology (Carels, Szczepanski, Blumenthal, & Sherwood, 1998).

Findings. An unexpected but potential seminal finding was the robust elevation in urinary testosterone in stressed women. This implicated the hypothalamic-pituitary-gonadal axis as a marker of chronic stress in women in midlife. In this study both platelet epinephrine and norepinephrine were moving toward significant ($P \leq 0 .10$) because they differed between the stressed and nonstressed groups by about one-third of a standard deviation. It would be valuable and essential to this study area to have physiological markers of chronic stress to create research models so that self-reported chronic stress, its potential physiological pathways, and the development of clinical outcomes can be studied simultaneously. Continued research is needed in this area.

Limitations. There were several limitations of this study.   First, the sample size (n =) was very small.   Also, the sample was homogeneous for age, ethnicity and menopausal status. Therefore, this sample does not allow for generalizability. Lastly, only marital status was examined rather than a variety of chronic stressors to test physiologic markers,

Personal Resources

Self-Perception (Self-Esteem)

In this secondary analysis, self-perception was equated with self-esteem, meaning one's sense of self-worth, which is created through unique experiences and personal relationships. Self-esteem becomes a vulnerability when self-esteem is low because of negative experiences and troubled relationships. Vulnerabilities such as poor self-esteem may increase one's exposure to chronic stressors, which in turn promotes depressive symptoms (Steptoe & Marmot, 2003).

Socioeconomic status

Socioeconomic status (SES) has been customarily defined by education, income, and occupation (Link & Phelan, 1995.) These three components are considered the bases of health disparities (Brunner, 1997; Kessler and Neighbors, 1986). Kessler and Neighbors (1986) stressed the importance of systematically testing for interactions between race and socioeconomic status. Although controlling for SES reduced to nonsignificance, they demonstrated in their analysis the association between race and depressive symptoms, showing that African Americans of lower SES experienced higher rates of depressive symptoms than Caucasians of lower SES. One reason for the racial difference despite adjustment for SES is that the commonly used SES indicators do not fully capture the difference in economic status between households of difference races, as pointed out by Orzechowski & Sepielli, 2003). These researchers went on to state that compared to Caucasian households, African American households held a significantly greater percentage of net worth in durable goods, e.g., housing and motor vehicles but a significantly lower percentage of their net worth in financial assets. They also indicated

that at every income level, the net worth of African American households was dramatically less than that of Caucasian households.

SES is associated with higher mortality and morbidity rates, while the greatest disparity occurs among African Americans in midlife (Lantz et al., 1998; National Center for Health Statistics, 2001). Superficially, it appears that SES has a direct impact on health outcomes, including depressive symptoms; however, when explored further, it becomes clear that SES is mediated by exposure to conditions such as chronic stress, which exert a more direct and immediate effect on health outcomes (Adler & Newnan, 2002).

Knowledge about menopause

Only recently has research been undertaken on the subject of African-American women's knowledge about menopause (Gary et al., 2001; Grisso et al., 1999; Sharps et al., 2003; Strickland & Dunbar, 2000). In the parent study of southern, rural African-American women

(n = 206), where most had a high school education and a junior college degree, there was a lack of basic knowledge about menopause and its ramifications across the group (Gary et al., 2001). Of the women's sources of information about menopause, 40.3% were physicians, 26.2% were other women; and the remaining sources were printed materials (22.3%), television programs (9.7%), and nurses (1.5%).

In a study by Sharps et al. (2003), where a majority of the participants (N=106) were licensed practical nurses or registered nurses and 60.1% of the participants had college degrees; a majority of the participants had a good knowledge about menopause. The majority of these participants received their information about menopause from

printed material (48.5%) while 25.3 % received their information from other women, and 15.2% received information from health providers. This study supported other research, which indicated that the more education one has, the greater is one's knowledge about menopause. The study also noted that education, knowledge, attitude, and symptoms of menopause appeared to be related.

Although vasomotor symptoms are the focus of most research about symptoms in African-American women in midlife, other symptoms include depressive symptoms, headaches, fatigue, urinary incontinence, sleep disturbance, vaginal dryness, back and joint pain (Hudson, Taylor, Lee, & Gulliss, 2005). Some studies have reported that African America women in midlife report more symptoms of menopause but their attitude toward menopause was positive, and they relied less on the health system for support (Agee, 2000; Glazer et al., 2002). Their primary source of information came from family members, who also act as role models, demonstrating that menopause was just a natural part of life (Grisso et al., 1999).

Decision making

Most research (average 90%) on decision making by women has involved Caucasian women, if race was mentioned at all (Brehaut et al., 2003; Rothert et al., 1997; Sainfort & Brooske, 2000; Wills & Holmes-Rovner, 2003). In the history of professional healthcare, until recently, decision-making by women has encompassed the question of whether or not women sought professional care, and if they did, whether or not they followed the instructions which they received. However, during the last few decades, healthcare providers have begun to recognize that patients seek a more active involvement in decisions regarding their care. Accordingly, as reported by Benbassat,

Pilper, and Tidhar (1998) and Scott and Lenert (2000), today most women expect to be involved in deciding which treatment options to select based on the information available to them at the time. The researchers also note that a woman's interest in playing a role in decision-making ranges from no participation at all in the decision-making process to wanting and seeking full control of the process. However, there remain women who want to relegate all decision-making to their primary physician; yet some women are more comfortable talking to family members and friends about their conditions and treatment decisions (Clarke, Hall, & Rosencrance, 2004). None of these results stem from studies with a sufficient number of African-American women; therefore, generalizations cannot be extended to African-American women's decision-making patterns.

<div align="center">*Specific Study for Personal Resources*</div>

Roberts and Monroe, 1992

   Purpose, sample size, and design. The purpose of this study was to test three alternative conceptualizations of self-esteem (self-perception). A sample size of 192 university undergraduate students were given questionnaires to complete (a) 9 times during a 3-week baseline period before their midterm exams and (b) 3 times during a 1-week follow-up period. The sample was categorized by gender and age, but not race. During this time the variables of self-esteem (SE), depressive symptoms, and academic stress were measured. A multi-assessment, prospective design was used to provide a concurrent test of 3 alternative conceptualizations of self-esteem.

   Analysis. The analysis used stepwise hierarchical multiple regression to test the major hypotheses. Residual change scores were represented by partial correlations after controlling for the initial depressive symptoms.

Findings . The findings showed that labile SE predicted change in depressive symptoms alone and in interaction with stress. It was suggested that labile SE acted as an antecedent to stress reactions, which in turn led to changes in depressive symptoms. In contrast to labile SE, both trait SE and differential activation SE did not act to predict stress, and thus did not influence depressive symptoms. In this study, there was strong support for labile SE as a vulnerability factor for depressive symptoms by moderating the impact of stress.

Limitations. The limitations of this study are its narrow concept of stress (academic disappointment) and its study sample, which prevented generalization to larger and different populations. The study did not mention the number of African-Americans, if any, in the sample.

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Social Resources

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Social Support

There is substantial but conflicting research showing that social support has a buffering effect which protects from the adverse effect of chronic stress (Achat et al., 1998; Lincoln, Chatters, & Taylor, 2005). The lack of social support has been linked to chronic stress and depressive symptoms. Social networks, the structural components of social support, may ameliorate depressive symptoms by moderating the negative influence of chronic stress. Lincoln et al. (2005) reported that for African-American women, the existence of social networks correlated with fewer depressive symptoms. However, in a study by Krause and Rook (2003), chronic stress was observed to exert a possibly serious impact on the social network of African-American women, eventually weakening support over time.

Specific Studies for Social Resources

Warren, 1997

Purpose, sample size, and design. This exploratory study examined the association between depressive symptoms, stressful life events, social support, and self-esteem in 100 middle-class African-American women between the ages of 20 and 35. In this study, 79% of the women scored in the mild range of depressive symptoms—higher than in some other studies. An exploratory descriptive design was used.

Analysis. Chi-square statistics was used to establish no differences between groups with regard to occupation or education. Multiple regression analysis was used to determine the relationships among the variables of depression, stressful life events, social support, and
self-estem using two measures of depression (Zung Self-Rating Depression Scale and the Beck Depression Inventory) run simultaneously.

Findings. It was speculated that differences between the results of this study and those of other studies might have stemmed from the age, or the race or ethnicity of the participants. This study concluded that stressful life events and social support were related to depressive symptoms, but self-esteem was not.

Limitations. A limitation in this study is that it cannot be generalized to other populations. The validity of the Rosenberg Self-Esteem Scale as a measure of self-esteem was in question. The Zung Self-Rating Depression Scale may be better used for a screen device rather than for research. Self-Report raises issues of social desirablility.

Israel et al., 2002

Purpose, sample size, and design. The purpose of this study was to examine the influence of stress, social support, and health while taking into consideration the impact of age, income, education and marital status. Multiple sources of chronic stress, social support, depressive symptoms and general health were examined in a population of predominantly low income African-American women (n = 679). The age range of the participants was 18 to 90 years old, with the average being 39 years old.

Analysis. A seriers of five regression models were used to examine relationships among the variables. Age, income, education, and marital status were the control variables.

Findings. Both emotional (people) and instrumental (tangible items such as transportation, money, child care, etc.) factors were assessed. Instrumental support decreased the impact of depressive symptoms; and when both variables—instrumental support and emotional support—were examined simultaneously, it was a stronger predictor of depressive symptoms than emotional support. Medium but not high levels of physical environment and safety stressors were associated with poorer general health. Social support did not exhibit significant stress-buffering effects between chronic stress and depressive symptoms. These results can be generalized to similar situations in the United States.

<center>*Biological Status*</center>

Perimenopause

Perimenopause is the period of transition from regular ovarian cycles to complete cessation of menstruation. Almost all of the research in this area has been done with Caucasian women. According to Freeman et al. (2001), there are no hormonal or

symptomatic markers to determine the onset of perimenopause. However, there is increasing evidence that biochemical and hormonal changes may occur before observable menstrual changes occur (Danforth et al., 1998; Santoro, Adel, Skurnick, 1999; Soules, Battaglia & Klein, 1998; Welt, McNicholl, Taylor, & Hall, 1999). Controversy continues over whether depressive symptoms are associated with menopausal status (Bromberger et al., 2003). Bromberger asserted that when such an association is found, it tended to arise during the perimenopausal stage. Besides possible depressive symptoms, irritability, nervousness, hot flashes, night sweats and frequent mood changes can be present.

Specific Studies for Perimenopause

Freeman et al, 2001

   Purpose, sample size, and design. Using a descriptive cross-sectional analysis of symptoms reported at the baseline assessment of a 4-year prospective cohort study, Freeman et al. (2001) proposed to identify symptoms experienced by women in the perimenopausal state and to determine the extent of their association with other factors in reproductive health, mood and behavior, lifestyle and demographic background. Through random digit dialing, an ethnically stratified sample of 307 (126 African-American women; 181 Caucasian women) were selected to complete the 1 month of daily symptom ratings. The two racial groups did not differ in age, cycle length, age at menarche, completion of a high school education, current smoking status, number of alcoholic drinks per week, or history of depression.

   *Analysis.*The African-American women reported significantly higher depression scores than the Caucasian women did on the CES-D scale. Of the total number of participants, 37% reported experiencing menopausal symptoms of fatigue, swelling and

weight gain, anxiety and tension, headaches, appetite changes, hot flashes, dizziness, poor coordination or clumsiness, urine leaks, and vaginal dryness. These symptoms preceded the onset of menstrual irregularities. The mean age of the women was 41years old. The African American group consistently had higher scores on the symptom measures which indicated higher symptom levels (46% African-American women; 30% Caucasian women; p<0.001). African-American women also reported more severe physiological symptoms than the Caucasian women did (p < 0.04). The primary symptoms that contributed to the differences between the two groups were hot flashes (p < 0.008) and poor coordination or clumsiness (p < 0.04), with the African-American women having the higher scores. Age was significantly associated only with the somatic symptoms, which included swelling and weight gain, appetite changes, breast tenderness, aches, and headache. The oldest age group (45–47 years) had the highest scores on this factor and were more likely to report aches and joint pains (p = 0.03).

Findings.The findings suggest that menopausal symptoms may occur earlier in perimenopause than has been commonly recognized. Also, symptoms may not stem entirely from menopausal decline in hormonal levels.

Limitations.Limitations in this study include self-selection in recruitment and stratified sampling to obtain equal numbers in the original study. In this sample versus the original sample, the participants were likely to be Caucasian, have a high school education, and be employed. Another limitation was that women who were known to have chronic physical or psychiatric illnesses were excluded from the original study. Lastly, the report on baseline symptom status does not include hormonal changes, but

these changes were not reported until follow-up assessment, which occurred after this study was completed.

Bromberger et al., 2004

Purpose, sample, and design. Researchers of the study of Women's Health across the Nation (SWAN) used cross-sectional data to ascertain (1) the prevalence of depressive symptoms, (2) the impact of socioeconomic, health-related, and psychosocial factors on these prevalences, and (3) the relationships among socioeconomic, health-related, psychosocial factors, and depressive symptoms among African American, Caucasian, Chinese, Hispanic, and Japanese women in midlife. Of 3,015 participants, 831 (almost 28%) were African-American women. All of the women were between the ages of 42 and 52 years old and were approaching or experiencing menopausal symptoms. Furthermore, SWAN is the first community study to examine depressive symptoms among a group of women transitioning to menopause while at the same time assessing the associations between socioeconomic status (SES), health-related, psychosocial factors and depressive symptoms.

Analysis. The statistical methods used to evaluate the data were contingency tables to examine relationships, a series of logistic regressions used to model the associations. Stepwise selection was used for each model. All results were shown as odds ratios with associated 95% confidence intervals.

Findings. Although African-American women initially had the highest prevalence of depressive symptoms scores on the CES-D, Hispanic women had the highest after adjusting for SES. Economic hardship was related to stress, poor health, and inadequate social resources. Depressive symptoms were strongly associated with health–related,

psychosocial factors and depressive symptoms among women in midlife. Specifically, financial strain, unemployment, single status and younger age were significantly associated with depressive symptoms.

Menopause

Menopause is the absence of menses for 12 or more consecutive months, determined retrospectively. Until recently, research was mainly done with women who were seeking treatment for menopausal problems, which has biased the results of the study outcomes. Clearly there is a stereotype of the typical menopausal woman. Thus, until recently, the picture has been unclear of what is considered "normal" for the African American woman in midlife with menopause.   Symptoms of menopause include depressive symptoms, hot flashes, night sweats, headaches, vaginal dryness, sleep disturbances, fatigue, irritability, and changes in appetite and libido (Noble, 2005). Factors that affect vulnerability to depressive mood during menopause include marital status, educational background, socioeconomic status, race, smoking, exposure to toxic substances, nutrition and a history of previous bouts of depressive symptoms. Women who experienced more stressful life contexts experienced more severe vasomotor symptoms. Women whose menopausal status was changing experienced more severe vasomotor symptoms, while women who were socialized more positively about midlife experienced less severe vasomotor symptoms.

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Specific Studies for Menopause

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Sampselle et al., 2002

Purpose, sample, and design. The purpose of the study was twofold: (1) to explore the meanings that women in midlife attach to the changes they are experiencing

and (2) to compare the perspectives that African American and Caucasian women have about midlife aging and menopause. Focus group interviews were conducted with two groups of African-American women and two groups of Caucasian women (n = 30; 50% were African-American women) who were between the ages of 35 and 60 years old. The African-American women resided in a Midwestern town with a population of 25,000 and the Caucasian women were from a Midwestern rural community of 7,500. Each group had approximately 8 participants each. Two of the groups—one consisting of African-American women and the other consisting of Caucasian women - were perimenopausal with a mean age of 43 (35 to 51) years for both groups. The other two groups - one consisting of African-American women and the other consisting of Caucasian women - were menopausal with a mean age of 51 (44 to 60) years. The information from all groups was analyzed as a whole and then contrasted by ethnicity and by perimenopausal versus menopausal.

Analysis. Qualitativeanalysis was used. Units of analysis were sentences or groups of sentences that the participant used to express a concept of interest. Transcripts were coded using a QSR NUD*IST software for qualitative data analysis. Transcripts were verified against the audiotape. The level of coding agreement ranged from   72% - 94% with a mean agreeent of 84%. The material from both groups were analyzed as a whole and then they were compared by ethnicity and by perimenapausal and menopausal status.

*Findings.*Although all the women were aware that they had been grouped according to menopausal status, cessation of menstruation was mentioned only once in each of 3 groups but not at all in the 4th group. Menopause was not identified as a major

life marker for any of the women. There were more similarities than differences by ethnicity. However, when asked about menopause, the African-American women (85%) tended to define it as a normal and welcomed part of life. Caucasian women responded to the same question with concerns about aging. Although both the perimenopausal groups and the menopausal groups expressed concern about emotional well- being as a factor in menopause, the perimenopausal groups expressed the greater concern about developing psychopathology. (i. e., "losing your mind"). Concern was also voiced that mild psychological symptoms might develop into life-altering mental illness. In light of the women's own expressed view, it was clear that the opportunity to expand women's knowledge about menopause was greatly needed.

Sampselle, Harris, Harlow, & Sowers, 2002

Purpose, sample, design.The purpose of this descriptive, cross-sectional study was to address two questions: (1) Do attitudes toward aging and menopause within this U.S. community-based study differ across ethnic groups, and if so, does acculturation play a role? (2) Does the positive relationship between menopausal status and attitude hold across ethnic groups? The convenience sample(n =12,226) of African American, Caucasian, Hispanic, Japanese-American, and Chinese- American women ranged in age from 40 to 55 years. A three-stage model using a backward stepwise regression procedure was used to test the effects of ethnic group and menopause status on attitude.

Findings. Findings revealed that attitudes toward menopause and aging differed across ethnic groups, with African-American women being the most positive and less acculturated, and Japanese-American and Chinese-American being the least positive. Acculturation seemed to play a significant role in attitude. Women who were

interviewed in Japanese or Chinese and who received their basic education outside the United States scored significantly lower in attitude. There was no consistent acculturation effect for Hispanic women. More African American and White women agreed with the perception of menopause signaling freedom and independence; this perspective may reflect the higher evaluation which these women accord those qualities, in contrast to Asian and Hispanic women. In addition, a greater proportion of Hispanic women stated that they would regret the cessation of their menses. Menopause status was not a strong predictor of attitude. Contrary to the finding of (Avis, & McKinlay; 1995), surgically menopausal women were no more negative than the other women. This study had a higher proportion of African-American women than in the Avis and McKinlay study. The women with perimenopause tended to have a less positive attitude.

Limitations.The major limitation of the study was the translated instruments used with the Japanese and Chinese women. There was the possibility that even when the language is clear, items may be read within a cultural context that influences how they are interpreted by the participant. It was also possible that the exclusion of women using HRT would inflate the attitude because women with more negative perceptions toward menopause and aging might be more likely to use hormonal treatment.

Gaps in the literature

African-American Women in Midlife

There is a lack of studies on racial and ethnic differences in the relationship of chronic stress and depressive symptoms, particularly with African-American women in midlife (Turner and Avison, 2003). More research is therefore needed to determine the degree to which chronic stress is a pathway linking SES and health.

Many African-American women use alternative care for menopausal symptoms. Research is needed to ascertain the types of alternative treatments that they use and the effectiveness of these treatments. This is necessary so that scientific knowledge can be acquired about this source of care. Continued research is also needed to analyze the possible role played by chronic stress in the relationship between lack of knowledge about menopause and depressive symptoms. Although it has been documented that African-American women in midlife live with greater chronic stress than their Caucasian counterparts—which could lead to depressive symptoms—there is little research on the relationship between chronic stress and depressive symptoms in the African American woman in midlife.

Depressive Symptoms

Depressive symptoms are influenced by one's experience, the environment, and the social and cultural content. Culture, gender, and age must be taken into consideration when defining depressive symptoms (Halbreich et al., 2007). Only one study specifically addressed depressive symptoms, chronic stress, and certain personal characteristics (trait anxiety, pessimism, some life events, and menopause) in women in midlife but the study gave no indication of the number of African-American women in the sample (Bromberger & Matthews, 1996). Such studies should include African-American women in midlife.

Cultural Competence

    Assessment

    The lack of effective communication between patients and their physicians begins at the assessment stage. Miscommunication can lead to inadequate assessment of a patient's

problem(s), poor patient satisfaction, nonadherence to treatment, and lack of follow-up (Smedley, Stith, & Nelson, 2002). Further research is needed on these issues with African-American women in midlife. An essential question that should be addressed is whether or not the cultural competence of the physician enhances recognition of depressive symptoms in African-American women in midlife.

    Misdiagnosis

    Stigma and labeling should be studied and better understood, for they can affect how the patient presents depressive symptoms. Further research needs to explore how the physician's bias leads to misdiagnosis of depressive symptoms in African-American women in midlife. African-American women with experience of the healthcare system have more negative attitudes than do Caucasian women with comparable experience of the healthcare system (Diala et al., 2000). Research so far has failed to address how the healthcare system contributes to misdiagnosis of depressive symptoms in African-American women in midlife.

Primary care

African-American women in midlife constitute a disproportionate number of people at the lower socioeconomic level. A common pattern of people at this socioeconomic level is the frequent changes in the number of primary physicians whom they consult. Perhaps disruption in care has a negative influence on assessment, diagnosis and treatment of these women. No studies appear to have explained this frequency in change of caregiver, nor what impact it might have on the quality of care including assessment, diagnosis and treatment. The possibility should be examined that a sustained relationship with a physician would enhance the likelihood that the physician would ask more pertinent questions about depression and that the patient would be more willing to talk about depressive symptoms. Comprehensive care, rather than specialized care, may offer the physician a better opportunity to detect depressive symptoms in African-American women in midlife?   Outcome studies of treatment modalities and sites for African-American women in midlife with depressive symptoms are greatly needed.

Somatic versus Non-somatic Symptoms

There is still much controversy in the literature regarding how much weight and attention researchers, diagnosticians, and physicians should pay to the somatic components of depressive symptoms, particularly with African-American women (Okulate, Olayinka, & Jones, 2004; Simon, Vonkorff, Piccinelli, Fullerton, & Ormel, 1999; Tylee & Gandhi, 2005). Even with the amount of data demonstrating that approximately two thirds of patients in primary care present with somatic symptoms, these symptoms are minimized when depressive symptoms need to be taken into consideration for assessment, diagnosis, and treatment (Tylee & Gandhi). African-

American women tend to mention somatic symptoms more frequently when consulting their primary physicians even when they are aware they are having depressive symptoms (Kirmayer and Young, 2001). The frequency and reasons for this should be explored. At the same time, there is not enough empirical evidence to determine if their tendency to experience and report somatic symptoms actually reflects cultural manifestations of depressive symptoms. More research needs to be done on somatic symptoms in the context of psychological complaints.   In addition, stigma needs to be explored in terms of how it prevents patients from talking about their depressive symptoms when interacting with their primary physicians or other medical practitioners. The relative cost in time and effort required to rule out organic conditions versus the cost required to rule in depressive symptoms masked as somatic symptoms also needs to be examined. Until the recent revision of the DSM, there was no mention of somatic symptoms as diagnostic criteria for depression. Many clinicians use the DSM IV TR to differentiate between somatic symptoms and somatoform disorders in order to establish a differential diagnosis.

Chronic stress in African-American women in midlife

Further research is needed to reduce African-American women's risk of stress-related illnesses so that their health may improve. Research should include an inexpensive, reliable, and valid questionnaire to identify those African-American women at risk.

Chronic stress in African-American women in midlife: Perimenopause

Previous studies have almost always involved Caucasian women (Bromberger et al., 2001). Except for the study of Gary et al. (2001), there has been a dearth of information about stress in perimenopausal African-American women. More research is

needed to understand why African-American women complain more about physiological symptoms with age while the reverse is observed in Caucasian women.

Chronic stress in African-American women in midlife: menopause

Future research needs to provide more empirical data about the role that race or ethnicity and chronic stress play singly, or in conjunction with menopause. One study reported that African-American women experienced an earlier median age of menopause. Further studies are needed to determine if African-American women experience hormonal changes earlier than Caucasian women. Although there has been much speculation about why African-American women have a more positive attitude toward menopause than Caucasian and other ethnic women, there still remains a lack of empirical data to explain the difference. Further research would help to explain the disparity between African-American women's perception of depressive symptoms and their actual experience with these symptoms.

Summary

African-American Women in Midlife

Five years ago, there were approximately 31 million women in the United States in midlife and about 22% were African-American women (U.S.Census Bureau, 2003). Women in midlife are between the ages of 40 and 60 years old. In recent studies, 22% of women in midlife reported significant depressive symptoms (Harlow et al., 1999) and a significant proportion of these were African American. Race is an important risk factor for depressive symptoms in midlife. African-American women in midlife are at greater risk because of their higher levels of pressured conditions and chronic stress that are associated with depressive symptoms. However, since African-American women in

midlife continue to be under-represented in epidemiological research, the prevalence of depressive symptoms in these women has not been empirically ascertained. Worse, there is a lack of knowledge concerning how these women articulate their depressive symptoms.

Perimenopause is the period of transition from regular ovarian cycles to complete cessation of menstruation, although there are no hormonal or symptomatic markers to determine the onset of perimenopause. Nevertheless, biochemical and hormonal changes are evident before observable changes are manifest. During perimenopause, besides depressive symptoms, other symptoms are also experienced, specifically, irritability, nervousness, hot flashes, night sweats, and frequent mood changes. As of 2001, 30% of women in the U.S. were over 50 years old and they will spend one-third of their lives postmenopausal. Menopause is not only a biological phenomenon; it is also cultural. Thus the prevalence and nature of symptoms are rooted in one's culture (Woods & Mitchell, 1997). For example, Japanese women manifest a lower prevalence of hot flashes than women in other cultures. However, there are few studies on the resources that possibly influence the expression of these and other physiological symptoms of midlife, for instance, whether they enhance or compromise midlife women's psychological well-being; and there are even fewer studies on how these resources possibly differ for African-American women (Avis & McKinley, 1995; Glazer, et al., 2002; Samselle et al, 2002). Moreover, there is controversy over whether depressive symptoms are inherently associated with menopause. Bromberger et al. (2004) stated that when such an association was observed, it tended to occur during the perimenopausal

stage. Most studies of perimenopause and menopause have been done with Caucasian women.

Depressive Symptoms

Depressive symptoms represent the most common form of psychological distress; they pose a significant healthcare problem, ranking as the predominant disorder for disability burden in the United States (Turner & Lloyd, 1999). Yet these symptoms are poorly recognized. Several factors account for this; for example, a woman's reporting to the primary physician physiological symptoms only, instead of the full range of symptoms—including psychological symptoms—she might be experiencing; the stigma attached to depressive symptoms; and finally, a woman's mistrust of healthcare system generally. Symptoms which African-American women exhibit in midlife are tiredness or lack of energy, irritability, depressed mood, nervous tension, headaches, sleep disturbances, aches and pains in their joints, and backaches. Depressive symptoms are most difficult to recognize in patients who present mainly with somatic symptoms. Brown et al. (1996) found that in comparison to Caucasian women, African-American women in midlife tend to report somatic symptoms more often than depressive symptoms. According to Mills (2000) and Smedley et al. (2002), the prevalence of depressive symptoms manifested by African-American women in midlife has been difficult to quantify for three reasons. First, their depressive symptoms are experienced somatically, e.g. as gastrointestinal disturbances, headaches, constipation, nausea, vomiting, and backaches. Second, this population is under-represented in research. Finally, physicians generally lack cultural competence.

The cultural incompetence of physicians treating African-American women in midlife has been declared indefensible (New Freedom Commission on Mental Health, 2003; Smedley et al., 2002). The absence of cultural sensitivity in individual assessment, together with dependency on anhedonia and depressed mood as diagnostic criteria, has led to inaccurate and inappropriate assessment, diagnosis and treatment of depressive symptoms in African-American women in midlife. Because of the stigma of mental illness and the experience of somatic complaints, African-American women seek much of their care in the primary setting (Brown & Schulberg, 1998; Schwenk & Fechner-Bates, 1995; Sherry & Jones, 1998; Snowden & Pingitore, 2002). Although the need for cultural competence has been emphasized in the literature since the 1970s, nevertheless many providers who encounter *any* people who do not look like them are not even minimally aware of the unique ways in which depressive symptoms may be manifest.

Depressive symptoms will often be inaccurately assessed, misdiagnosed, and inappropriately treated in the African American woman in midlife for the following reasons:

(1) cultural barriers, particularly those where the display of depressive symptoms may be masked by language and behavioral mannerisms that are neither familiar nor acceptable to the provider; (2) mistrust of physicians, which is based partly on historically higher institutionalization rates for African-Americans with mental illness. Physicians may interpret this mistrust as suspiciousness or paranoia, and interpretation which leads them to misdiagnose the condition; (3) reliance on the church, friends, or family rather than on the mental healthcare system during periods of emotional distress; (4) socioeconomic factors such as poverty, lack of education, housing, and transportation may be

contributing factors ; (5) symptoms not commonly associated with depression such as somatic symptoms, as well as behavior, which a physician may interpret as suspiciousness, paranoia or psychosis (Brown et al., 1996; Bazargan & Barbre, 1994; Bazargan et al, 2001). These issues need to be clearly addressed by good research using sound methods—research that clearly defines the concepts to be studied based on empirical data on African-American women in midlife.

Chronic Stress

Most researchers and physicians recognize a relationship between stress levels and depressive symptoms (Kenney, 2000). Stressors have been classified in several different ways: daily hassles, acute stressors, life events and chronic stressors. There has been a lack of consensus on the definitions of these types of stressors (Hahn & Smith, 1999). This leads to researchers examining the same phenomena but labeling them differently. Efforts have been made to standardize the meaning of these concepts, but disagreement persists.

There is strong evidence that midlife African-American women's responses to chronic stress may be the best predictors of their long-term psychological health. However, until research is undertaken with larger numbers of African-American women as participants, speculation will persist in the absence of empirical data on the association between chronic stress and depressive symptoms of African-American women in midlife.

CHAPTER THREE

Method

Purpose and Design

Purpose

The purpose of this secondary analysis was to examine the relationships among personal characteristics, environmental factors, and psychological distress. Specifically, personal characteristics of African-American women in midlife, including their personal vulnerability, personal and social resources, and biological status were examined in relation to chronic stress and depressive symptoms. Vitaliano's Model of Stress was used as the theoretical framework for this study because of the variables and the research design it used. Vitaliano (2002) used his model to study the interrelationships among chronic stress, psychophysiology, and coronary heart disease. His framework highlighted the relationship between chronic stress and depressive symptoms.

Design

The study used a cross-sectional, decriptive, correlational design. The descriptive design was used to understand the relationships among the study variables (Polit & Hunger, 1999). The chapter begins with a summary of the original study and describes its procedures and methods of data collection. Then the purpose of the current study and the research questions are addressed. Next, the sample is described including the inclusion and exclusion criteria and the determination of the sample size by the use of power analysis. This chapter will also describe each instrument used, along with the variables measured, reliability and validity information, scoring, and interpretation. The procedures for data collection will be discussed. The current study's data analysis plan

will also be discussed, and the chapter will conclude with an account of the protection of human participants.

Summary of Original Study

Design and Purpose of Original Study

The original study was a cross-sectional, descriptive, correlational design having three purposes: (1) to identify and describe the health beliefs, knowledge, informal self-care and decision-making practices related to perimenopausal and menopausal health among southern rural African-American women ranging in age from 40 to 60 years, and having various socioeconomic backgrounds, occupations, and levels of education; (2) to assess the extent to which African-American women differed in health beliefs, knowledge, informal care, decision- making practices, and reported levels of stress and depression associated with age, socioeconomic status, and access to health care when compared to other groups of women, and (3) to determine the implications of the study's findings for future context-specific interventions from the perspective of southern rural African-American women.

Setting of the Original Study

The original study was conducted in three counties in north-central Florida where African Americans comprise the second largest population, following Caucasians. These sites are located within a 50-mile radius of a large state university. Much like the rest of the state, the population of north-central Florida has become increasingly diverse over the last decade. Between 1990 and 2000, the African-American population of north-central Florida increased by 19.8%. Other characteristics of the counties that were relevant to the study are summarized in Table 1.

Table 1.

Characteristics of the population in the three counties in North-Central Florida

Characteristic	Alachua	Marion	Union
Year established	1824	1844	1921
Population density	96 km^2	63 km^2	22 km^2
	(294 mi^2)	(164 mi^2)	56 mi^2)
Median age	29.0	44.0	36.0
Average family size	2.9	2.8	3.1
Female's median income	$26,059	$21,855	$22,083
Male's median income	$31,971	$28,836	$28,083
African Americans	19.30%	11.55%	22.84%
Married families	38.80%	55.60%	57.70%
Below poverty families	12.20%	9.20%	10.50%

km^2 – square kilometer

mi^2 – square mile

North-central Florida was selected as the original study site because of the lack of research on southern rural African-American women, their health status and perimenopausal and menopausal status. This area of Florida has a relatively high population of southern rural African-American women; therefore, findings from the study can serve as a source of future research on southern rural African-American women in perimenopause and menopause. The principal investigator of the original study was very knowledgeable about the culture, health beliefs, and practices evident among the women and recognized that there was inadequate scientific knowledge about this growing population. The close proximity of these communities to a large land-grant state community also contributed to the investigator's choice of settings. In addition, the principal investigator hoped that conducting the research within a 50-mile radius of the university would motivate undergraduate and graduate nursing students to conduct

studies that would expand scientific knowledge about rural populations, including

African-American women.

Based on the available U.S census data, little inference can be drawn about the

similarities and differences between the populations in the three counties and the study

participants. For example, the U. S. census data do not separate African Americans by

gender, nor are they separated by rural or urban residences.

Sampling Procedure of the Original Study

A convenience sampling procedure was used to obtain the sample because of the

dearth of scientific knowledge about southern rural African-American women in the U.S.

This convenience sample gave the principal investigator rich information on knowledge,

attitudes, health beliefs and practices, self-care activities, stress, and levels of depression

associated with perimenopausal health among African-American women during thisr

phase of their life. This research served as a scientific base for future studies on these

women.

Sample Size of the Orignal Study

The sample was comprised of 206 African-American women from various sites in

rural north-central Florida. The inclusion criteria were African Americans who (1) were

female, (2) were willing to participate in the study and willing to sign the consent form,

(3) were between 40 and 60 years of age, (4) had been living in a rural community for at

least 5 years, and (5) spoke English. About 50% (n = 102) of the participants were

married, 20% (n = 40) were divorced, 17% (n = 36) were single and never married, 7% (n

= 14) were widowed, and 6% (n = 12) were separated but not divorced. Most of the

participants (74.8%) had graduated from high school and were employed. Their incomes

ranged from below $10,000 a year to more than $100,000 a year. In each of the three

counties, the average income for males was higher than that of females (see Table 1).

One participant had earned a PhD. Most participants were Protestants and were African

Americans born in the U.S. Selected demographic variables of the sample are

summarized in Table 2.

Table 2.
Demographic variables of southern rural African American perimenopausal women
_____

Variable	*Number*	*Percent*
Marital Status		
Married	102	49.5
Divorced	42	20.4
Single (never married)	36	17.5
Widowed	14	6.8
Separated	12	5.8
Employment Status		
Employed full-time	154	74.8
Employed part-time	7	3.4
Not employed	22	10.7
Other	23	11.2

_____

Pilot Study in the Original Study

The principal investigator conducted a pilot study (n = 6) in four different communities located within the 12 counties that comprise north-central Florida. The pilot study assisted her in determining the feasibility of the study, refining the instruments, determining the data analysis plan, acquiring familiarity with the participants and their communities, and becoming more familiar with the methods of data collection (Burns & Grove, 2005).

Procedure and Data Collection of the Original Study

Before potential participants were invited to take part in this study, the principal investigator trained professional nurses who were recruited with the assistance of the local chapter of the National Black Nurses Association. Two graduate-level psychology students also helped with data collection. These research assistants were volunteers who were specifically trained to conduct the face-to-face interviews. In addition, a non-volunteer was employed and trained to assist with the interviews and other aspects of the study. Information obtained from the participants for the database was collected at one point.

After the study was approved by the Institutional Review Board (IRB) of the University of Florida, the researchers informed community leaders about the study   The researchers believed it was important for community leaders to be informed and asked to give their support. And indeed, every one of them did support the study. The research team's respectful approach also provided community leaders with opportunities to inquire about the research process; for example, to understand why African-American women should participate in research, and how the data were going to be used. In all instances,

these leaders appreciated the respect that the research team had extended to them, and thanked them for involving community leaders. They were also given copies of the informed consent. The researchers clearly explained to the leaders exactly what was being asked of the women. Several strategies were adopted to recruit participants, including visiting churches and beauty shops, and visiting community leaders in various settings—as described below.

Churches. About 30% of the participants were recruited through church-affiliated networks. The principal investigator contacted ministers of churches in various communities and requested face-to-face meetings with them for the purpose of discussing the research. During these meetings, on some occasions the minister was accompanied by associate or assistant ministers, deacons, and other church leaders. The principal investigator explained the research study to them, provided them with copies of the consent form, and requested their approval to attend a church service and introduce the study either to the congregation or to the women after the service. In numerous instances during the Sunday morning church services, the principal investigator was given the opportunity to describe the study to the congregation and to invite the women to participate.

At other churches, the minister made the announcement, indicating to the congregation that he approved the research study, and he encouraged women to take care of their health. Still other ministers and church leaders indicated that they would talk with women of the church directly, inform them of the study, and leave the decision of possible participation up to them. The ministers and other church leaders were supportive of the study and provided space for the interviews; sometimes food and drink

were provided for the researchers. The ministers asked that the results of the study be shared with them. Much of the data were collected at the churches following the Sunday church services, at which time face-to-face interviews were conducted in the churches' fellowship halls or inside the sanctuaries.

Data collection continued throughout the week, in which case ministers allowed access to the churches' fellowship halls or sanctuaries where face-to-face interviews were conducted. Women who for various reasons were not available immediately after church requested that the interviews be conducted at other settings such as libraries and community centers—settings closer to their homes and therefore more convenient for them.

Community Centers. The researchers identified specific establishments in the communities that were frequented by southern rural African-American women. These were convenience stores, community centers, libraries, beauty shops, and child-care centers. Study participants were also recruited from a rural community center, which served as a night club on weekends. Eligible participants who were interviewed at the center had been recruited through fliers posted in churches, schools, rural grocery stores, community centers, gas stations, beauty salons, strip malls, and fast-food restaurants in the participants' communities.

*Day-care center*s. Some interviews were conducted at a rural nursery school. The principal investigator obtained approval from the proprietor of the day-care center who was also a long-time community dweller. The eligible participants were women who brought their infants—typically grandchildren, nieces, and nephews—for day care.

Interviews were scheduled in advance with potential participants and generally took place in the afternoons and evenings.

Beauty salons. Data were also collected from eligible participants at beauty salons. The principal investigator acquired permission from beauty salon proprietors either to inform women about the study or to invite them to participate in it. To satisfy privacy requirements, interviews in the salons were conducted in private comfortable places, away from conversations among patrons waiting to receive personal services. Beauty salon operators or owners who were eligible and willing to participate in the study had the opportunity to participate after customers were no longer present. This approach assured privacy and confidentiality.

Workplaces. Some participants were interviewed at their work sites. In these settings, the interviews were conducted primarily during lunch or dinner hour, in private and comfortable spaces. In some instances, they were conducted at the large land-grant university in the office of the principal investigator; while other interviews occurred at restaurants, libraries, the women's homes, or other places.

Each interview lasted between one and two hours, and each woman was offered $20.00 as a token of appreciation and as assistance in defraying any costs which had been incurred through their participation. In addition, at the end of an interview, the participant was given health literature on preventing and managing heart disease, cancer, diabetes, mental illness, and other conditions. This wide recruitment approach produced a heterogeneous sample of southern rural African-American women representing 11 distinct small communities.

Current Study

In this study, the dependent variables were depressive symptoms and chronic stress. Chronic stress was also an independent variable. The other independent variables were personal characteristics comprising vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision-making), social resources (social support), and biological status (perimenopause and menopause). Chronic stress was an independent variable when explaining the relationship between personal characteristics and depressive symptoms. These variables were selected based on review of the current literature on depressive symptoms, chronic stress, and personal characteristics of African-American women in midlife.

Research Questions

This study used a descriptive, correlational design to answer the following research questions:

Research Question 1

What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision-making), social resources (social support), biological status (perimenopause and menopause), and chronic stress in African-American women in midlife?

Research Question 2

What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision-making), social resources (social support), biological

status (perimenopause and menopause), and depressive symptoms in African-American women in midlife?

Research Question 3

What is the relationship between chronic stress and depressive symptoms in African-American women in midlife?

Sample

Description of Sample

As in the original study, the sample included 206 African-American women. As in the parent study, inclusion criteria were (1) self-identified African American, (2) female, (3) 40 to 60 years of age, (4) resident of a southern rural community for at least 5 years, and (5) English-speaking. The age-range of 40 to 60 years old was selected because women usually experience menopause between the ages of 40 and 55 years, with 51 years being the median age (Gary et al., 2001; Greendale, Lee, & Arriola, 1999; National Institute of Health, 2005).

Sample Size for secondary analysis

Since the self-reports of personal characteristics, chronic stress, and depressive symptoms of African-American women in midlife may not be easily detected, a medium effect size was selected, that had been used in similar studies (Burusanont & Hadsall, 2004; Cohen, 1988; Gary et al., 2001; Finley, Gregg, Solomon, & Gay, 2001; Portney & Watkins, 2000). The sample size was 206 in the original study with an alpha of .05 (level of significance), beta of .15, and a moderate effect size of r =.30. In this secondary analysis, because there were a number of correlational analyses performed, beta was decreased to .10, which set estimated power to .90, a more conservative rate. The other

parameters remained the same as in the original study, with an alpha of .05 and medium effect sizes of r=.30, d=.50, and f=.25 (Cohen, 1992).

G*Power (Faul, 2007) was used to determine the adequacy of the sample size that was available for secondary analysis. The sample size of 206 was determined to be adequate for detecting medium effects of r=.30, d=.50, and f=.25 with an alpha of .05 and power of .90. However, in order to examine all relationships described within the research questions, the alpha level of .05 was interpreted as being suggestive of trends in the data. Applying the Bonferroni correction for the multiple statistical tests that were required (n=29), an alpha level of .002 was considered as definitive.

More specifically, research question #1 involves 14 statistical tests to examine associations between chronic stress and 2 demographic variables (age and marital status,), 2 indicators of health status, 3 indicators of SES (employment, income, and education), 3 indicators of knowledge, and 1 indicator each for self-perception, decision-making, social support, and biological status. In addition, research question #2 involves 14 statistical tests to examine associations between depressive symptoms and 2 demographic variables (age and marital status), 2 indicators of health status, 3 indicators of SES (employment, income, and education), 3 indicators of knowledge, and 1 indicator each for self-perception, decision-making, social support, and biological status. Finally, research question #3 involves a correlational analysis between chronic stress and depressive symptoms. Further description of the study measures follows.

Study Variables and Their Measures

Dependent and Independant Variables

The dependent variables were depressive symptoms and chronic stress. Chronic stress was also an independent variable in some analyses. The independent variables are chronic stress and personal characteristics consisting of vulnerabilities (demographics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision-making), social resources (social support), and biological status (perimenopause and menopause).

Measures

Five measures were used in this study. They were the Beck Depression Inventory Scale II (see Appendix A), the Life Stress Questionnaire (Appendix B), the Self-Perception Questionnaire (Appendix C), and the People in Your Life Questionnaire (Appendix D) and the Menopausale Health Survey (Appendix E), that has 6 subscales: The subscales were (1) the Sociodemographic Information Questionnaire, (2) the Menopausal Health Scale, (3) the Hormone Replacement Therapy Questionnaire, (4) the Decision-Making Scale, (5) the Menopausal Symptoms Instrument, (6) the Menopause Information/Knowledge Questionnaire,

Matching Study Variable with Measure

The Beck Depression Inventory-II (BDI-II) was used to operationalize depressive symptoms. A portion of the Life Stress Questionnaire (LSQ) was used to measure number of life events, impact, and chronic stress. Personal vulnerabilities were assessed by a portion of the Sociodem Questionnaire (MHS). Personal resources were measured by the Self-Perception Questionnaire (SPQ), a portion of the Sociodem Questionnaire,

the Hormone Replacement Therapy Questionnaire (MHS), the Menopausal Symptom

Instrument (MSI), the Menopause Information/Knowledge Questionnaire (MHS), and the

Decision-Making Scale (DMS). Social resource was measured by the People in Your Life

Questionnaire (PIYL). Biological status was measured by one question (#11) on the

Menopausal Health Scale (MHS).

Summary of Measures' Reliability

The following descriptions of the measures include the number of items used and

their estimates of reliability. The measures included: the Beck Depression Inventory

Scale II (21 items, $\alpha = .90$) that measured depressive symptoms (see Appendix A), the

Life Stress Questionnaire (21 items, $\alpha = .76$) that measured chronic stress (Appendix B),

the Self-Perception Questionnaire (20 items, $\alpha = .67$) that measured self-perception (self

esteem) (Appendix C), the People in Your Life Questionnaire (6 items, $\alpha = .56$) that

measured social support (Appendix D) and the Menopausal Health Survey (Appendix E).

The Menopausal Health Survey consists of 8 subscales, of which 6 were used, which

were: (1) the Sociodemographic Information Questionnaire, which gathered demographic

information and asked the two questions about health status; (2) the Menopausal Health

Scale, which was used to determine perimenopause versus menopause; (3) the Hormone

Replacement Therapy (HRT) Questionnaire (5 items, $\alpha = 0.70$) that measured knowledge

of HRT; (4) the Decision-Making Scale (10 items, $\alpha = 0.88$); (5) the Menopausal

Symptoms Instrument (12 items, $\alpha = .85$) that measured knowledge of menopause

symptoms; and (6) Menopause Information/Knowledge Questionnaire (12 items, $\alpha = .81$)

that measured knowledge about the menopausal process. Table 3 lists all measures used

in this study.

Table 3
Summary of Study Measures

	Measure	No. Items	Type	Chronbach's Alpha
Dependent Variables				
Depressive Symptoms	BDI-II	21-items	Cont/Int	.90
Chronic Stress	LSQ	21- items	Cont/Int	.76
Independent Variables				
Demographic Characteristics	MHS	8-items	Cat/Ord Cat/Nom	
Health Status	MHS	2-items	Cat/Ord (Dicot)	
Knowledge	MHS			
HRT		5-items	Cont/Int	.70
Menopausal Symptoms		12-items	Cont/Int	.85
Menopausal Process		12-items	Cont/Int	.81
Self-Perception	SPQ	20-items	Cont/Int	.67
Decision Making	MHS	10-items	Cont/Int	.88
Social Support	PIYL	6-items	Cont//Int	.56
Biological Status	MHS	1-item	Cat/Nom	

BDI-II _- Beck Depression Inventory-II   Cat/Nom - Categorical/Nominal
MHS – Menopausal Health Survey Subscale   Cat/Ord - Categorical/Ordinal
PIYL – People in Your Life Questionnaire   Cont/Int - Continuous/Interval
SPQ – Self-Perception Questionnaire   Dichot - Dichotomous
LSQ – Life Stress Questionnaire

Depressive Symptoms Measure

Description of the Beck Depression Inventory-II (BDI-II)

The African-American women's levels of depressive symptoms were measured by the self-reported 21-item Beck Depression Inventory-II (BDI-II), a revised version of the Beck Depression Inventory-I (Beck et al, 1996). The BDI-II was designed to standardize the assessment of the presence and severity of depressive symptoms in order to monitor change in symptomatology over time, to record the illness or to describe the symptoms (Beck et al., 1996). In this study, the BDI-II was used to describe depressive symptoms.

Reliability of the Beck Depression Inventory-II (BDI-II)

In non-psychiatric samples, correlations between BDI-II and the Hamilton Rating Scale of Depression (Ham-D) were .73 and .80. Eight psychiatric studies that examined correlations between BDI-II and the Zung Self-Rating Depression Scale obtained coefficients of .57 to .83. In this last comparison of instruments, among non-psychiatric samples the correlations ranged from .66 to .86. Five studies were completed with non-psychiatric and non-student samples ($n = 65$-214), with Cronbach's coefficient alphas ranging from .73 to .90 (Beck et al., 1988). The only ethnic group in this meta-analysis were African Americans and they comprised only 4% (n = 18/454) of the total sample (Beck et al., 1988).

Two studies in which all the subjects were African Americans used the BDI-II (Dutton et al., 2004; Gary and Yarandi, 2004). The Cronbach's coefficient alpha for the original study of 206 African-American women was .91 (Gary and Yarandi, 2004). The

Cronbach's coefficient alpha for a study involving 220 African Americans (50% African-American women) was .90. (Dutton et al.). These were the only studies which had more than a 10% representation of African Americans and which used the BDI-II to detect depressive symptoms.

Validity of the Beck Depression Inventory-II (BDI-II)

There has been limited validity with the BDI-II, but indications are that it has strong validity comparable to that of the BDI-I. With various groups of outpatient psychiatric patients and college students in the first study, for the psychometric characteristics of the BDI-II the test-retest correlation of .93 (p <.001) was significant (Beck & et al, 1996). During instrument testing when first developed the BDI-II showed good convergent and discriminant validity when compared to similar depressive symptoms instruments, e.g., the Hamilton Psychiatric Rating Scale for Depression (.71). In another study, the correlation between BDI-I and BDI-II was .92, supporting the convergent validity of the BDI-II (Dozois, Dobson, Ahnberg, 1998). However, discriminant validity was not calculated in this study. In another study of 210 psychiatric outpatients, the construct validity of the BDI-II was, as in the original study, .93 (Steer, Ball, Ranieri, & Beck, 1997)

Scoring and Interpretation of the Beck Depression Inventory-II (BDI-II.)

Each of the items consisted of 4 self-appraised statements graded in severity from 0 (absent or mild) to 3 (severe). None of the items were reverse-coded. The total scores were obtained by summing the scores from the 21 items to arrive at scores ranging from 0 to 63. As reported in the BDI-II manual, the depressive symptoms scores are interpreted as 0 to 13 (minimal), 10 to 16 (mild), 17 to 29 (moderate), and 30 to 63 (severe) (Beck &

et al, 1996). The BDI- II can be completed in 5 to 10 minutes if self-administered or took15 minutes if the participant is interviewed. A reading level of at least 5th to 6th grade was necessary to understand the questions.

<center>*Chronic Stress Measure*</center>

Description of the Life Stress Questionnaire

The Life Stress Questionnaire (LSQ) measured chronic life stressors that range from school, work, and health to personal interactions (Lustman, Sowa, & Day, 1981). The original 63-item scale was designed to establish the life change events similar to the Social Readjustment Rating Scale (Holmes & Rahe, 1967). The LSQ added items that reflect a participant's perception of the stressful event (Sowa & Lustman, 1984). The measure was adapted for use in the parent study and was further adapted in the current study. In this study, only questions that operationalized chronic stress were used. The entire questionnaire and the conceptual definition of chronic stress were sent to 3 experts with Masters Degrees in Psychiatric and Mental Health Nursing. They were asked, independently, to choose the items that operationally described chronic stress based on the conceptual definition they were given. The experts and the study's researcher agreed on 21 items in the questionnaire and these items were chosen to analyze chronic stress. These twenty-one questions under the headings of school (Questions 3 and 4), work (Questions 7, 9, 10, 12, and 13), love (Question 17), health (Questions 22 and 24), legal/violence (Questions 29, 30, 31, 32, 34, and 35), friends, family, and household (Questions 38, 42, and 44), and death (Questions 51 and 52) operationalized chronic stress.

Reliability of the Life Stress Questionnaire

Cronbach's coefficient alphas of the LSQ ranged from .78 to .91 in a study of 200 veterans. This confirmed that LSQ has a high consistency rate. The internal consistency coefficient alpha in the life stress questionnaire ranged from 0.81 to 0.89 based on the results from the pilot study of the original study. Cronbach's alpha for the 21-item was .76,

Scoring and Interpretation of the Life Stress Questionnaire

The participant had to decide how stressful each event was on the basis of a 4-point Likert scale: very stressful (3), somewhat stressful (2), little stress (1) or no stress at all (0).   The total scores in this third section are obtained by summing the scores from each of the 21 items to arrive at a total score of 63.   The chronic stress scores are interpreted as 0 (none), 1 to 5 (mininal), 6 to 10 (mild), 11 to 20 (moderate), and 21 to 63 (severe or high). The higher the score, the more stressful the event was; the lower the score, the less stressful the event. The Life Stress Questionnaire takes approximately 10 minutes to complete.

<div align="center">

Personal Characteristics Measures

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Description of the Menopausal Health Survey

The Menopausal Health Survey (MHS), a 96-item measure consisted of general information and 8 subscales, was adapted by the primary investigator of the original study from the Satisfaction with Decision Scale (Gary et al., 2001; Holmes-Rovner et al., 1996). Six subscales of MHS used in the secondary analysis addressed the personal characteristics of demographics (age and marital status,), health status, self-perception, socioeconomic status (employment, income and education), knowledge, decision-

making, and biological status (perimenopause and menopause) (Rothert et al., 1997).

Those subscales were the Sociodemographic Information Questionnaire (7 items),

Menopausal Health Scale (1item), the Hormone Replacement Therapy Questionnaire (5

items), the Decision Making Scale (19 items), the Menopausal Symptoms Instrument (12

items), Information/Knowledge Questionnaire (12 items). The internal consistency of the

MHS subscales that were used ranged from .77 to .97 (Rothert et al., 1997). The

subsequent description of each study measure follows in the order of its placement in the

Menopausal Health Survey.

*The Sociodemographic Questionnaire.*The Sociodem Questionnaire collected

information about the participant's personal data including two questions (# 9 and #10)

on health status. Questions one to eight gathered data about the sociodemographic data

about the participants. In the study, employment status, income status, and educational

status are personal resources.

Age. Age was measured by one item; the participant was asked, "How old are

you?"

Marital status. Marital status was measured by one item asking for the

participant's present marital status and given the choices of (1) Married, (2) Divorced,

(3) Single (never married), (4) Widowed, or (5) Separated. A category was chosen by

self-identification.

Employment status. Employment status was measured by one item that asked if

the participant was (1) employed full-time, (2) employed part-time, (3) not employed, or

(4) other. The participant was asked to describe employment status. A category was

chosen by self-identification.

Income Status. Income status was measured by one item that asked, "What was your approximate total household income (before taxes) during the past year?" There were ten answers to select from for this question, ranging from 1 (under $10,000) to 10 ($100,000 and above). A category was chosen by self-identification.

Educational status. Educational status was measured by one item that asked, "What was the highest grade or class you completed in school?" There were eight answers to select from for this question, ranging from 1 (less than high school education) to 8 (Other). A category was chosen by self-identification.

Health Status. Two questions were asked about health status. Two questions on the Sociodem Questionnaire addressed health status (Question 9: "Would you say your health is poor, fair, good, or excellent?" and Question 10: "Do you think your health is better, the same, or worse as most people your age?"

Knowledge Scales Regarding Menopause. Three subscales addressed knowledge: Hormone Replacement Therapy, Menopausal Symptoms Instrument, and Menopause Information/ Knowledge Questionnaire.

Hormone Replacement Therapy Questionnaire. As a part of the knowledge of menopause, this questionnaire inquired about how likely you were to get a disease. Questions 29 – 33, related "to how likely would you to get a specific disease or condition", were used in the original and current study. The lowest score was 1, the highest was 3. A score of 1 indicated that the participant had no knowledge about HRT and would not likely (or never) seek medical attention for perimenopause or menopause. A score of 3 indicated that the participant was very well informed about the medications used during perimenopause and menopause and would seek medical attention for

bothersome symptoms.   The score of 4 applied to the answer "None" meaning the participant was not sure about taking medications (HRT). The total score was reached through summation: poor = 5; fair = 6 to 10; good = 11-15; none = 16-20.

Menopausal Symptoms Instrument. This 12-item (questions 53 to 64) instrument was used to measure the menopausal symptoms experienced by the participants. A score of 1 meant"Not experiencing the symptoms"; 2 = "Does not bother me"; 3 = "Bothers me a little"; and 4 = "Bothers me a great deal. The total score was reached through summation: None = 12; Low = 13 to 24; Medium = 25 to 36 and high = 37 to 48.

Menopause Information/Knowledge Questionnaire. This subscale (questions 82-93) of 12 dichotomous (true/false) responses measured the participant's general knowledge about the process of menopause including factual information about menopausal signs, symptoms, and management. Cronbach's alpha for this scale was .85; the instrument was reviewed by a panel of clinical experts (nurses and physicians) for content validity and with a group of lay women for face validity (Rothert et al., 1997). Higher scores indicated knowledge deficits while lower scores indicate more knowledge about menopausal signs, symptoms, and management.

Self-Perception Scale. This instrument measured the women's self-perception (self-esteem) and self-outlook. The scale consisted of 20 True/False items. An answer of "True" produced a total of 9 positive and "False" produced 11 negative scores. The negative responses were reverse coded to summate a total score.

*Decision Making Scale.*The Decision Making Scale consisted of 19 items which measured a woman's perceptions of menopause and which will influence her decision-making capabilities (Rothert et al., 1997). This instrument has a Cronbach's reliability coeffiecient of .77 to .97 (Rothert et al., 1997). One of the subscales—the Satisfaction with Decision Scale—demonstrated good discriminate validity (Holmes-Rovner et al., 1996). Responses used a Likert design ranging from 1 = Strongly disagree to 5 = Strongly agree. From the responses were inferred any personal problems which a woman might have experienced and how she managed her menopausal symptoms.

People in Your Life Questionnaire

The research team from the original study adapted the People in Your Life Questionnaire (PIYL) for use with the perimenopausal and menopausal women. The original PIYL scale, a 23-item self-report measure was an adaptation of the Interview Schedule for Social Interaction (Henderson, Duncan-Jones, Byrne, & Scott, 1980). The PIYL Scale ascertained the number of friends a woman has, her attachments, and her level of satisfaction with her friends. In the original study and this secondary analysis, The People in Your Life (PIYL) Scale used 10 items to describe social support by operationalizing, first, how the participant felt about the people in her life through the use of a likert scale of 6 questions that asks the participant to choose from the following choices: (1) no, never, (2) yes, but rarely, (3) yes, sometimes, (4) yes, frequently, or (5) yes, all the time for each question (Marziali, 1987).

Reliability and Validity in the People in Your Life Scale. The PIYL Scale was a reliable and valid self-report instrument for social support (Furukawa, 1997). It was examined for reliability and validity in two studies researched by (Marziali, 1987). The

first study was conducted with patients and non-patients in an outpatient department of a psychiatric teaching hospital (251 psychiatric outpatients and 260 non-patients). The alpha coefficients for each of the subscales were .88 (Friends available: FAV), .93 (Friendship satisfaction: FSAT), .93 (Intimate available: INAV), and .94 (Intimate satisfaction: INSAT). Test-retest (52 patients, 62 non-patients) coefficients for n=114 were .80 (FAV), .83 (FSAT), .76 (INAV), and .71 (INSAT).

A second study was done with patients ($n = 42$) who were in brief, dynamic psychotherapy; they completed the scale before and after treatment (Marziali,1987) The pre-therapy correlations between satisfaction subscales and the symptom index and depressive mood scale supported the construct validity of the support measure, and they were consistent with findings from other investigators (Lin & Dean, 1984; Shaefer, Coyne, & Lazarus, 1981) The predictive validity of PIYL was supported by the partial correlations between the pretreatment intimate satisfaction scale scores and post-treatment depressive mood scale, together with partial correlations between all four support scales in pretreatment and social adjustment. The current scale has a reliability score of .56

Scoring of the People in Your Life Scale. This adapted measured of 15 items had two sections: the first focused on the individual's casual relationships and friends. The second evaluated intimate bonds. Each item inquired about the number of unpleasant or distressing interactions in the woman's group of relationships and friends; responses ranged from every day to not at all. The availabile answers were every day; 4 to 6 times a week; 2 to 3 times a week; once a week; 2 to 3 times a month; about once a month; or not at all.

Interpretation of the People in Your Life Scale. The total people interaction scoring indicated that never unpleasant = 24; rarely unpleasant = 17 to 23; sometimes unpleasant = 9 to 16; frequently unpleasant = 1 to 8; and always unpleasant = 0. The lower the number, the more unpleasant interactions, the participant encountered. The higher the number, the more pleasant interactions the participant experienced.

Biological Status

Item 1 of the Menopausal Health Scale measured the variables of perimenopause and menopause. It consisted of 5 parts: 1 (Still have natural menstrual periods), 2 (Less than 3 months ago), 3 (3 to 12 months ago), 4 (More than 12 months ago), and 5 (Not sure). In this question, items 1, 2, and 3 indicated that the participant was still in perimenopause. Item 4 designated menopause.

<center>*Data Analysis Plan*</center>

Statistical analysis began with preparatory activities (data cleaning) such as the treatment of missing data. This included addressing missing data points, data reduction when necessary, and recoding. Descriptive statistics were used to delineate characteristics, identification of outliers, and significance of the study's variables by obtaining the primary variables' shape, central tendency, and variability through the use of frequency distribution. Descriptive statistics were used to clean the data and to look for skewed or grossly non-normal distribution. Histograms and boxplots were used to visually present the normality of the data points. Visual examination of scatter plots, P-P Plots, and Q-Q Plots were used to identify possible associations of interest and provide quick but accurate information about the data. A frequency distribution characterized each variable's shape. Specific statistical tests were used to answer the following

research questions: Table 4 presents a list of all research questions and the statistical

methods used in this study.

Table 4.
Research Question and Statistical Methods

RESEARCH QUESTION	STATISTICAL METHOD Parametric
Research Question1	
What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision making), social resources (social support), biological status (perimenopause and menopause), and chronic stress in African-American women in midlife?	Correlation Analysis t-tests ANOVA
Research Question 2	
What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision making), social resources (social support), biological status (perimenopause and menopause), and depressive symptoms in African-American women in midlife?	Correlation Analysis t-tests ANOVA
Research Question 3	
What is the relationship between chronic stress and depressive symptoms in African-American women in midlife?	Correlation Analysis

Research Question 1

What is the relationship among personal vulnerabilities (demographic

characteristics and health status), personal resources (self-perception, socioeconomic

status, knowledge, and decision-making), social resources (social support), biological

status (perimenopause and menopause), and chronic stress in African-American women

in midlife?

To answer this question, correlation coefficients were used to determine the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision-making), social resources (social support), biological status (perimenopause and menopause), and chronic stress. Correlation coefficient values range from 1.00 (perfect) to .00 (no relationship). The relationship can be either positive or negative.

Research Question 2

What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision-making), social resources (social support), biological status (perimenopause and menopause), and depressive symptoms in African-American women in midlife?

To answer this question correlation coefficients was used to determine the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision-making), social resources (social support), biological status (perimenopause and menopause), and depressive symptoms.

Research Question 3

What is the association between chronic stress and depressive symptoms in African-American women in midlife?

To answer this question correlation coefficients were used to determine the relationship between chronic stress and depressive symptoms

Data Management

A disc copy of SPSS data were kept in a locked fireproof file cabinet in the investigator's office. SPSS files were kept in the investigator's home and on CASE's secured system. The investigator saved one copy each of data files and the syntax files on her PC's hard drive, on the CASE network, and on a disc. At the end of each working session, the investigator backed up files. The investigator was the only person who had access to the PC, and the PC was not connected to any network.

Protection of Human Subjects

According to (Burns & Grove, 2000) every study should be governed by three ethical principles. These were originally formulated by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The three principles are respect for persons, beneficence, and justice (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). This study adhered to these three principles.

Permission to conduct the original study was granted by the Institutional Review Board of the University of Florida. Because this study represented a secondary analysis in which there was no interaction with human subjects at any point, it was not necessary to secure additonal IRB permission. In the original study, the research team met and discussed the study with women at their workplaces and interviewed them at libraries, fast food restaurants, and other safe locations. It was emphasized to all participants that their involvement in the study was voluntary, and that they could withdraw from it whenever they wished. Written consent was obtained from each participant. At that time, participants were also assured that anonymity was guaranteed through a

standardized process, that included the provision that they not write their names on any of the questionnaires. Not even the researchers could identify the women who filled out the questionnaires. This study provided comparable protections: All data were confidential and stored under lock and key.

In the original study, the women were also assured that their healthcare would not be affected in any way, regardless of whether or not they elected to participate in the study. In addition, information about the benefits and risks of participating in the original study was also conveyed to the participants. Finally, in the original study, the women were not coerced, manipulated, or pressured to participate.

CHAPTER FOUR

Results and Discussion

The purpose of this study was to examine the relationships among personal characteristics (personal vulnerability, personal and social resources, and biological status), chronic stress, and depressive symptoms of African-American women in midlife. This chapter presents the results and discussion from the study's secondary analysis of the extracted data from a larger study titled "Southern Rural African-American Women's Health Status, Knowledge, and Income during Menopausal Years" (Gary et al., 2001)

The chapter includes the description of the sample and the results from the statistical analysis to answer each research question. The assumptions underlying each statistical method are addressed. The results are discussed in relation to the perspective of research cited earlier, specifically Vitaliano's Chronic Stress Model (Vitaliano et al., 2002). This chapter presents the relationships between personal characteristics and chronic stress, and the impact of these variables on psychological distress (i.e., depressive symptoms) of African-American women in midlife. The personal characteristics include personal vulnerabilities (demographics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision-making), social resource (social support), and biological status (perimenopause and menopause).

Description of Sample

Two hundred and six (206) African-American women participated in face-to-face interviews and completed all required measures during the larger study described above. Descriptive statistics were used to determine age, marital status, health status,

employment, income, and education (see Table 5). The participants ranged in age from

39 to 65 years old,

Table 5
Sample Descriptives Characteristics of African-American Women

Variable	Number	Percent
Marital Status		
Married	80	38.8
Divorced	45	21.8
Single (never married)	49	23.8
Widowed	19	9.2
Separated	13	6.3
Employment Status		
Employed full-time	154	74.8
Employed part-time	7	3.4
Not Employed	22	10.7
Other	23	11.2
Total Household Annual Income		
No Response	3	1.5
Under $10,000	22	10.7
$10,000 - $14,999	2	1.0
$15,000 - $19,999	35	17.0
$20,000 - $24,999	34	16.5
$25,000 - $29,999	31	15.0
$30,000 - $34,999	10	4.9
$35,000 - $39,999	13	6.3
$40,000 - $49,999	13	6.3
$50,000 - $99,999	22	10.7
$100,000 and above	21	10.2
Education		
Less than high school graduation	40	19.4
High school graduate (includes G.E.D.)	79	38.3
Greater than high school, but no degree	32	15.5
Technical trade/Community college degree	26	12.6
Bachelor's Degree	21	10.2
Master's Degree	6	2.9
Ph.D./Professional Degree	1	0.5
Other	1	0.5

Table 5 (con.t)
Sample Descriptive Characteristics of African-American Women in Midlife

Variable	Label	Number	Percent
Health Status			
Self-Rate	Status of Health		
	Excellent	22	10.7
	Good	121	58.7
	Fair	57	27.7
	Poor	6	2.9
Compare	Health Compared to Others		
	Better	102	49.5
	Same	8	42.2
	Worse	16	7.8

that met the definition of midlife in this study. The average age of the women was 48

years. At least 65% (n =134) were between the ages of 39 and 50 years old. One

hundred and two (49.5%) of the women were married, 12 (6%) were separated but not

divorced, 42 (20.4%) were divorced, 14 (7%) were widowed, and 36 (17.5%) were single

and never married. Most of the women were employed full time (74.8%) with household

incomes ranging from under $10,000 a year to more than $100,000 a year. In addition,

these African-American women were mostly high school graduates with advanced

education (n = 62, 30%); 14% (n = 29) had not graduated from high school. The percent

of participants with only a high school diploma was 56% (n = 115). Most of the women

(n = 203, 98.5%) identified themselves as African-American born in the United States.

This sample is different from the usual sample of African-American women in other

studies. This group has a higher precentage of employed individuals. Also, this group

was more educated with over half having at least a high school education. The age of the

women ranged from 39 years old to 65 years old with the average age of this group being

48 years old. Table 6 lists the summary measures (mean, standard deviation, range, and alpha) for the continuous variables of African-American Women in Midlife.

Table 6

Summary Measures of Continuous Variables of African-American Women in Midlife

Variable	Mean ± Std Dev	Range	Alpha
Decision-making	24.86±8.81	8 – 46	.88
Knowledge: Hormone Replacement Therapy	12.63±4.31	5 - 20	.70
Knoweldge: Menopausal symptoms	25.26±8.58	12 - 48	.85
Knowledge: Menopausal process	21.92±4.54	13 - 42	.81
Self-perception	10.16±3.17	2 – 19	.67
Social Support	15.92±3.60	6 – 26	.56
Chronic Stress	8.76±5.77	0 – 30	.76
Depressive symptoms	7.77±7.70	0 – 49	.90

Data Distribution

Assumptions

Assumptions are the conditions under which a statistical procedure was designed to give valid results in order to generalize beyond the sample values. When calculating correlations, there are four assumptions that must be met (Munro, 2004). First, the sample must be representative of the population to which the inference will be made. Since this is a convenience sample, caution was used in generalizing the results.

Second, the assumption for homoscedasticity must be met in that it assumes that variance is fixed throughout a distribution. Most of the residuals plotted against predicted values revealed wide variation alone the regression line. Third, the relationship between two variables should form a straight line or residuals should be scattered closely around the line (linearity). The assumption of linearity is important when using Pearson's correlations because this is the statistic that reflects the linear relationship. Fourth, each of the variables that are correlated (two at a time) must be normally distributed. Usually,

correlations are robust to violations of this assumption as long as there is a sufficient

sample size.

Skewness values to determine normal distribution

Skewness values, kurtosis values, and histograms were used to detemine the data

distribution, central tendency, and normality. Skewness characterizes the degree of

asymmetry of a distribution around its mean. A skewness statistic beyond ±2.0 denotes a

distribution that is positively or negatively skewed. With the skewness ratio (skewness

statistics/skewness standard error) the data distribution and central tendency of the data

points can be determined. Kurtosis characterizes the relative peakedness or flatness of a

distribution compared to the normal distribution. A kurtosis statistic beyond ±2.0 denotes

a distribution that is too peaked. Based on the findings listed in Table 7, the data were

normally distributed. Therefore, parametric statistics could be used to answer the three

research questions where continuous data were examined.

Analysis of Data

Table 7
Skewness and Kurtosis Values for Study Variables

Variable	Skewness Statistic	Skewness Std Error	Kurtosis Statistic	Kurtosis Std Error
Age	.594	.170	-.611	.338
Decision-making	.049	.169	-.844	.337
Knowledge: Hormone Replacement Therapy	-.009	.169	-1.022	.337
Knowledge: Menopausal symptoms	.253	.169	-.761	.337
Knowledge: Menopausal process	.937	.172	1.772	.341
Self-perception	.426	.169	.778	.337
Social Support	-.285	.169	-.076	.337
Chronis Stress	1.735	.169	3.685	.337
Depressive symptoms	1.761	.172	4.546	.341

Research Questions

Research Question 1

What is the relationship among personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision-making), social resource (social support), biological status (perimenopause and menopause), and chronic stress in African-American women in midlife?

The two demographic variables were age and marital status. The three variables of socioeconomic status were employment status, income, and education. The results of their analysis were described previously. Health status first examined the participants' awareness of their health status (see Table 5). The majority of the women (n=126; 61 %) reported that they were in good health; 22 (11%) reported that they were in excellent health. Twenty-eight percent (n = 58) reported that they were in fair or poor health. Secondly, the women were asked to compare the status of their health to others. Fifty percent (n = 103) reported that their health was better than other. Only 8% (n =16) thought their health was worst than others.

The analysis of self-perception determined that nearly all of the women (n = 197 had high self-esteem. In the positive self-perception category only one woman scored low in this category. In the negative self-perception category, 75 women reported that they had no problems with low self-esteem. Further, 113 women stated they had little problems with low-self esteem. Only two women scored high in the negative self-esteem category (indicates low self-esteem).

Three types of knowledge were measured and analyzed: how likely one would get a specific disease or condition; how bothersome are the menopausal symptoms and;

knowledge in general about the menopausal process. Only, a little over one-third (35%, n = 72) of the women seemed knowledgeable about the leading causes of death among African-American women. Only 11% (n = 23) reported knowledge that the symptoms had bothering them a great deal with the major of the participants reported that the symptoms did not bother them (42%, n = 87) or it was just a little (40%, n = 82). Participants had either fair knowledge (42%, n = 87) or poor knowledge (46%, n = 95) of the menopausal process.

The People in Your Life (PIYL) Scale (Marziali, 1987) measured the participants' degree of satisfaction with the social support given by their families, partners, and friends. The higher scores indicated greater satisfaction and lower scores suggested dissatisfaction among the African-American women in midlife with the social support that they received. The study participants obtained a minimum of 6-points and a maximum of 26-points out of 39-points ($M = 15.92$, $SD = 3.61$). Approximately half (47.1%, $n = 97$) of the participants reported that sometimes people in their lives got on their nerves. About 35.0% ($n = 72$) of the study participants reported that sometimes people in their lives led them down by not showing them as much love and concern as the participants expected. About 43.7% ($n = 90$) of the participants reported that they sometimes felt tense from arguing or disagreeing with people in their lives. Also, 36.9% ($n = 76$) of the study participants reported that they felt irritated or resentful all the time. Only 1.5% ($n = 3$) of the study participants reported that they never felt irritated or resentful.

Overall, the majority of the women scored low on chronic stress. Out of 63 possible points, the highest score obtained was 30 (one person). The majority of the

women (64.4 %) scored under 10 points. Almost 25% (24.8%, n = 51) reported no

chronic stress. Using the adapted Life Stress Questionnaire of 21-item questions, an

analysis was done on chronic stress and dichotomous variables in this study. The

dichotomous variables were married versus not married, fully employed versus not fully

employed, and parimenopause versus menopause (see Table 8).

Table 8
Chronic Stress and Dichotomous Variables in the Study of
African-American Women in Midlife

Chronic Stress	Mean	St. Dev	t-test	p-value
Married	5.00	5.195		
			.000	1.000
Not Married	5.00	6.004		
Fully Employed	4.95	5.636		
			.202	.840
Not FullyEmployed	5.13	5.174		
Perimenopause	5.25	5.378		
			.657	.512
Menopause	4.75	5.650		

The analysis shows that chronic stress is at the same level of chronic stress in both

the married and not married group. Chronic stress is slightly higher in the not fully

employed group than the fully employed group but not significantly. The variable

NOMENSES was used to determine which women were in menopause (no menses in the

last 12 months) and which women were in perimenopause (menses within the last 12

months). The sample was almost evenly distributed between the two conditions with

50.5%   (n = 104) in menopause and 49.5% (n = 102) in perimenopause. Chronic stress is

slightly higher in the perimenopausal group than in the menopausal group but not

significantly. In, the relationship between chronic stress and comparing one's health

status to another was statistically significant

With the use of ANOVA for more than two categorical groups, the relationship between chronic stress and self rating of one's health status, comparing one's health status to another, income, and education were analyzed (see Table 9). The relationship between chronic stress and comparing one's health status to another was statistically significant (F = 4.097, sig = .018). However, the p-value (sig) = .002 is the study's accepted definitive p-value because of the multiple statistical tests that were required for the data analysis. Therefore, any significant values needed to be interpreted with caution. None of the other relationships analyzing three or more groups were statistically significant.

Table 9
Chronic Stress and Ordinal Variables in the Study of African-American Women in Midlife

Chronic Stress	Mean	St. Dev	F-test	p-value
Self-Rating				
1. Poor	4.33	3.502		
2. Fair	5.44	5.523	.225	.858
3. Good	4.76	5.672		
4. Excellent	5.36	5.509		
Compare				
1. Better	6.00	6.426		
2 Same	3.74	4.147	4.097	.018*
3. Worse	4.97	5.507		
Income**				
1. Under $10,000 – $14,999	4.71	4.396		
2. $15,000 – $24,999	4.79	5.576	.478	.621
3. $25,000 – $100,000 and above	5.55	6.573		
Education				
1. Less than HS	4.58	4.425		
2. HD/GED	5.03	5.32	.193	.825
3. More than HS	5.02	5.512		

Pearson's correlations were used to analyze the relationship between chronic stress and age, decision making, knowledge of HRT, menopausal symptoms, menopausal process, self-perception, and social support (see Table 10). In this group of women, the

relationship between chronic stress and social support was statistically significant (r =

.225, p < .001). Also, the relationship between chronic stress and how bothersome are

menopausal symptoms was statistically significant (r = .180, p < .010), but not at the

definitive p value of .002 that was determined using the Bonferroni correction formula

for the number of statistical tests done. Interpretation of this last finding will be prudent.

None of the other correlations analyzing relationships were statistically significant.

Table 10

Correlations between Chronic Stress and Independent Variables

Chronic Stress		
Independent Variables	r	p value
Age	-.070	.319
Decision Making	.024	.736
Knowledge: HRT*	-.037	.593
Knowledge: Menopausal symptoms	.180**	.010
Knowledge: Menopausal process	.040	.572
Self Perception	-.026	.714
Social Suport	.225**	.001

*Hormone Replacement Therapy

Research Question 2

What is the relationship among personal vulnerabilities (demographic

characteristics and health status), personal resources (self-perception, socioeconomic

status, knowledge and decision making), social resources (social support), biological

status (perimenopause and menopause), and depressive symptoms in African-American

women in midlife? Out of a total of 63 points on the Beck Depression Scale II, the

highest score of a participant (n=1, 0.5%) was 49. A little over 75% of the women scored

10 points or under. Most women experienced minimal depressive symptoms while 16

women expressed no depressive symptoms at all.

In Table 11, depressive symptoms are experienced slightly higher in the not

married group than the married group but not significantly so. Also, the not fully

employed versus the fully employed was trending towards significance. Depressive

symptoms were slightly higher in the menopausal group than in the perimenopausal

group but not significantly so.

Table 11
*Comparing Depressive Symptoms and Dichotomous Independent Variables
in the Study of African-American Women in Midlife*

Depressive Symptoms	Mean	St. Dev	t-test	p-value
Married	2.11	.871		
			.166	.869
Not Married	2.13	.795		
Fully Employed	2.12	.816		
			.079	.937
Not FullyEmployed	2.13	.856		
Perimenopause	2.02	.920		
			1.816	.071
Menopause	2.23	.707		

The relationship between depressive symptoms and self rating of one's health status,

comparing one's health status to another, income, and education were analyzed with the

use of ANOVA for more than two categorical groups, (see Table 12). The relationship

between depressive symptoms and self-rating was trending towards significance (F =

2.266, sig = .082). None of the other relationships analyzing three or more groups were

statistically significant.

Table 12

Depressive Symptoms and Ordinal Variables in the Study of African-American Women in Midlife

	Mean	St. Dev	F-test	p-value
Self-Rating				
1. Poor	12.17	11.089		
2. Fair	6.56	7.252	2.266	.082
3. Good	7.42	6.477		
4. Excellent	10.73	12.506		
Compare				
1. Better	8.43	8.663	1.172	.312
2 Same	6.78	6.492		
3. Worse	6.75	6.506		
Income				
1. Under $10,000 – $14,999	2.13	.838	.032	.969
2. $15,000 – $24,999	2.10	.759		
3. $25,000 – $100,000 and above	2.14	.875		
Education				
1. Less than HS	9.16	8.029	.828	.438
2. HD/GED	7.26	7.639		
3. More than HS	7.48	7.799		

Pearson's correlations were used to analyze the relationship between depressive symptoms and age, decision making, HRT, self-perception, menopausal symptoms, menopausal process, and social suppport. The relationship between depressive symptoms and social support was statistically significant (r = -.154**, p = .029), but not at the definitive p value of .002 that was determined using the Bonferroni correction formula for the number of statistical tests done. Interpretation of this last finding will be done with caution. All other correlations were nonsignificant.

Table 13

Correlations between Depressive Symptoms and Independent Variables

Depressive Symptoms		
Independent Variables	r	p value
Age	.004	.951
Decision making	-.021	.767
Knowledge: HRT*	.047	.506
Knowledge: Menopausal symptoms	-.041	.559
Knowledge: Menopausal process	.035	.629
Self perception	-.088	.213
Social support	.154**	.029

*Hormone Replacement Therapy

Research Question 3

What is the relationship between chronic stress and depressive symptoms in African-American women in midlife?

The correlation between chronic stress and depressive symptoms was not found to be statistically significant (r = .097, p =.170).

Discussion

Sample and Generalizability

In terms of demographics and some resources (age, marital status, employment status, income, and education), the women in this study are similar to other study samples (Glaze et al., 2002; Pham, Grisso, & Freeman, 1997; Starks & Hughey, 2003; Woods & Mitchell, 1997). Like other samples, the women in this secondary analysis were ages 40 to 60 years old. The sample was one of convenience and not randomly selected. Consistent with other studies of menopause, this sample of African-American women in midlife reported income and education levels that were similar to the middle to upper middle socioeconomic classes of other woman who were previously studied. This group of women was born between the years of 1934 – 1960 in a period of shared experiences that no other cohort group will ever live through. Because of this timeframe,

socioeconomic status, and the use of convenience sampling, generalizability may be limited. However, findings from this secondary analysis can be generalized to other southern, rural, African-American women in midlife. This study focused on the relationship that chronic stress had with personal characteristics and depressive symptoms of African-American women in midlife.

Previous research on stress has focused primarily on acute life events and daily hassles (McCallum, Arnold, Bolland, 2002). However, evidence has shown that chronic stress may characterize the lives of African-American women in midlife to a greater extent than for other women in the United States (McCallum et al.).

Use of Vitaliano's Model as Theoretical Framework

Vitaliano's (2002) chronic stress model is a parsimonious and systematic representation of the Transactional (cognitive-phenomenologic) Model of Stress devised by Lazarus & Folkman (1984). A core assumption of this model is that any situation may be assessed as threatening or benign, but no event can be considered inherently stressful. This framework maintains that stress depends on subjective and cognitive appraisals that develop from the dynamic interplay (interaction) between person and environment (Lazarus, DeLongis, Folkman, & Gruen, 1985). Therefore, chronic stress is considered to be a transactional phenomenon that is dependent on the meaning a person ascribes to the stimulus; i.e. the event or experience.

Vitaliano's model was chosen and adapted for this secondary analysis for several reasons: (1) his model focused on illness rather than the population; therefore, it can be used with any ethnic group; (2) it is a generic model and thus transcends disease conditions; (3) it is

a model that identifies the basic social determinants that influence depressive symptoms; (4) it allows for an almost limitless number of research topics for study; and (5), it can be adapted for future studies.

Vitaliano (2002) used his model to study the interrelationships among chronic stress, psychophysiology, and coronary heart disease. However, in this secondary analysis, the relationships among these concepts were interpreted and examined in a different way. This secondary analysis used the model to emphasize the relationships between personal characteristics, chronic stress, and depressive symptoms. In Vitaliano's model, the antecedents of psychological distress and social resources were chronic stress, personal resources, and personal vulnerabilities. Therefore, psychological distress may be an outcome from chronic stress, personal resources, and personal vulnerabilities, or indirectly through social resources. In this secondary analysis, social support was one of the social resources rather than standing alone as an antecedent or mediator between chronic stress and depressive symptoms. However, even with the change in way the relationships were changed from the study of Vitaliano's, the buffering effect of social support could be seen. In further research, using Vitaliano's model, social support will be maintain as a separate entity as in Vitaliano's framework.

Chronic Stress and Pertinent Findings

There were three pertinent findings that emerged after analyzing relationships between chronic stress and the following variables: personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision-making), social resource (social support), biological status (perimenopause and menopause), and depressive symptoms. Significant findings

occurred in examining associations between (1) chronic stress and health in comparison to others (F = 4.097, p = .018), (2) chronic stress and knowledge of menopausal symptoms (r = .18, p <.01), and (3) chronic stress and social support (r = .23, p <.001).

Chronic Stress and Compared Health to Others (Health Status)

Chronic stress and health status in comparison with others were found to be associated (Avis & McKinlay, 1995; McCallum, Arnold, Bolland, 2002; Woods & Mitchell, 1997). Most of the women thought their health was better than (49.5%. n = 102) or the same as others (42.2%, n = 87). Only 7.8% (n = 16) thought theit health was worse than others. However, those women who thought their health was better, had more chronic stress than those who felt their health status was the same as or worse than others. Perhaps these women had more insight and were better able to address the impact of chronic stress in their lives due to their coping skills. These same women may have believed that even though they were experiencing higher levels of chronic stress, theybelieved their health was better than their peers. There is yet research to support this hypothesis. Although health is conceptualized as both physical and mental, it was unknown how these women conceptualized their health when comparing it to others. However, there is the possibility that either the women, even though they viewed their stress level as high, they were able to manage it well enough so that it didn't impact their physical health or the women do not see physical health and mental health as two dimensions of health.

One of the findings of the Ohio Midlife Women's Study indicated that chronic stress is a better predictor of negative health outcomes than menopausal status regardless of race (Glazer, et al., 2000). This result was consistent with the findings of the current

study, as well as with findings of other studies, e.g. in Seattle, WA, Massachusetts, and Canada (Avis & McKinlay, 1995; McCallum, Arnold, Bolland, 2002; Woods & Mitchell, 1997).   The empirical data in the literature indicated a strong relationship between chronic stress and health status.

Chronic Stress and Knowledge of Menopausal Symptoms

The findings from this analysis indicated that there was a significant correlation between chronic stress and knowledge of menopausal symptoms; the less the participants were troubled by the syptoms, the less they experienced chronic stress. There were very few studies with a sufficient sample size (n = +100) that examined knowledge or experience of menopausal symptoms in African-American women in midlife (Avis et al., 2001 Gary et al., 2001). As in other previous studies, only a few participants, (about 10%) in this current study, reported that they were bothered greatly by menopausal symptoms, although 43.7 % of the participants reported experiencing menstrual symptoms.

Most African-American women in midlife had learned about menopause while growing up, and came to view it as just one of many changes that would normally occur in their bodies. Most African-American women in midlife, across socioeconomic lines, reported that they received information about menopause from their mothers, from other female members of the family, and from female friends. Their knowledge and responses to menopausal symptoms were influenced by these women. The African-American women in midlife observed that for the most part, their family members and friends seem to take the transition to menopause in stride. Thus, these African-American women in midlife had more positive attitudes towards menopause and its symptoms. Therefore,

they felt they were prepared for menopause and had the power to deal with it themselves, rather than needing to consult a doctor, even when they experienced symptoms.

Chronic Stress and Social Support

There is substantial but conflicting evidence to show that social support has a buffering effect that protects from the adverse effect of chronic stress (Achat et al., 1998; Lincoln, Chatters, & Taylor, 2005). In this group of women, the relationship between chronic stress and social support was statistically significant (r = .23, p < .001). However, greater social support was associated with greater chronic stress in this group. The findings indicate that although African-American women in midlife may be highly satisfied with their social support, the support that is received may not necessarily be helpful for managing stress. Close to one-half (47.1%, n = 97) of the women participants asserted that people in their life sometimes got on their nerves. Over one-third (35%, n = 72) maintained that sometimes people in their life disappointed them by not expressing as much love and concern as the participants wanted. About 43.7% (n = 90) acknowledged that they sometimes felt tense from arguing or disagreeing with people in their life. Moreover, 36.9% (n = 76) of the women admitted that they felt irritated or resentful toward other people all the time. Only 1.5% (n = 3) of the women reported never feeling irritated or resentful toward others.

Chronic Stress and other Study Variables.

The relationship between chronic stress and each of the following variables, (1) age, (2) marital status, (3) self-perception, (4) socioeconomical status (employment, income, and education), and, (5) knowledge (HRT, symptoms, menopausal process), (6) decision making (7) biological status (perimenopause v. menopause), and (8) the number

of depressive symptoms was not significant. The lack of varience in this group of African-American women in midlife may account for low levels of chronic stress and depressive symptoms. There may not have been enough variance, accompanied by the low incidence of chronic stress and the few numbers of depressive symptoms in this group to pick up differences or to detect possible significance. In this study, over 75% of the women had some type of employment. Employment apparently has a role in the relationship between chronic stress and health status and may act as buffer in that relationship. The possible buffer of employment may explain the lack of statistical significance in the relationships.

Depressive Symptoms and Pertinent Finding

There was one pertinent finding after analyzing the relationship between depressive symptoms and the following variables: personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge and decision-making), social resource (social support), biological status (perimenopause and menopause), and chronic stress.

Depressive symptoms and social support

Depressive symptoms and social support

In the literature greater social support has been associated with greater severity of depressive symptoms. Also, research has shown an inverse relationship between social support and depressive symptoms. In this study, the relationship between depressive symptoms and social support was statistically significant ($r = .154$, $p = .029$). Higher levels of support were associated with greater severity of depressive symptoms. The findings indicate that although African-American women in midlife may be highly

satisfied with their social support, the support that is received may not necessarily be helpful for managing depressive symptoms. Krause and Rook (2003) used the term "negative interaction" to define unpleasant social encounters, which are "characterized by competition, criticism, rejection, invaded privacy, and the lack of reciprocity" (p. 88). The researchers observed that as women get older, they tend to withdraw from marginal social relationships to rely more relationships typified by a smaller number or core connections that preduce greater benefits. These relationships are more likely to be relatives rather than friends; and as such, the relationships may become involuntary and obligatory. These supportive familial relationships were harder to terminate and may become conflictual negative interactions resulting in depressive symptoms. This study supports that literature.

Depressive Symptoms and the Other Study Variables

Although some of the participants (18%, n = 38) in the current study were experiencing depressive symptoms, none of them were in treatment for depressive symptoms at the time of the study. Most participants (n = 185, 92.0%) in this current study had none to mild depressive symptoms. There were no significant findings between depressive symptoms and other study variables: age, comparison of health to others, self perception, socioeconomic status, knowledge of HRT, knowledge of menopausal symptoms, knowledge of menopausal process, decision making, social support, and menopausal status. However, the relationship between depressive symptoms and perimenopause versus menopause status and the relationship between depressive sympotoms and health self-rating both approached significance; their p values were greater than p = .05, but less than p = .10.The findings between depressive symptoms and

the other variables in this current study were unexpected and contradictory to the empirical findings in the literature. The nonsignificant findings between depressive symptoms in this current study are probably due to the few depressive symptoms reported by these African-American women in midlife. Also, most research examined depressive symptoms through the clinical diagnosis of depression and various other instruments (e. g., Center for Epidemiological Studies Depression Scale – CES-D, Hamilton Depression Rating Scale, Zung Self-Rating Depression Scale) examining depressive symptoms were used in other studies. The use of these various instruments does not facilitate generalization of results to other studies. In other studies, depressive symptoms were found to have a relationship with the following variables: age, health status, chronic stress, marital status, socioeconomic status, early menopause (Achat et al., 1998; Bromberger et al., 2003; George & Lynch, 2003; Lincoln; Chatters, & Taylors, 2005; Mazure & Maciejewski, 2003; Warheit, Holzer, & Schwab, 1973; Warren, 1997).

It has been shown in the literature, that African-American women in general, and specifically, those women in midlife have a tendency to express their sadness and other depressive symptoms somatically (physically). It is postulated that due to the stigma of mental illness in general and depressive symptoms specifically, African-American women in midlife may mask their depressive symptoms through the safer voicing of physical complaints. It would have been important to acknowledge to the participants how stigma plays a part in denying the experience of depressive symptoms. One wonders if the number and severity of the participants" depressive symptoms would be higher through the use of education first before having them answer the questions about depressive symptoms.

Chronic Stress and Depressive Symptoms

There was no significant association between chronic stress and depressive symptoms. This was surprisisng because there is ample research that shows there may be a strong relationship between chronic stress and depressive symptons. The lack of significant findings may have been due to the lack of moderate to servere chronic stress (13.1 %, n = 27) or the lack of moderate to severe depressive symptoms (7.7%, n = 16) in the sample of African-American women in midlife. In fact, at least 50 of these African-American women in midlife had no depressive symptoms (16%, n = 33) or minimal depressive symptoms (63.1%, n = 130). There was the possibility that due to other variables not studied but acting as buffers may have contributed to the lack of findings between chronic stress and depressive symptoms in the current study. Not only were those variables not studied, but the type of analysis needed to recognize these effects was not done in this study.

Although the sample sizes of other studies of African-American women in midlife were small and the findings could not be generalized, those studies have reported not only significant depressive symptoms, but also correlations with age, health status, chronic stress, marital status, socioeconomic status, and early menopause (Bosworth et al., 2001; Bromberger & Matthews, 1996; Freeman et al., 2001; Kaufert, Gilbert, & Tate, 1992; Woods & Mitchell, 1997). The sample size (n = 206) in the current study was large but the level of depressive symptoms throughout the group was not varied enough to detect a correlation with chronic stress.

John Henryism, not examined in the study, is another phenomenon that could have been acting as a buffer in the relationship between chronic stress and depressive

symptoms in this study. John Henryism is a psychological resource (a personal characteristic) used as a coping mechanism. The John Henryism Hypothesis (JHH) studied by James helped researchers and clinicians understand how African Americans cope with the stress-related health problem of hypertension (James, 1994). JHH assumed that African-American women in midlife are routinely exposed to chronic stress that required them to use considerable energy to manage that stress on a daily basis. The hypothesis also assumed that many of these women having difficulty coping with this stress would in turn develop depressive symptoms. In their study, Neighbors, Njai, and Jackson (2007) indicated that African-American women scored significantly higher than Caucasian women in John Henryism and also, scored significantly lower levels of depressive symptoms than Caucasian women. There has been very little research that has examined JHH's influence on the relationship between chronic stress and depressive symptoms. Further study is needed.

CHAPTER FIVE

Conclusion

This chapter summarizes the study of personal characteristics, chronic stress, and depressive symptoms in African-American women in midlife. The data were collected for the original study titled "Southern rural African-American women's health status, knowledge, and income during menopausal years" (Gary et al., 2001). This secondary analysis has lead to pertinent findings related to research questions that arose from the original study. This chapter will include a discussion of the study's limitations in relation to design, sampling, and methods. In addition, the implications of the study's findings for nursing practice, education, research, and health policy are reviewed. The chapter concludes with recommendations for future investigation.

Background

Although approximately 25% of women in midlife have reported significant depressive symptoms, most previous studies have used Caucasian participants. Because of the lack of research, depressive symptoms in African-American women in midlife remain indisernible. Women, particulary African-American women in midlife, are more at risk than men for stress-induced depressive symptoms because of their coping style, social status, socialization, and role stress. However, findings are inconsistent regarding whether African-American women in midlife have fewer or more depressive symptoms than Caucasian women in midlife. The lack of knowledge in this area only reinforces the questionable nature of empirical findings related to depressive symptoms in African-American women and strengthens the need for further research in this area.

Theoretical Framework

This secondary analysis examined relationships among depressive symptoms, chronic stress, and personal characteristics, comprised of vulnerabilities (demographics and health status), personal resources (self-perception, socioeconomic status, knowledge, and decision making), social resource (social support), and biological status (perimenopause and menopause) in African American women in midlife.

Vitaliano's model of chronic stress provided the theoretical framework to define and examine these relationships (Vitaliano et al., 2000). It was used because it contained all of the variables that were used in this study. Vitaliano's model stated that personal characteristics and chronic stress are related to psychological stress. In this study, psychological distress was defined as depressive symptoms. Vitaliano's model indicated personal vulnerabilities and personal resources were all related to each other and to psychological distress and social support. In his model, chronic stress was associated with psychological distress and social support, but had no relationship with personal vulnerabilities and personal resources. In the study reported here, the variables were arranged slightly differently. Personal vulnerabilities, personal resources, social resources were considered as personal characteristics. In the research model, personal characteristics were related directly to chronic stress and related directly and <u>indirectly</u> to depressive symptoms. As in Vitaliano's model, this study also examined the variable of biological status, defined as perimenopause and menopause.

In this study, only a portion of Vitaliano's model was examined. The model was selected because of its psychological and physiological underpinnings. The current study did not use the physiological part of Vitaliano's theory. In future studies, if the

researcher were to add a physiological piece of research (e.g., biological markers),

Vitaliano's entire theoretical framework would be appropriate to use.

Sample

A secondary analysis of a cross-sectional, correlational, descriptive design was

used to explain the relationships among personal characteristics, chronic stress, and

depressive symptoms. Convenience sampling was used in the parent study to obtain the

sample because of the dearth of scientific knowledge about African-American women in

midlife in the U.S. This convenience sample gave rich information on knowledge,

attitudes, health beliefs and practices, self-care activities, stress, and depressive

symptoms associated with perimenopausal and menopausal health among African-

American women during their perimenopausal phase of life. This research served as a

scientific base for future studies on this population of women.

The inclusion criteria specified in the parent study were African Americans who

(1) were female, (2) were willing to participate in the study and willing to sign the

consent form, (3) were between 40 and 60 years of age, (4) had been living in a rural

community for at least 5 years, and (5) spoke English. The sample consisted of 206

African-American women between the ages of 39 and 65 years. The sample size

exceeded the recommended sample size determined by power analysis. At least 65.0% (n

=134) were between the ages of 39 to 50 years old. The mean age of the women was

48.12 years. Demographics from this study indicated that 102 (49.5%) of these women

were married, 42 (20.4%) were divorced, 36 (17.5%) were single and never married, 14

(7%) were widowed, and 12 (6%) were separated, but not divorced. Most of these

women were employed full time (74.8%) with household incomes ranging from under $10,000 to more than $100,000 per year. One-third of the women made over $40,000.

In addition, these African-American women were more likely to be high school graduates with at least community and technical college degrees.Less than 20% (n = 40) had not graduated from high school. The percentage of participants who had graduated from high school was 38.3% (n = 79). One woman had an earned Ph.D. The majority of the women were protestant, but some were Jewish, and one woman was Catholic. Three of these women reported not having a religious affiliation and the remainder of the sample stated that they were in the "other" group.

Most of the women stated they were African-American (98.5%) and were born in the United States, while three women reported having been born in Africa, the Caribbean, or some other country. The majority of the women (n=126; 61 %) stated they were in good health, and 22 (11%) reported that they were in excellent health. Fifty-eight (28%) of the women reported that they were in fair or poor health.

All the participants lived in one rural county, within 50 miles of a state university, in the Southern United States of America. The participants were recruited from various settings in the community: churches, community centers, day-care centers, beauty salons, and workplaces. Data were collected from each participant by means of a structured face-to-face interview. The data included demographic information that formed the basis for description of the participants.

Measures

Description and Reliability of Measures

Five measures were used for this secondary analysis. The following descriptions

of the measures include the number of items used and their estimates of reliability. The

measures included: the Beck Depression Inventory Scale II (21 items, α = .90) that

measured depressive symptoms (see Appendix A), the Life Stress Questionnaire (21

items, α =.76) that measured chronic stress (Appendix B), the Self-Perception

Questionnaire (20 items, α = .67) that measured self-perception (self esteem) (Appendix

C), the People in Your Life Questionnaire (6 items, α =.56) that measured social support

(Appendix D) and the Menopausal Health Survey (Appendix E). The Menopausal Health

Survey consists of 8 subscales, of which 6 were used, which were: (1) the

Sociodemographic Information Questionnaire, which gathered demographic information

and asked the two questions about health status; (2) the Menopausal Health Scale, which

was used to determine perimenopause versus menopause; (3) the Hormone Replacement

Therapy (HRT) Questionnaire (5 items, α =0.70) that measured knowledge of HRT; (4)

the Decision-Making Scale (10 items, α =0.88); (5) the Menopausal Symptoms

Instrument (12 items, α = .85) that measured knowledge of menopause symptoms; and

(6) Menopause Information/Knowledge Questionnaire (12 items, α = .81) that measured

knowledge about the menopausal process.

Chronic Stress Questionnaire

The original Life Stress Questionnaire consisted of 63 items but for this study, a

modified questionnaire with 21 items with α = .76. In this study, only questions that

reflected chronic stress were use. The questionnaire and the conceptual definition of

chronic stress were sent to 3 experts with Masters in Psychiatric and Mental Health

Nursing. They were asked, independently, to choose the items that operationally

described chronic stress based on the conceptual definition they were given. The experts

and the study's researcher agreed on the 21 items in the questionnaire and these items

were chosen to analyze chronic stress, impact, and the number of events. The questions

were under the headings of school (# 3 & # 4), work (#'s 7,9,10,12, & 13), love (#17)

and health (#22 & 24), legal/violence (#29, 30, 31, 32, 34, & 35), friends, family, and

household (#38, 42, & 44), and death (#51 & 52). To answer the research questions, data

were analyzed statistically by t-tests, oneway ANOVAs, and correlational analysis. The

study variables were described as associations rather than causal relationships.

Analysis of Research Questions

Three research questions were investigated in this study:

Research Question 1

What is the relationship among personal vulnerabilities (demographic

characteristics and health status), personal resources (self-perception, socioeconomic

status, knowledge, and decision making), social resource (social support), biological

status (perimenopause and menopause), and chronic stress in African-American women

in midlife?

Research Question 2

What is the relationship among personal vulnerabilities (demographic

characteristics and health status), personal resources (self-perception, socioeconomic

status, knowledge and decision making), social resource (social support), biological

status (perimenopause and menopause), and depressive symptoms in African-American women in midlife?

Research Question 3

What is the relationship between chronic stress and depressive symptoms in African-American women in midlife?

T-tests were used for examining relationships between marital status (married versus not married), employment status (employed versus not employed), and biological status (perimenopause versus menopause) and the two outcomes, chronic stress and depressive symptoms. Oneway ANOVAs were used for examining relationship between health self-rating (excellent, good, fair, or poor), health comparison with others (better, same, or worse) income status ($0-24,999, $25,000-39,000, $40,000-100,000 and above), and educational status (less than high school, high school and more than high school) and the two outcomes, chronic stress and depressive symptoms. Pearson correlations were used to examine relationships between age, knowledge of HRT, knowledge of menopause symptoms, knowledge of menopause process, self-perception, decision-making, social support and the two outcomes, chronic stress and depressive symptoms.

Pertinent Findings of Research Question 1

Chronic stress and Health in Comparison with Othersr.

There was a significant relationship between chronic stress and participants comparing their health to others (F = 4.097; Sig = .018). Chronic stress and health in comparison to others were positively associated so that greater stress was related to better perception of health in comparison with others. The majority of the participants in the current study perceived their health status as good or excellent and generally their levels

of chronic stress were low. These findings replicated findings in other studies (Avis & McKinlay, 1995; McCallum, Arnold, Bolland, 2002; Woods & Mitchell, 1997). Moreover, there is strong anecdotal evidence indicating that an African-American woman's response to chronic stress may be the best indicator of her health status. However, in this study, the women who stated that their health status was the same or worst than others had lower levels of chronic stress than those who stated that their health status was better than most others. Perhaps here, as in other studies, results indicated that despite their greater stress, employed women perceived and enjoyed better health status (McDonaugh, Walters, & Strohschein, 2002). However, the women who stated that their health status was the same or worst than others had lower levels of chronic stress than those who stated that their health status was better than most others.

Chronic Stress and Experienced Menopausal Symptoms.

The findings in this study indicated that there was a significant correlation between chronic stress and knowledge of menopausal symptoms (r = .18, p <.01) such that the less the participants were troubled by the syptoms, the less they experienced chronic stress. There have been very few studies with a sufficient sample size (n = +100) that examined the experience of menopausal symptoms in African-American women in midlife (Avis et al., 2001 Gary et al., 2001). As in these studies, only a few participants, (about 10%) in this current study, were bothered greatly by menopausal symptoms, although 43.7 % of the participants reported experiencing menstrual symptoms.

Most African-American women in midlife had learned about menopause while growing up, and came to view it as just one of many changes that would normally occur in their bodies. Most African-American women in midlife, across socioeconomic lines,

reported that they received information about menopause from their mothers, from other female members of the family, and from female friends. Their responses to menopausal symptoms were influenced by these women. The African-American women in midlife observed that for the most part, their family members and friends seem to take the transition to menopause in stride. Thus, these African-American women in midlife had more positive attitudes towards menopause and its symptoms. Therefore, they felt they were prepared for menopause and had the power to deal with it themselves, rather than needing to consult a doctor, even when they experienced symptoms.

Chronic Stress and Social Support.

There is substantial but conflicting research showing that social support has a buffering effect which protects from the adverse effect of chronic stress (Achat et al., 1998; Lincoln, Chatters, & Taylor, 2005). The lack of social support has been linked to chronic stress and depressive symptoms. In this group of women, the relationship between chronic stress and social support was statistically significant (r = .23, p < .001). However, greater social support was associated with greater chronic stress. The findings indicate that although African-American women in midlife may be highly satisfied with their social support, the support that is received may not necessarily be helpful for managing stress. Close to one-half (47.1%, n = 97) of the participants asserted that people in their life sometimes got on their nerves. Over one-third (35%, n = 72) maintained that sometimes people in their life disappointed them by not expressing as much love and concern as the participants wanted. About 43.7% (n = 90) acknowledged that they sometimes felt tense from arguing or disagreeing with people in their life. Moreover, 36.9% (n = 76) of the women admitted that they felt irritated or resentful toward other

people all the time. Only 1.5% (n = 3) of the women reported never feeling irritated or resentful toward others.

Chronic Stress and other Study Variables.

The relationship between chronic stress and each of the following variables, (1) age, (2) marital status, (3) self-perception, (4) socioeconomical status (employment, income, and education), and, (5) knowledge (HRT, symptoms, menopausal process), (6) decision making (7) biological status (perimenopause v. menopause), and (8) the number of depressive symptoms was not significant. The lack of varience in this group of African-American women in midlife may account for low levels of chronic stress and depressive symptoms. There may not have been enough variance, accompanied by the low incidence of chronic stress and the few numbers of depressive symptoms in this group to pick up differences or to detect possible significance. In this study, over 75% of the women had some type of employment. Employment apparently has a role in the relationship between chronic stress and health status and may act as buffer in that relationship. The possible buffer of employment may explain the lack of statistical significance in the relationships.

Pertinent Findings of Research Question 2

There was one pertinent finding after analyzing the relationship between depressive symptoms and the following variables: personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge of HRT, menopausal symptoms, and menopausal process, and decision-making), social resource (social support), biological status (perimenopause versus menopause), and chronic stress. The relationship between depressive symptoms

and social support was statistically significant (r = .154, p = .029). However, the interpretation of findings needed to be done with caution because of the number of statistical tests required for this secondary analysis.

Depressive symptoms and social support.

In the literature greater social support has been associated with greater severity of depressive symptoms. Also, research has shown an inverse relationship between social support and depressive symptoms. In this study, the relationship between depressive symptoms and social support was statistically significant (r = .154, p = .029). Higher levels of support were associated with greater severity of depressive symptoms. The findings indicate that although African-American women in midlife may be highly satisfied with their social support, the support that is received may not necessarily be helpful for managing depressive symptoms. Krause and Rook (2003) used the term "negative interaction" to define unpleasant social encounters, which are "characterized by competition, criticism, rejection, invaded privacy, and the lack of reciprocity" (p. 88). The researchers observed that as women get older, they tend to withdraw from marginal social relationships to rely more relationships typified by a smaller number or core connections that preduce greater benefits. These relationships are more likely to be relatives rather than friends; and as such, the relationships may become involuntary and obligatory. These supportive familial relationships were harder to terminate and may become conflictual negative interactions resulting in depressive symptoms. This study supports that literature.

Depressive Symptoms and the Other Study Variables.

Although some of the participants (n = 38) in the current study were experiencing depressive symptoms, none of them were in treatment for depressive symptoms at the time of the study. Most participants (n = 185, 92.0%) in this study had none to mild depressive symptoms. There were no significant findings between depressive symptoms and the following variables: personal vulnerabilities (demographic characteristics and health status), personal resources (self-perception, socioeconomic status, knowledge of HRT, menopausal symptoms, and menopausal process, and decision-making), social resource (social support), biological status (perimenopause versus menopause), and depressive symptoms. These findings between depressive symptoms and the other variables in this study were unexpected and contradictory to the empirical findings in the literature. The nonsignificant findings between depressive symptoms in this current study are probably due to the few depressive symptoms reported by these African-American women in midlife. Also, most research examined depressive symptoms through the clinical diagnosis of depression and various other instruments (e. g., Center for Epidemiological Studies Depression Scale – CES-D, Hamilton Depression Rating Scale, Zung Self-Rating Depression Scale) examining depressive symptoms were used in other studies. The use of these various instruments does not facilitate generalization of results to other studies. In other studies, depressive symptoms were found to have a relationship with the following variables: age, health status, chronic stress, marital status, socioeconomic status, life events, early menopause (Achat et al., 1998; Bromberger et al., 2003; George & Lynch, 2003; Lincoln; Chatters, & Taylors, 2005; Mazure & Maciejewski, 2003; Warheit, Holzer, & Schwab, 1973; Warren, 1997).

It has been shown in the literature, that African-American women in general, and specifically, those women in midlife have a tendency to express their sadness and other depressive symptoms somatically (physically). It has been postulated that due to the stigma of mental illness in general and depressive symptoms specifically, African-American women in midlife may mask their depressive symptoms through the safer voicing of physical complaints. It would have been important to acknowledge to the participants how stigma plays a part in denying the experience of depressive symptoms. One wonders if the number and severity of the participants" depressive symptoms would be higher through the use of education first before having them answer the questions about depressive symptoms.

Pertinent Findings of Question 3- Chronic Stress and Depressive Symptoms

There was no significant association between chronic stress and depressive symptoms. This was surprisisng because there is ample research that shows there may be a strong relationship between chronic stress and depressive symptons. The lack of significant findings may have been due to the lack of moderate to servere chronic stress (13.1 %, n = 27) or the lack of moderate to severe depressive symptoms (7.7%, n = 16) in the sample of African-American women in midlife. In fact, at least 50 of these African-American women in midlife had no depressive symptoms (16%, n = 33) or minimal depressive symptoms (63.1%, n = 130). There was the possibility that due to other variables not studied but acting as buffers may have contributed to the lack of findings between chronic stress and depressive symptoms in the current study.

Implications

Nursing Practice

1. Added to the rationale to decrease mental health disparities by providing more cultural specific assessment, diagnosis, and treatment of depressive symptoms in African-American women in midlife

2. Indicated the need for evidence-based research that is grounded in best practices to address the provision for care of chronic stress and depressive symptoms in African-American women in midlife.

3. Justified the need to mplement nursing research that provides interventions to address more effective ways of establishing and monitoring therapeutic communications with African-American women in midlife and their families.

4. Informed nurses and other healthcare professionals about chronic stress and symptom management, and decision making as perceived and experienced by African-American women in midlife.

5. Indicated the need to explore new and innovative evidence based methods that are useful for increasing the recognition of and need for treatment of depressive symptoms among African-American women in midlife.

Nursing Education

1. Implied the need to review the curricula and determe concepts, knowledge and skill sets, to make relevant changes to address the mental health needs, particularly depressive symptoms, of African-American women in midlife.

2. Suggested that curricula changes regarding assessment, diagnosis, and treatment need to be evidence-based and related to best practices for African-American women in midlife .

Nursing Research

1. Conduct more research to determine the cultural basis for mental health self-care practices among African-American women in midlife.

2. Explore the vulnerability of African-American women of low economic-status, lower levels of educational access, and other barriers that are associated with being female and black.

3. Examine further the predictive relationships of personal characteristics, chronic stress, and depressive symptoms.

Nursing Health Policy

1. Develop inpatient and community based health literacy programs about depressive symptoms and chronic stress management targeted to African American women in midlife and their families.

2. Form collaborative interdisciplinary efforts to develop and test research measuresments that are sensitive to the lived experiences of African-American women in midlife and their personal characteristics, chronic stress and depressive symptoms.

3. Increase knowledge, theories, and methods that are culturally competent for African-American women in midlife related to their chronic and depressive symptoms

4. Assure that African-American women are represented, proportionally to ther

   presence in the population, in research studies.

Nursing Theory Development

1. Provides more data to support the position that chronic stress may be better than

   depressive symptoms as a predictor of health status in African American women

   in mid-life

2. Increases knowledge related to theories and methods that are culturally competent

   and reflect understatnding of the chronic stress and depressive symptoms of

   African-American women in midlife

<div align="center">

Limitations

</div>

One of the limitations of the study was the use of secondary analysis. A

disadvantage of secondary analysis is the nonavailability of access to the entire raw

dataset. Biases and inaccuracies cannot be checked. If the variables are not exactly those

needed or not measured in a way that is consistent with the research questions posed in

the secondary analysis or defined in the research model, the data might be manipulated or

transformed in a way that could reduce its validity. In addition, the data might be

outdated or questionable.

Because of the setting and the use of convenience sampling, the findings of this

study are not generalizable to other African-American women in midlife. All participants

who fit the designated criteria were considered for the study until the desired sample size

was reached.

Because of the cross-sectional design used in a secondary analysis, it is not

possible to draw conclusions regarding structural relationships and outcomes. Perhaps,

because the Beck Depression Inventory II had not been evaluated for psychometric properties among African American women, the measure was not able to capture the phenomenon of depressive symptoms in this group.

Nevertheless, this study offers discriptive data regarding personal characteristics, chronic stress, and depressive symptoms among African-American women in midlife; and the data provide a foundation for further investigation of the relationship among these variables. Such an investigation would benefit African-American women in midlife.

Recommendations for Future Research

This study provides the foundation for further study on chronic stress and depressive symptoms of African-American women in midlife in order to:

1. Execute a phenomenological study to distinguish the lived experience of chronic stress and depressive symptoms in African-American women in midlife.

2. Formulate a qualitative study to discern the definitions of chronic stress and depressive symptoms from the viewpoint of African-American women in midlife.

3. Determine what personal characteristics act as buffers in the relationship between chronic stress and depressive symptoms in African-American women in midlife.

4. Discover if chronic stress and depressive symptoms are expressed differently in African-American women and Caucasian women in midlife.

5. Develop a longitudinal study to see if there are changes over time in the level of chronic stress and the number of depressive symptoms that are predicted by personal characteristics of midlife African-American and Caucasian women.

Appendix A

BECK DEPRESSION INVENTORY (Beck, 1996)

Date: …………………

Name:………………………Marital Status: ………Age: ………..Sex:……………

Occupation:………………….Education: ………………………………………………..

This questionnaire consists of 21 groups of statements. After reading each group of statements carefully, circle the number (0, 1, 2, or 3) next to the statement in each group which best describes the way you have been feeling the past week, including today. If several statements within a group seem to apply equally well, circle each one. Be sure to read the statements in each group before making a choice.

1 0 I do feel sad
     1   I feel sad
     2   I am sad all the time and I can't snap
         out of it.
         I am so sad or unhappy that I can't stand
   it.
2 0   I am not particularly discouraged
         about the future.
     1   I feel discouraged about the
         future.
     2   I feel I have nothing to look
         Forward to.
     3   I feel that the future is hopeless and that
         things cannot improve.
 	
3 0   I do not feel like a failure
     1   I feel I have failed more than the
         average person.
     2   As I look back on my life, all I can
         see is a lot of failures.
     4   I feel I am a complete failure as a
         person.
4 0   I get as much satisfaction out of
          things as I used to.
     1   I don't enjoy things the way I used to.
     2   I don't get real satisfaction out of
         anything anymore
     3   I am dissatisfied or bored with
          everything
	12 0 I have not lost interest in other
	           people.
	     1 I am less interested in other
	         people than I used to be.
	     2 I have lost most of my interest in
	         other people.
	     3 I have lost all of my interest in
	         other people.
	
	13 0 I make decisions about as well as
	           ever could.
	      1 I put off making decisions more
	          than I used to.
	      2 I have greater difficulty in making
	decisions than before.
	       3 I can't make decisions at all
	          anymore.
	
	14 0 I don't feel I look any worse than
	           I used to.
	      1 I am worried that I am looking
	          old or unattractive.
	      2 I feel that there are permanent
	          changes in my appearance that
	          make me look unattractive.
	      3 I believe I look ugly.

BECK DEPRESSION INVENTORY (continued)

5 0 I don't feel particularly guilty.
  1 I feel guilty a good part of the time.
  2 I feel quite guilty most of the time.
  3 I feel guilty all of the time.

6 0 I don't feel I am being punished.
  1 I feel I may be punished.
  2 I expect to be punished
  3 I feel I am being punished.

7 0 I don't feel disappointed in myself.
  1 I am disappointed in myself.
  2 I am disgusted with myself.
  3 I hate myself.

8 0 I don't feel I am worse Than anybody else.
  1 I am critical of myself for my weaknesses or mistakes.
  2 I blame myself all the time for my faults.
  3 I blame myself for everything bad that happens

9 0 I don't have any thoughts of killing myself.
  1 I have thoughts of killing myself, but I would not carry them out.
  2 I would like to kill myself.
  3 I would kill myself if I had the chance.

15 0 I can work about as well as before.
  1 It takes extra effort to get started at doing something.
  2 I have to push myself very hard to do anything.
  3 I cant do any work at all

16 0 I can sleep as well as usual.
  1 I don't sleep as well as I used to.
  2 I wake up 1-2 hours earlier Than usual and find it hard to get back to sleep.
  3 I wake up several hours earlier than I used to and cannot get back to sleep.

17 0 I don't get more tired than usual.
  1 I get tired more easily than I used to.
  2 I am tired from doing almost anything.
  3 I am too tired to do anything.

18 0 My appetite is worse than usual.
  1 My appetite is not as good as it used to be.
  2 My appetite is much worse now.
  3 I have no appetite at all anymore.

19 0 I haven't lost much weight, if any, lately.
  1 I have lost more than 5 pounds.
  2 I have lost more than 10 pounds.
  3 I have lost more than 15 pounds.
I am purposely trying to lose weight by eating less. Yes……No…..

10 0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11 0 I am no more irritated now than I ever am
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now
3 I don't get irritated at all by the things that used to irritate me.

20 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains; or upset   stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
4 I am so worried about my physical problems that I cannot think about anything else.

21 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

…………Subtotal Page 3

…………Subtotal Page 2

…………Subtotal Page 1

…………Total Score

………………………………….THANK YOU……………………………………

LIFE STRESS QUESTIONNAIRE

SUBJECT NUMBER: _____

STUDY MONTH: _____

STUDY DATE: / /

STUDY RATER: _____

Revised 11/12/96

Revised 11 / 18/99

IN THE LAST 12 MONTHS: Listed below are a number of events which sometimes bring about change in the lives of those who experience them. Please CHECK either YES or **NO** to indicate whether **YOU,** or if indicated, your mate, spouse, close friend or family member have experienced the event in the past 12 months. FOR THE EVENTS YOU CHECK "**YES**", please indicate whether you viewed the event as having either a **BAD** or **Good** impact on **YOUR** life at the time the event occurred, regardless of what may have eventually happened as a result of the event. Whether the event happened to you or someone important in your life, please indicate whether it had a **BAD** or **Good** impact on **YOUR** Life when it happened. Also for the events you circled "**YES**," indicate how stressful the event was at the time the event occurred.

*Items designated as Chronic Stress

SCHOOL

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
1. Started or changed school or training program?								
2. Graduated from school or training program?								
3. Had significant added responsibility at school?								
4. Had significant problems in school or training program?								

WORK

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
5. Started regular work for the first time?								
6. Returned to work after not working for a long time?								
7. Looked for but could not find employment?								
8. Retired?								
9. Changed jobs								
10. Had trouble with a boss?								
11. Laid off or fired.								
12. Stopped work or quit.								
13. Took on a greatly increased workload?								

LOVE

	YES	NO	When the event happened, was the impact on your life		When the event happened, how stressful was the event			
			GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
14. Separated from mate for more than two weeks due to argument or discord?								
15. Got a divorce?								
16. Started dating after not dating for a long time?								
17. Trouble with in-laws or mate's parents?								

Health								
Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
19. Hospitalization for a life-threatening physical illness, disability, injury or major surgery?								
20. Hospitalization for a less serious physical illness, injury or minor surgery?								
21. Hospitalization for an emotional or psychiatric illness.								
22. Progression of IUV infection (e.g. t-cell decrease, developing symptoms or								

	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
AIDS).								
23. Recovered from any of the above illnesses, disabilities, or injuries?								
24. Change in personal habits (include sleeping, eating, exercising, smoking, drinking or drug use)?								
25. Accident... Motor vehicle?								

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
26. Mate or spouse had major change in health status								
27. Close friend or relative had major change in health status								

LEGAL/VIOLENCE

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
28. Physically assaulted or attached?								
29. Physically/emotionally abused or raped?								
30. Involved in a law suit court case or trouble with the law?								
31. Mate or spouse involved in crime or legal mater?								
32. Close friend or family member involved in crime or legal matter?								

MONEY AND FINANCE

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
33. Took out a large mortgage or a loan of more than one- fourth of family income?								
34. Financial situation worsened (repossession of car, loan foreclosed, property or money lost, gambling losses, loss of income source)?								
35. Went on Welfare or Disability?								
36. Went off or lost Welfare or Disability?								
37. Chronic financial stress?								

FRIENDS, FAMILY, AND HOUSEHOLD

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
38. New person (other than mate) became a resident in the household?								
39. Started to live alone?								
40. Started to live without any children at home ?								
41. Someone stayed on in the household after he/she was expected to leave?								
42. Serious family argument other than with mate (e.g. mother, brother, child)?								
43. Serious								

argument with close friend?								
44. Seeing less of close family member other than mate?								

RESIDENCE

	YES	NO	When the event happened, was the impact on your life		When the event happened, how stressful was the event			
			GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
45. Moved to a better residence or neighborhood?								
46. Moved to a worse residence or neighborhood?								
47. Lost a residence (e.g. home or apartment) through fire, flood, or other disaster, or a major destruction of it?								

DEATH

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
48. Spouse/mate died?								
49. Spouse/mate you are separated or divorced from died?								
50. Child died?								
51. Other immediate family member died (mother, father, brother, sister)?								
52. Other close relative (s) died (grandparent, aunt, uncle, in-laws. etc.)?								
53. Close friend died?								

Have any of these events happened to you in the last 12 months?			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
55. Birth of grandchild or great grandchild?								
56. Self or close family member became pregnant?								
57. Birth or adoption of first child?								
58. Birth or adoption of second or later child?								
59. Birth of grandchild or great grandchild?								
60. Found out that you could not have children?								
61. Close friend or relative had childbirth related change?								

OTHER RECENT EXPERIENCES WHICH HAVE HAD AN IMPACT ON YOUR LIFE (write in)			When the event happened, was the impact on your life		When the event happened, how stressful was the event			
	YES	NO	GOOD	BAD	VERY	SOMEWHAT	LITTLE	NOT
62.								
63.								

Appendix C

SELF PERCEPTION

The next series of statements are descriptions of how people think about themselves.

If the statement is **TRUE** for you, place a check under the TRUE heading.

If the statement is **FALSE** for you, place a check under the FALSE heading. Please read each statement carefully.

SELF-PERCEPTION	TRUE	FALSE
1. I look forward to the future with hope and enthusiasm		
2. I might as well give up because there's nothing I can do about making things better for myself.		
3. When thing are going badly, I am helped by knowing that they can't stay that way forever		
4. I can't imagine what my life would be like in 10 years.		
5. I have enough time to accomplish the things I most want to do.		
6. In the future, I expect to succeed in what concerns me most.		
7. My future seems dark to me.		
8. I happen to be particularly lucky and I expect to get more of the good things in life than the average person.		
9. I just don't get the breaks and there's no reason to believe I will in the future.		
10. My past experiences have prepared me well for the future.		
11. All I can see ahead of me is unpleasantness rather than pleasantness.		
12. I don't expect to get what I really want.		
13. When I look ahead to the future, I expect I will be happier than I am now.		
14. Things just won't work out the way I want them to.		
15. I have great faith in the future.		
16. I never get what I want so it's foolish to want anything.		
17. It is very unlikely that I will get any real satisfaction in the future.		
18. The future seems vague and uncertain to me.		
19. I can look forward to more good times than bad times.		
20. There's no use in really trying to get something I want because I probably won't get it.		

Appendix D

PEOPLE IN YOUR LIFE

This is an adapted version from the original People in your life Questionnaire (Marziali, 1987).

The questions below focus on how things are currently going between you and the people in your personal life: partners, friends, relatives, etc. Please answer in terms of how things have been going for you in **THE PAST MONTH**. Please **CHECK** the response that best describes how you feel.

	No, Never 4	Yes, But Rarely 3	Yes, Sometimes 2	Yes, Frequently 1	Yes, All the Time 0
1.Did you feel that people in your life let you down by not showing you as much love and concern as you would have liked?					
2. Have the people in your personal life really gotten on your nerves?					
3. Did people in your personal life make you feel respected?					
4. Have you felt tense from arguing or disagreeing with people in your personal life?					
5. Have you felt irritated or resentful toward people in your life?					
6. Did you feel misunderstood by people in your personal life?					

7.   During the **past month** about how often were you involved in a social interaction or exchange that was unpleasant or distressing? (Please include in your response interactions with your partner, your friends and family, your coworkers, people in shops, etc.). Check the answer you best agree with.

………..Every day

………4 – 6 times a week

………2 – 3 times a week

………Once a week

………..2 – 3 times a month

………. About once a month

………..Not at all

8.   To understand how your health status is (or has) affected your social support
      system, how many of the people you are close to (e.g., family, friends) are in each
      of the categories below? Write the number in each blank below, if none for that
      category, write "0".

      ………..Are diagnosed with a chronic illness.

      ………Are having some type of health problem.

      ………Have died within the last six months.

      ……… Have died within the past year.

9.   About how many groups or organizations (other than support groups) do you
      belong to just because you want to, such as clubs, church groups, lodges, etc.
      (Write in number. If none, enter "0" and go to question 11 below).

      Number……..

      About how many hours do you participate in these activities each month?............

IF YOU DO BELONG TO ANY GROUP OR ORGANIZATION: (Answer 10a and
10b).

10a.   How active are you in the groups or clubs you belong to? If you belong to a great
many, try to

       remember to count each of them). Number of groups or clubs…………

       ………..Very active, I attend most meetings.

       ………..Fairly active, I attend fairly often.

       ………Not active, I belong but hardly ever go.

10b. How many of these groups are health related organizations or groups?

Number: …….. (if none, enter "0").

11. Are you a member of any support groups?

…….Yes

…….No

What support groups do you belong to? _____; _____;

_____; _____;_____.

12. If **YES,** how **many** of these support groups are: (Answer both below. If none,

enter "0").

…….Health focused.

…….Focused on other issues.

13. Do you do any volunteer work?

……..Yes

…….No

IF YES: (Answer 14 and 15).

14. Does your volunteer work help you to cope?

…….Yes

…….No

15. How many of the agencies where you volunteer are: (Answer all both, if none,

enter "0").

……..Health focused

……..Focused on other issues

……………………………….THANK YOU…………………………………………..

Appendix E

**BLACK WOMEN'S JOURNEY INTO MIDLIFE: PERIMENOPAUSAL EXPERIENCES
MENOPAUSAL HEALTH SURVEY**

PRINCIPAL INVESTIGATOR
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Adapted from" **Patient satisfaction with health care decisions: The satisfaction with decision scale",** Margaret Holmes-Rovner, PHI; Jill Kroll, PHD: Neal Scmitt, PHD; David R. Rovner, MD; M. Lynn   Breer, MA; Marilyn L. Rothert, PH]). RN, FAAN: Georgia Padonu, PHI), RN: Geraldine Talarcrk,   EdD, RN, Michigan State University. College of Nursing: Phyllis Sharps. PhD., RN, The George   Washington, Washington, D.C. Women s Health, 1997

 9/20/99

1D Number:

Date: Time Start: _____

MENOPAUSAL HEALTH SURVEY

This questionnaire is about the menopausal health and well being, knowledge, attitudes, and perceptions of midlife women. Please read each question carefully and indicate your response by circling the appropriate number. Please follow carefully the instructions provided for each question.

SAMPLE QUESTIONS:

For example, consider this question:

The first month of the year is: 1 = March   2 = July   3 = January 4 = October

To choose January, you should circle 3 on the questionnaire form. For example, consider this statement: 1 January is a holiday.	1 = Strongly Agree	2 = Agree	3 = Neither Agree nor Disagree	4= Disagree	5 = Strongly Disagree

Choose the response that best describes you, by circling the appropriate number. For example, if you are certain January is a holiday, you would circle 1, for Strongly Agree, if you are certain that January 1st is not a holiday, then circle 5, for Strongly Disagree.

SOCIODEM INFORMATION

The following questions ask you to give some background information about yourself. This information will help us to understand and interpret the study's results. The information will be kept completely confidential. Please answer each question. Choose only one answer for each question.

1.   How old are you? _____

2.   What is your present marital status?

     1 = Married

     2 = Divorced

     3 = Single (never married)

     4 = Widowed

     5 = Separated

3.   What is your principal employment status? (This question refers to work which y are paid to do).

     I = Employed <u>full-time</u>

     2 = Employed <u>part-time</u>

     3 = Not Employed

     4 = Other

     Please describe _____

4.   What was your approximate <u>total household</u> income (before taxes) during the past year?

I = Under $10, 000	6= $30,000 -$34,999
2 = $10,000 -$14,999	7= $35,000 -$39,999
3 = $15,000 -$19,999	8 = $40,000- $49,999
4 = $20,000 -$24,999	9 = $50,000 -$99,999
5 = $25,000 -$29,999	10= $100,000 and above

5.   What was the highest grade or class you completed in school?

     I = Less than high school graduation

     2 = High school graduate (includes G.E.D.)

     3 = Greater than high school, but no degree

     4 = Technical trade/Community college degree

     5 = Bachelor's Degree

6 = Master's Degree

7 = Ph.D/Professional degree

8 = Other:

Please describe: _____

6.   Please indicate your religious preference/affiliation.

I = None

2 = Jewish

3 = Protestant (Baptist, Lutheran, Methodist, Presbyterian, etc.)

4 = Catholic

5 = Other

Please describe: _____

7.   What is your ethnic/cultural background?

 I = African American (born in USA)

2 = Caribbean Islander (born in USA)

3 = African (born in USA)

4 = Other

Please describe _____

8.   What is your source of payment for medicines you take which are prescribed by a physician?

1 = Payment is provided completely out of my pocket

2 = Payment is provided partly out of my pocket and partly by another source (e.g., insurance,   government agency).

3 = Payment is provided completely by a source other than me or my family (e.g., insurance,   government agency).

4 = Don't know

Please enter the dollar amount of the cost of your medications for the past year here $......... List the names of the medications that you take:

……………………………………………………………………………………………………

……………………………………………………………………………………………………

HEALTH STATUS

The following two questions are about your health. <u>Circle</u> the words that best describe your health.

9.   Would you say your health is: Poor……….....1

                                                          Fair ……………..2

                                                          Good…….…….. 3

                                                          Excellent………. 4

10.   Do you think your health is better   Better …………...1

        or worse than most people your own age?   Same…………… 2

                                                          Worse………...... 3

        A. If your health is better than most people your age, state what you do to keep

            healthy…………………………………………………………………….

            …………………………………………………………………………….

            ………………………………………………………………………….

        B. If your health is worse than people your own age, state what you do that keeps

            you from being healthy……………………………………………………..

            …………………………………………………………………………………

            …………………………………………………………………………………

MENOPAUSAL HEALTH SCALE

The remaining parts of this survey will ask you questions about menopause and your health.
Menopause is the time when a woman has stopped having her monthly period. A woman is considered to be in menopause after 1 year (12 months) of no monthly menstrual periods. Most women reach menopause by age 55, but women can reach menopause anywhere between 45 - 55 years of age.
Perimenopause means the transition (months or years) before the menopause (or the ending of monthly periods). During this time, the ovaries and other reproductive organs and hormones (estrogen) begin to decline. It is the change from being able to get pregnant (fertility) to the end of the menstrual periods.
MenopausaI or Perimenopausal symptoms: During the change from having monthly periods to having no periods, women may have symptoms like "hot flashes", "night sweats", vaginal dryness, weight gain, skin changes, and mood changes like anxiety or depression.

11. How many months ago was your last natural menstrual period (unrelated to hormone therapy)?
   1 = Still have natural menstrual periods
   2 = Less than 3 months ago
   3 = 3 to 12 months ago
   4 = More than 12 months ago
   5 = Not Sure

12. Using the scale below, indicate how severe you think your menstrual problems
   are or were prior to menopause.
   1 = No Problems
   2 = Minor Problems
   3 = Moderate Problems
   4 = Severe Problems
   5 = Very Severe Problems

13. Which of the following is true regarding your menopausal symptoms?

    1 = I have never experienced menopausal symptoms

    2 = I am currently experiencing menopausal symptoms

    3 = Not presently experiencing menopausal symptoms, but I have in the past

    4 = Not sure

14. Have you had a hysterectomy (an operation where the doctor removed all or part of your uterus)?

    1 = Yes

    2 = No

    3 = Not Sure

15. Have one or both of your ovaries been removed?

    1 = Yes, both ovaries removed

    2 = Yes, one ovary removed

    3 = No

    4 = Not Sure

16. Have you ever had cancer?

    1 = Yes

        Please describe: ………………………………………………………….

    2 = No

    3 = Not Sure

17. Have you ever had heart disease?

    1 = Yes

        Please describe………………………………………………………….

    2 = No

    3 = Not Sure

18. Have you ever had fractures due to osteoporosis?

    1 = Yes

    2 = No

    3 = Not Sure

HORMONE REPLACEMENT THERAPY (HRT)

The next questions are related to medications (hormone replacement therapy - **HRT)** that may be used by women during perimenopause and menopause.- These medicines are used to correct the symptoms of menopause, which are related to low levels of the hormone estrogen. Other medications use the hormone progesterone to treat the symptoms. For items 19—26, please indicate your experience with hormone replacement therapy (HRT) by choosing one response for the type of HRT listed in each question.

19.   How likely are you to take hormone replacement therapy (HRT) in the form of estrogen alone?

        1 = I am very certain that I would not take this form of HRT.

        2 = I probably would not take this form of HRT.

        3 = I may or may not take this form of HRT.

        4 = I probably would take this form of HRT.

        5 = I am very certain that I would take this form of HRT.

20.   How likely are you to take HRT in the form of progesterone alone?

        1 = I am very certain that I would not take this form of HRT

        2 = I probably would not take this form of HRT

        3 = I may or may not take this form of HRT

        4 = I probably would take this form of HRT

        5 = I am very certain that I would take this form of HRT

21.   How likely are you to take HRT in the form of estrogen/progesterone combined?

        1 = Very certain that you would not take this form of HRT.

        2 = Probably would not take this form of HRT.

        3 = May or may not take this form of HRT.

        4 = Probably would take this form of HRT.

        5 = Very certain that you would take HRT.

22.   Do you expect that your experience with hormone replacement therapy (HRT)
will be similar to or   different than your experience with birth control pills?

     I = Very different

     2 = Different

     3 = Neither different nor similar

     4 = Similar

     5 = Very similar

     6 = Not applicable, I have never taken birth control pills

     7 = Not applicable, I have never used hormone replacement therapy

     8 = Not applicable, I have never used either one

23.   Please indicate your experience with **estrogen pills and progestogen pius** (e.g.,
Estrocon, Premarin, Progens, Provera, Prempo, Progestin) by choosing one of the
following responses.

     1= I am currently taking these pills.

     2 = I have never taken these pills.

     3 = I have taken these pills in the past but discontinued it because of side effects.

     4 = I have taken these pills in the past but discontinued it because I no longer
       needed it for symptoms.

     5 = I have taken these pills in the past but discontinued it because I re-evaluated
       the safety of taking it.

     6 = I have taken these pills in the past but discontinued it because my health care
       provider recommended I discontinue it

     7 = I have taken these pills in the past but discontinued it for reasons not listed
       above.

       Please describe: _____

24.   Please indicate your experience with estrogen patch and progestogen pills by choosing one of the following responses.

I = I am currently taking this

2 = I have never taken this.

3 = I have taken this in the past but discontinued it because àf side effects.

4 =1 have taken this in the past but discontinued it because I no longer needed it for symptoms.

5 = I have taken this in the past but discontinued it because I re-evaluated the safety of taking it.

6 =1 have taken this in the past but discontinued it because my health care provider ecommended I discontinue it.

7 = I have taken this in the past but discontinued it for reasons not listed above.

    Please describe: _____

25.   Please indicate you experience with **progestogen pills and/or cream alone** by choosing one of the following responses.

1 = I am currently taking these pills.

2 = I have never taken these pills.

3 = I have taken these pills in the past but discontinued it because of side effects.

4 = I have taken these pills in the past but discontinued it because I no longer needed it for symptoms.

5 = I have taken these pills in the past but discontinued it because I re-evaluated the safety of taking it.

6 = I have taken these pills in the past but discontinued it because my health care provider recommended I discontinue it.

7 = I have taken these pills in the past but discontinued it for reasons not listed above. V

    Please describe:

_____

26. Please indicate your experience with estrogen patch alone by choosing one of the following responses.

1 = I am currently using the patch.

2 = I have never used the patch.

3 = I have used the patch in the past but discontinued it because of side effects.

4 = I have used the patch in the past but discontinued it because I no longer needed it for my symptoms

5 = I have used the patch in the past but discontinued it because I re-evaluated the safety of taking it.

6 = I have used the patch in the past but discontinued it because my health care provider recommended I discontinue it.

7 = I have used the patch in the past but discontinued it for reasons not listed above.

Please describe: _____

27. Please indicate your experience with estrogen pills **(e.g., premarin) alone** by choosing one of the following responses.

1 = I am currently taking these pills.

2 =1 have never taken these pills.

3 = I have taken these pills in the past but discontinued it because of side effects.

4 =1 have taken these pills in the past but discontinued it because I no longer needed it for symptoms.

5 = I have taken these pills in the past but discontinued it because I re-evaluated the safety of taking it.

6 =1 have taken these pills in the past but discontinued it because my health care provider recommended I discontinue it.

7 =1 have taken these pills in the past but discontinued it for reasons not listed above.

Please describe: _____

28.   Please indicate your experience with **birth control** pills by choosing one of the following responses:

1 =1 am currently taking birth control pills.

2 = I have never taken birth control pills

3 = I have taken birth control pills in the past but discontinued them because I experienced side effects from them.

4 =1 have taken birth control pills in the past but discontinued them because I no longer needed them for birth control.

5 = I have taken birth control pills in the past but discontinued them for reasons not listed above.

Please describe: _____

Items 29—33 are about how likely you think you are to get a specific disease or condition. For items 29— 33: if you <u>have</u> the disease or condition now — mark #3 (Very likely / Certain). If you cannot get the disease or condition — mark # 1 (Not likely I Never).

29.   How likely DO YOU THNK YOU are to get menopausal symptoms bothersome enough to seek medical attention?

1 = Not Likely (Never)

2 = Somewhat Likely (Maybe)

3 = Very Likely (Certain)

4 = Not Sure (Don't Know)

30.   How likely DO YOU THINK YOU are to get a fracture due to osteoporosis?

1 = Not Likely (Never)

2 = Somewhat Likely (Maybe)

3 = Very Likely (Certain)

4 = Not Sure (Don't Know)

31.   How likely DO YOU THINK YOU are to get heart disease?

       1 = Not Likely (Never)

       2 = Somewhat Likely (Maybe)

       3 = Very Likely (Certain)

       4 = Not Sure (Don't Know)

32.   How likely DO YOU THINK YOU are to get cancer of the uterus?

       1 = Not Likely (Never)

       2 = Somewhat Likely (Maybe)

       3 = Very Likely (Certain)

       4 = Not Sure (Don't Know)

33.   How likely DO YOU THINK YOU are to get side effects from hormone replacement therapy?

       1 = Not Likely (Never)

       2 = Somewhat Likely (Maybe)

       3 = Very Likely (Certain)

       4 = Not Sure (Don't Know)

DECISION MAKING

Some of you will not have experienced menopause yet, and some of you are experiencing menopause now. We are interested in finding out what your perceptions are about menopause regardless of whether or not you are experiencing menopause. In the questions that follow, please circle the response that most represents HOW YOU FEEL about each statement. There are no right or wrong answers.

Menopause Problem Scale

	1 = Strongly Agree	2 = Agree	3 = Neither agree nor disagree	4 = Disagree	5 = Strongly Disagree
34. Menopause will be an unpleasant experience for me.	1	2	3	4	5
35. The thought of menopause is Disturbing to me.	1	2	3	4	5
36. I expect to (do) experience physical trouble during menopause.	1	2	3	4	5
37. I expect to (do) experience emotional trouble during menopause.	1	2	3	4	5
38. Menopause will bring/has brought many positive changes to my life.	1	2	3	4	5
39. Menopause will/did cause me to be sick.	1	2	3	4	5
40. Menopause will/did have a negative effect on me.	1	2	3	4	5
41. I expect to be more tired than usual during menopause	1	2	3	4	5

DECISION MAKING (con't)
Menopause Problem Scale

	1 = Strongly Agree	2 = Agree	3 = Neither agree nor disagree	4 = Disagree	5 = Strongly Disagree
42. I expect to experience mood changes with menopaus					
43. Menopause will bring/has brought more stress to my life.					
44. Menopause symptoms that I might have can be helped.					
45. There are things I can do to feel good during the menopause other than going to a healthcare provider.					
46. There is little that I can do to control the symptoms of menopause.					
47. I believe that I can control menopausal symptoms.					
48. Special diets and foods may help me control some of the symptoms of menopause.					
49. Menopause is something I just have to put up with.					
50. Understanding the symptoms of menopause helps me control the effect of menopause.					
51. I can do much to control the symptoms of menopause.					
52. I can do very little on my own to control the symptoms of menopause.					

MENOPAUSAL SYMPTOMS INSTRUMENT

We would like to know what menopausal symptoms you are experiencing and how bothersome they are to you. Listed on the next few pages are a number of symptoms that sometimes occur in women as they go through menopause. Please read the list and identify which of these symptoms <u>you</u> are experiencing.

If you are not currently experiencing the symptoms, because you are premenopausal, on hormone therapy, past menopause or have had a hysterectomy,

PLEASE ANSWER "1".

If you are experiencing the symptoms <u>but you do not think it is related to menopause</u>,

PLEASE ANSWER "1".

I do experience symptoms ………….

	1 = I do not experience	2 = Does not bother Me at all	3 = Bothers me a little	4 = bothers me a great deal
53. Hot flashes or flashes	1	2	3	4
54. Weight gain (over 10 lbs.)	1	2	3	4
55. Difficulty sleeping	1	2	3	4
56. Flooding (heavy menstrual flow)	1	2	3	4
57. Vaginal dryness	1	2	3	4
58. Irregular periods, bleeding	1	2	3	4
59. Depression	1	2	3	4
60. Swelling or fluid retention	1	2	3	4
61. Mood swings	1	2	3	4
62. Headaches	1	2	3	4
63. fatigue-tiredness	1	2	3	4
64. Painful or tender breasts	1	2	3	4

SYMPTOM MANAGEMENT AND SELF-CARE INSTRUMENT

Please choose the extent to which you use each of these for your general health promotion or disease prevention. Do not include items you are taking for a specific disease or for occasional aches and pains such as headaches.

FOR HEALTH PROMOTION

	1 = Never	2 = less than once a week	3 = 1-3 times per week	4 = 4-6 times per week	5 = every day
65. I watch my diet.	1	2	3	4	5
66. I do planned exercises.	1	2	3	4	5
67. I take vitamins, herbs, mineral supplements or calcium supplements.	1	2	3	4	5

FOR MENOPAUSAL SYMPTOMS

	1 = Never	2 = less than once a week	3 = 1-3 times per week	4 = 4-6 times per week	5 = every day	6 = Not applicable. I'm not experiencing menopausal symptoms
68. I watch my diet.	1	2	3	4	5	6
69. I do planned exercises.	1	2	3	4	5	6
70. I take vitamins, mineral supplements or calcium.	1	2	3	4	5	6
71. I take medications (prescriptions and non-prescriptions) and/ or herbs.	1	2	3	4	5	6

MENOPAUSE INFORMATION/KNOWLEDGE

The following questions are about menopause (the change of life), a time that signifies the end of the menstrual cycle. In this section we are interested in your knowledge about the process of menopause. Answers to some of the questions will depend on whether or not a woman has a uterus. Please answer all questions assuming the woman has a uterus.

72. What can be said about birth control after menstruation stops?
    1 = Birth control should be used for 1 year
    2 = Birth control should be used for up to 5 years
    3 = Birth control should be used as long as sexually active
    4 = Birth control is not necessary
    5 = Don't know

73. What causes the symptoms of menopause?
    1 = The pituitary gland stops functioning
    2 = The uterus will not allow egg implantation
    3 = The fallopian tube becomes blocked
    4 = The ovaries produce less estrogen
    5 = All of the above
    6 = Don't know

74. Menopause increases the risk for which of the following?
    1 = Liver disease
    2 = Eye disease
    3 = Kidney disease
    4 = Lung disease
    5 = Osteoporosis
    6 = All of the above
    7 = None of the above
    8 = Don't know

75.   What physical changes occur in the vagina due to menopause?

1= It becomes dryer, shorter, and less elastic

2 = It becomes less easily injured

3 = The vagina remains the same following menopause

4 = Don't know

76.   Risk of osteoporosis (brittle bones) can be reduced by:

1 = Vitamin C

2 = Estrogen pills

3 = Relaxation exercises

4 = Don't know

77.   To help reduce the uncomfortable feelings associated with hot flashes, a person can:

1 = Increase caffeine intake

2 = Take vitamins above recommended daily allowance

3 = Wear several light layers of clothing so layers can be removed one at a time

4 = Increase spices and seasoning in food

5 = Don't know

78.   Vaginal dryness caused by menopause may lead to:

1 = Increased chance of vaginal infection

2 = Decreased chance of vaginal infection

3 = No change chance of vaginal infection

4 = Don't know

79.   Vaginal dryness caused by menopause can best be relieved by:

1 = Using water soluble lubricant (i.e. K-Y Jelly, Astroglide) (instant relief)

2 = Hormone replacement therapy (long term relief)

3 = Using cold cream

4 = Don't know

80.   After menopause, a woman's risk of heart disease:

1 = Decreases

2 = Increases

3 = Is the same as before menopause

4 = Don't know

81.   Hormone Replacement Therapy, HRT (estrogen):

1 = Increases a woman's risk of heart disease

2 = Decreases a woman's risk of heart disease

3 = Has no effect an a woman's risk of heart disease

4 = Don't know

82.   Although many women have menopausal symptoms, approximately
        20% seek medical relief.

1 = True   2 = False   3 = Don't know

83.   Hormone therapy (estrogen) after menopause increases the risk
         of osteoporosis.

1 = True   2 = False   3 = Don't know

84.   Hormone therapy (estrogen) can be used to help relieve the symptoms
        of menopause.

1 = True   2 = False   3 = Don't know

85.   Estrogen therapy without progesterone may increase the risk of cancer
        of the uterus.

1 = True   2 = False   3 = Don't know

86.   If a menopausal woman unexpectedly bleeds or spots a year after she
        completely stops menstruating, she should report this to her physician.

1 = True   2 = False   3 = Don't know

87.   Symptoms most often reported during menopause are hot flashes
       and night sweats.
       1 = True   2 = False   3 = Don't know

88.   Once a woman is through menopause she no longer has to be concerned
        with breast cancer or other female cancers.
       1 = True   2 = False   3 = Don't know

89.   As long as a woman is ovulating she can still become pregnant.
       1 = True   2 = False   3 = Don't know

90.   Ovulation may occur without menstrual bleeding occurring.
       1 = True   2 = False   3 = Don't know

91.   The addition of progestogenal agents (Provera) to estrogen replacement therapy
       increases the risk of cancer of the uterus.
       1 = True   2 = False   3 = Don't know

92.   The most common cause of death among women is breast cancer.
       1 = True   2 = False   3 = Don't know

93.   A woman's chance of dying from cancer of the uterus is greater than
       her chance of experiencing osteoporosis (bone fractures).
       1 = True   2 = False   3 = Don't know

94.   The leading cause of death for women under the age of 75 living in the
       United States is:
       1 = Heart disease
       2 = Endometrial cancer
       3 = Osteoporosis
       4 = Breast cancer
       5 = Don't know

95. Of the four sources listed below, which would you say is your first and most f
requent source of information regarding menopause?

1= Physician

2 = Nurse

3 = Other women

4 = Printed material (e.g., books, magazines, pamphlets)

5 = Television programs

Appendix F

Informed Consent *to* Participate *in* Research

The University of Florida Health Science Center Gainesville, Florida 32610

You are being asked to participate in a research study. This form provides you with information about the study. The Principal Investigator (the person in charge of this research) or his/her representative will also describe this study to you and answer all of your questions. Read the information below and ask questions about anything you don't understand before deciding whether or not to take part. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. Name of **the Subject** Title of **Research Study** Black Women's Journey into Midlife: Perimenopausal Experiences. Principal investigator(s) and Telephone Number(s) Faye A. Gary Hossein Yarandi 352-846-0732 Sponsor of the Study The National Black Nurses Association, Inc. Washington, D.C. What is the purpose of this study? The mid-life period (40-60 years) among women signal the beginning of the transition to menopause (the change). During this time of transition, little is known about how women from various ethnically and economically diverse groups manage their health. Specifically, there is little information available about how Black women manage their health needs during this period of life. This study will examine the knowledge, attitudes, health beliefs and practices, self-care, stress and levels of depression as associated with menopausal health among Black women during this phase of life. What will be done **if you take part in** this research study? You will be asked to have a face-to-face interview with the researcher. During the interview, you will be requested to complete some forms about your knowledge, attitudes, beliefs, and health practices. The interview will take about one hour of your time. Near the end of the study women will be asked to meet again to participate in a focus group (much like a discussion gr The women will be selected from among the 200 women who completed the interview. They will be selected by a random selection, much like the flipping of a coin. Each of the women will receive a letter and a telephone call, inviting them to participate in a ninety-minute focus group. The focus group will take place m a nearby church or school, or some other community-based facility that is convenient for you. What are the possible discomforts and risks? There are no foreseeable discomforts and risks associated with this proposed research. However, there may be times when you could get upset about a question that is on the form. If this should occur, you do not have to answer the question. There is no risk of injury associated with this research.

What are the possible benefits to you or to others?
There are no direct benefits to you if you agree to participate in this study. However, a potential benefit from participation may include the value of discussing your menopausal health, or change of life concerns and, at the same time, contributes to the scientific knowledge related to this subject.

If you choose to take part in this study, will it cost you anything?
There is no cost to you if you choose to participate in this study.
Will you **receive** compensation for your participation in this study?
Yes, you will receive compensation for your participation in this study. At the end of the study, you will receive $20.00 and literature about menopausal health for your own personal use.

What if you **are injured** because **of the** study?
If you experience an injury that is directly caused by this study, only — professional medical — professional dental ...... professional consultative care that you receive at the University of Florida Health Science Center will be provided without charge. However, hospital
expenses will have to be paid by you or your insurance provider. No other compensation is offered.

If you do not want to take part in this **study, what other** options **or** treatments **are available to** you? Participation in this study is entirely voluntary. You are free to refuse to **be** in the study.

How cn **you withdra**w fro m **this research study**?
If you wish to stop your participation in this research study for any reason, you should contact:
Faye A. Gary at (352) 846-0732. You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits to which you are otherwise entitled. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have any questions regarding your rights as a research subject, you may phone the Institutional Review Board (IRB) office at (352) 846-1494.
How will your privacy **and the** confidentiality of **your research records be protected**?
Authorized persons from the University of Florida, the hospital or clinic (if any) involved in this research, and the Institutional Review Board have the legal right to review your reseèch records and will protect the confidentiality of those records to the extent permitted by law. If the research project is sponsored or if it is being conducted under the authority of the United States Food and Drug Administration (FDA), then the sponsor, the sponsor's agent, and the FDA also have the legal right to review your research records. Otherwise, your research records will not be released without your consent unless required by law or a court order.

If the results of this research are published or presented at scientific meetings, your identity will not be disclosed.

Will the researchers benefit from your participation in this study (beyond publishing or presenting the results)?

No. Signatures

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study: Signature of person obtaining consent Date You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this Form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

_____

Signature of Subject Date   Signature of Witness (if available)
Date

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