EXPLORING BELIEFS AND ATTITUDES ABOUT MEDICATION ADHERENCE IN AFRICAN AMERICAN MEN WITH HIGH BLOOD PRESSURE

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

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COLLEGE OF NURSING

BY

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To the Dean of the Graduate School:

I am submitting herewith a dissertation written by Janell Bennett entitled "Exploring Beliefs and Attitudes About Medication Adherence in African American Men With High Blood Pressure." I have examined this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Nursing Science.

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We have read this dissertation and recommend its acceptance:

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DEDICATION

I dedicate this study, first to my husband Edward Lee Bennett who has been my biggest support and my best friend in completion of this study. Second, to my children Blair, Ericka, and John Buddy, who have encourage and supported me in this venture. Third, to my family and friends who gave their relentless support and words of encouragement. Lastly, Pastor Donald and Marva Leavell who were my role models and taught me that God can take ordinary people and do extraordinary things.

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ABSTRACT

EXPLORING BELIEFS AND ATTITUDES ABOUT MEDICATION ADHERENCE IN AFRICAN AMERICAN MEN WITH HIGH BLOOD PRESSURE

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MAY 2011

Hypertension in African American men is an increasingly serious problem and the mortality and morbidity rates are high. Over half of Americans with chronic diseases do not take their medications as prescribed. The aim of this study was to explore how beliefs and attitudes influence medication adherence in African American men 45 years of age and above with high blood pressure. An interpretive (hermeneutic) phenomenology research methodology was used to investigate the phenomenon. A purposive sample of 17 African American men participated in semi-structured interviews at churches and community centers. Data analysis using Crist and Tanner's approach (2003) provided a systematic guide to interpreting transcripts, identifying central concerns and shared meanings, clarifying emerging interpretations, and reporting interpretations. The discussion of the findings is organized to first describe the overarching theme *understanding the impact of high blood pressure*. Next the three themes of awareness, which support the over arching theme, are described. They are *feeling no symptoms, becoming aware of serious complications,* and *managing with hypertension.* Each theme

has one or more sub-themes. Information obtained from this research will give health care professionals knowledge to provide competent care of African American men with hypertension.

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CHAPTER I

INTRODUCTION

Approximately 72 million people in the United States, or one in three adults, were reported to have high blood pressure, which caused serious coronary heart problems, including heart and kidney failure and stroke (American Heart Association, 2008; National Heart, Lung, and Blood Institute, 2007; Peters, Aroian, & Flack, 2006). Factors that affect an individual's risk of high blood pressure include age, race and ethnicity, weight, gender, genetics, and lifestyle. Symptoms associated with high blood pressure are often not present until complications arise, which made this disease problematic for individuals and health care providers (American Heart Association, 2008; National Heart, Lung, and Blood Institute, 2007).

There is strong evidence that African Americans are at greater risk for hypertension than members of all other ethnicities/race, and each year over 100,000 African Americans die from heart disease and stroke resulting from high blood pressure. African American men appear to have heart attacks at an earlier age than African American women (American Heart Association, 2008) and seventy-two percent of the African American population has uncontrolled hypertension (Peters et al., 2006). Medication non-adherence is recognized as a major concern in the management of hypertension and presents a large barrier to treatment and is particularly prevalent in

African American males (Lukoschek, 2003). Johnson, Williams, and Marshall (1999) suggest that non-adherence is the main reason why patients were unsuccessful in controlling their hypertension.

Patients' beliefs regarding hypertension knowledge and antihypertension medications are determinants to medication adherence and following a recommended treatment regimen (American Heart Association, 2008). Not much is known about how the attitudes and beliefs of African Americans contributed to poor medication adherence (Peters, Aroian, & Flack, 2006; Chia, Schlenk, & Dunbar-Jacob, 2006). Understanding the beliefs and attitudes of those of African American culture may assist health care providers in implementing effective interventions to reduced health disparity and achieved hypertension control.

Problem of Study

The aim of this study was to explore beliefs and attitudes about medication adherence in African American men 45 years of age and above with high blood pressure.

Rationale for the Study

Hypertension, a contributing factor to cardiovascular disease (CVD), is the cause of death in 44.6% of African American men (American Heart Association, 2008; Parashar, Katz, Smith, Arnold, Vaccarino, Wenger, & Gottdiener, 2009). Approximately 45% of African Americans have high blood pressure, which places them at risk for complications. High blood pressure is uncontrolled in 45% of African Americans with hypertension, and the mortality rate among African Americans is 30% to 50% higher than

among Caucasians (Cooper, 2009). Ayotte, Trivedi, and Bosworth (2009) stated that cardiovascular mortality remains higher in African Americans compared to other races. They reported that less than 30% of African Americans' blood pressures are within normal limits.

The health care industry is concerned by the failure of patients to take prescribed medications because this results in a 10% increase in hospital admissions (American Heart Association, 2008). The medical and social costs of medication non-adherence are astronomical (Horne, Clatworthy, Polmear, & Weinman, 2001). In the United States, non-adherence to the prescribed treatment results in over $100 billion in medical expenses, and $52 billion in lost earnings and productivity (Cohen, 2009; Schlomann & Schmitke, 2007). In a 5-year study completed in South Carolina, 70% ($362.5 million dollars) of health care cost was related to strokes and associated with complications, predominately among African Americans, 65 years of age or less (National Stroke Association, 2009).

Poor medication adherence is a barrier to hypertension control (Kressin et al., 2007). Gatti et al. (2009) suggested that 20% of problems in medication adherence are correlated with patients' beliefs that medications have unsafe effects. Victor et al. (2009) reported that nearly 5 million, out of 15 million African Americans with hypertension, do not follow their treatment plans.

Identifying maladaptive beliefs and developing nursing interventions tailored specifically to the African American population will help improve disease management,

decrease health disparities, and promote medication adherence. Genuine efforts need to be established between patients and healthcare providers to decrease health disparity in African Americans (Schlomann & Schmitke, 2007).

Philosophical Underpinnings

This study was based on Heidegger's hermeneutic phenomenology. Through the analysis of text "the meaning embedded in lived experience" is derived (van Manen, 1990, p. 100). The basis of personal experience is a description or account of the lived experience and avoids using causal explanations, generalizations, or abstract interpretations (van Manen, 1990). The study analyzed interviews using hermeneutic phenomenological methods described by Crist and Tanner (2003), and was based on Heidegger's philosophy. Van Manen (1990) suggested that research writing and evaluative criteria of any phenomenological human science text need to be oriented, strong, rich, and deep. An oriented text provides answers to the research question under investigation. Hermeneutic interpretive phenomenology assists to provide richness, insight, and in-depth data into how beliefs and attitudes influence medication adherence in African American men 45 years of age and older with high blood pressure.

Heidegger's ontological focus was on understanding of human experience, or "being" and "being and time." "Being" or "Dasein" refers to how one creates sense of being, of place in the world, and being conscious of the world. One's existence in the world is predicated between self, others, and objects. An echo kept under control, and music not expressed in words, are metaphors used to describe Heidegger's philosophy.

He argued that a person would have to go back over his or her steps in history to fully understand how his or her beliefs came to be (Heidegger, 1962). Heidegger's philosophy suggested that researchers examined subjective experiences by asking general and probing questions, and viewed humans as creatures worried about their destiny in a foreign world. This attitude leads researchers to encourage individuals to provide detailed descriptions of their lived experiences (Lopez & Willis, 2004).

Hermeneutical interpretive phenomenological methodology asks for meanings of a phenomenon under investigation. Hermeneutical qualitative research seeks to understand the human experience, through being completely connected into the participant's world and engaging in the hermeneutical circle during the research spiral. The researcher used the hermeneutical circle as a guide in an analytic process that vacillates from focus on parts to wholes and from wholes to parts, seeking to understand the meaning of the text. To understand the parts, a sense of the whole is needed, and an understanding of the parts precedes understanding the meaning of the whole. The researcher's engagement in the hermeneutical circle was temporary, ending when the researcher could identify the true meaning of the text (Patton, 2002). Heidegger emphasized one's personal history in the world and traditions given to a person from birth helps formulate his or hers perceptions of the world (van Manen, 1990). Beliefs and attitudes are aspects of an individual's perceptions of the world. Therefore, hermeneutic interpretive phenomenology was an appropriate guide for providing insight into how beliefs and attitudes influenced medication adherence in African American men 45 years

of age and above with high blood pressure. Study findings may contribute to nursing science by suggesting interventions to assist African American men to take their medications and thereby decrease their incidence of hypertension and health disparity.

Data analysis followed the guidelines developed by Crist and Tanner (2003) who suggested five phases of analysis that overlap due to of the circular process of exploring the narrative. The phases are a step-by-step guide to interpreting transcripts, identifying central concerns, pertinent themes and meaning from informants, shared meanings, clarification of emerging interpretations, and reporting interpretations (Crist & Tanner, 2003). An analytical approach consisting of the following five phases was conducted:

1. *Phase 1* - Assess interview procedures for missing and/or unclear data. This phase is critical in obtaining substantive information. Team members critiqued the researcher's interviews and observation methods. The process is examined for accuracy and for potential future changes to research or interview questions. The researcher looked for gaps by reading and listening to recorded narratives. This phase helps gain meaningful and valuable data for the purpose of increasing the researcher's understanding and possibly adding new lines of relevant questions or inquiry.
2. *Phase 2* - Review transcription summaries and participants' responses from recorded and written materials to identify emerging themes and patterns of meaning, exemplars, and paradigm cases. As information is developing and informants' experiences are investigated, relationships and patterns were examined

and discussed. The researcher or team members refine and revise summary interpretations of data that lead to new themes and meanings. Final themes and concerns are coded into categories.

3. *Phase 3* - Examine transcripts and recordings for shared and similar meaning for the purpose of connecting stories, themes, and writing summaries.
4. *Phase 4* - Clarify emerging in-depth interpretations, central concern summaries, and interpretation of summaries occurred during this phase. Analyze notes to determine possible future changes in sampling.
5. *Phase 5* - Disseminate the interpretations of the transcripts for refinement and finish the development of an audit trail. Summary narratives for the dissertation manuscript are established prior to completion.

Summary

Several researchers have suggested that African Americans do not adhere to their prescribed antihypertensive. Factors that influenced non-adherence include lack of understanding of risk factors for hypertension and untoward outcomes of having hypertension, need for lifestyle modifications to manage or prevent hypertension, and poor communication with, and mistrust of healthcare providers. The extent of the impact of beliefs and attitudes was unknown, as were the specific attitudes and beliefs that lead to medication adherence. Once these gaps are identified, then they can be addressed with a tailored program to improve medication adherence. African American men's beliefs may be an important component of astonishing health disparity numbers, resulting from

hypertension and CVD complications. This hermeneutic phenomenological study explored beliefs and attitudes that influenced medication adherence in African American men 45 year of age and above with high blood pressure. The information generated from this research study increased nurses' understanding of attitudes and beliefs, and the effects they have on medication adherence.

CHAPTER II

REVIEW OF LITERATURE

This chapter provides a review, analysis, and synthesis of the literature about African American beliefs and attitudes that influence medication adherence and health outcomes. The goal was to understand what is known about the phenomenon and to identify gaps in the understanding of African American beliefs and attitudes that influence medication adherence. The following topics were reviewed: how attitudes and beliefs develop or are changes, the impact of the Tuskegee Study, African American's experiences with healthcare providers, illness perceptions and medication adherence, and the influence of beliefs and attitudes on medication adherence.

Scope of the Review

Resources were retrieved from the following electronic databases: Pub Med, Medline, CINAHL, ERIC, dissertation abstracts, systematic reviews, and government documents. In addition, an extraction approach, or "footnote chasing" was used to elicit additional references (Polit & Beck, 2008, p. 109). The key words "beliefs, "attitudes," "high blood pressure," "hypertension," "medication adherence," and "African American men" and combinations of these words were entered into the search box. Articles were examined for discussion of hypertension, medication adherence, beliefs, attitudes, illness perceptions, and African American men. Articles on related concepts found through the

reference lists of previously published reviews that met the inclusion criteria were also included. In the dissertation abstracts database no dissertations directly related to medication adherence in African American men were found. Two dissertations about medication adherence and hypertension concerned African American women with existing medical diagnoses of diabetes or HIV.

Influencing Attitudes and Beliefs

According to *Merriam-Webster Online* (2009), a belief is "a state or habit of mind in which trust or confidence is placed in some person or thing . . . a conviction of the truth of some statement or the reality of some being or phenomenon especially when based on examination of evidence." Attitude is defined as "a mental position assumed for a specific purpose, or a mental position with regard to a fact or state" (*Merriam-Webster Online,* 2009).

Zimbardo (1991) states that there is a direct correlation between attitudes and beliefs and both are influenced by social factors. Social influences result in behaviors that reflect ones' attitudes. Depending on an individual's outlook of a situation, actions can be manifested in a healthy or unhealthy ways. Other aspects that impact behaviors and are woven together, include self worth and others' perceptions, economic status, and peer pressure. Positive thoughts are linked to stable behaviors and negative beliefs can be improved by calling attention to conflicts between attitudes and routines. Introducing

individuals to new ideas, thoughts, surroundings, and settings gives them opportunities to learn, adapt, and practice new behaviors. These factors change behaviors as beliefs and attitudes are modified. If health care providers can recognize the association between actions and attitudes, and the factors that influence both, then we can intervene to modify them and influence health outcomes.

The Commonsense model of self-regulation posits that if individuals understand the consequences of an illness, that understanding can positively affect medication adherence (Hekler et al., 2008). Hekler at al., (2008) further suggest that beliefs are an important component of the CSM because individuals will have better management of the disease if they believe the treatment is effective. Illness beliefs and perceptions, and perceived consequences of an illness are precursors in engaging, or not, in healthier behaviors such as medication compliance.

Impact of the Tuskegee Study

A number of studies have examined the effects that the Tuskegee Study of Untreated Syphilis in the Negro Male (1932–1972) has had on African Americans' attitudes and beliefs about health care and their inability to recruit African Americans for research studies. This was an unethical research study conducted by the federal government in which poor and uneducated African American sharecroppers with syphilis were given non-therapeutic treatment (Wolinsky, 1997).

Wolinsky (1997) suggested that the ethical problems in the Tuskegee study are partially responsible for African Americans being distrustful and suspicious of health care providers, contributing to non-adherence to medical therapeutic recommendations. This mistrust of the government and of the health care system has led to erroneous thinking among African Americans. Many African Americans believe that drug abuse among African Americans is promoted by the government, and that acquired immunodeficiency syndrome is a means of perpetuating a genocide on the African American community (Thomas & Quinn, 1991).

Perceptions of Experiences with Healthcare Providers and Medication Adherence

Schlomann and Schmitke (2007) used interpretive synthesis to examine beliefs regarding hypertension and to evaluate the communication between patients and health care providers. Their meta-analysis included 11 qualitative research studies published between 2000 and 2005. Findings suggested that personal beliefs and experiences, including historical events, constant worry, emotional and interpersonal issues (racism and financial struggles) faced by African Americans, and poor relationships and communication between patients and health care providers, are barriers to medication adherence. Moreover, lay patients in general believe that their perceptions of their condition are unimportant, and that health care professionals' opinions supersede theirs. Schlomann and Schmitke (2007) suggested that there is a need for collaborative effort, in

place of the presumption that the health care provider's perspective is superior to that of the patient. Schlomann and Schmitke hypothesized that stereotypes and negative perceptions surround African Americans, creating distrust and furthering the gap between African American patients and health care providers. Health care professionals give instructions on lifestyle changes without assessing the specific educational needs of African Americans, and miscommunication results. For example, African American patients may not understand the importance of taking medication as well as modifying and changing other behaviors to decrease hypertension and may eventually discontinue the medication. Most African Americans assume that if lifestyle behavior modifications are made, they can discontinue medications. Instructions to make both lifestyle changes and take medication seem nebulous and contradictory to them. Health care providers need to teach African Americans that medications may have to be taken for a lifetime to prevent complications of hypertension, a step in resolving miscommunication issues with African Americans.

Kressin et al. (2007) used self-reports of patients' experiences during doctors' visits, to assess attitudes and beliefs regarding hypertension, medication adherence among Whites and African Americans, the link between patient experiences and clinicians, patient characteristics, sociodemographic factors, and health beliefs. Participants were asked questions about their knowledge regarding risk factors, the

benefits of medication, their attitudes and beliefs about their risk for and the severity of hypertension, and their ability to understand and follow the recommendations influencing medication adherence. The researchers recruited 793 Caucasians (42%) and African Americans (58%) from multiple Veterans Affairs facilities. In this study participants were men with controlled blood pressures. The findings suggested that there were no racial differences in regards to medication adherence. The researchers concluded that there were no racial differences because African American healthcare providers educated and counseled African Americans on the disease and the importance of medication adherence. The researchers proposed that good communication is essential to teaching African Americans treatment modalities and the benefits of taking their antihypertensive medications. African American participants recognized that hypertension is a serious condition and that taking their blood pressure medications would lower their blood pressure. This knowledge is essential in adherence to medication and treatment recommendations.

Cohen (2009) completed a concept analysis of medication adherence. She postulated that adherence is more likely to occur when patients receive education on goal setting and participate in mutual decision making on medication adherence. She suggested that patients must perceive physician recommendations as beneficial to their health if they are to follow treatment guidelines. In addition, individuals need to perceive

themselves as being susceptible to a catastrophic illness and understand the impact it could have on their health. Cohen (2009) emphasized that adherence to a treatment regimen is contingent upon how people understand the benefits of engaging in healthier behaviors. She described other factors such as lack of resources and knowledge, adverse side effects of medication, and trust issues as causes of non–medication adherence

Cohen (2009), Cooper (2009), Kressin et al. (2007), Lewis, Colbert, Erlen, and Meyers (2006), and Schlomann and Schmitke (2007) provide evidence that for African Americans suspiciousness and lack of trust are factors related to non adherence to medication. Other barriers to medication adherence include negative historical events, constant worry, emotional factors that are challenges for African Americans, and poor relationships and communications between the patients and healthcare providers

Illness Perceptions and Medication Adherence

Illness perceptions are perceptions about whether an illness is chronic, whether it has serious consequences, and whether control or cure is possible. Ross, Walker, and MacLeod (2004) used the self-regulatory model to examine illness perceptions and treatment beliefs and how they influence medication compliance. The five themes of the self- regulatory model (identity, time line, cause, consequences, and cure/control) were used to measure illness perceptions and beliefs regarding medication adherence among hypertensive individuals. A questionnaire evaluated demographic data. Two instruments,

the Beliefs about Medication (BMQ) and the Illness Perception Questionnaire (IPQ-R), were used to assess patient's knowledge and their risk factor perception (n=514). Although some participants expressed concerns regarding their medications, many recognized the importance of medication adherence. Older people were more likely to demonstrate medication adherence than young people, and women were more likely than men. Ross et al. (2004) posited that those with stronger beliefs in the medication as being effective were likely to comply with treatment. Further, their response and ability to control hypertension was also associated with compliance.

Viswanathan and Lambert's (2005) used grounded theory methodology to explore perceptions of medication meanings, illness, identity, and biographical disruption among 20 African American people with hypertension. In-depth, audio taped interviews, lasting less than an hour were conducted. The researchers identified six themes (fear of side effects and addictions, medications perceived as being a 'hassle", sexual side effects, forgetfulness, and the medication being ineffective) influencing medication adherence. Viswanathan and Lambert (2005) concluded that taking medications and diet modifications were considerable adjustments for individuals with hypertension. Educational programs and counseling sessions addressing these issues would be useful to medication adherence and optimal health outcomes.

Three hundred hypertensive individuals participated in the Horne, Clatworthy, Polmear, and Weinman (2001) 18-month longitudinal study. Questionnaires were used to collect data about patients' beliefs regarding their illness and treatment and the influence

medication adherence had on their quality of life. Tablet count and a cognitive assessment using the Beck Depression Inventory were performed. This study examined two categories of non-adherence: unintentional non-adherence (forgetfulness) and intentional non-adherence (a conscious decision by the patient not to adhere to treatment recommendations). Intentional non-adherence results from negative beliefs regarding treatment and from illness being considered maladaptive. When individuals do not understand the severity of the illness or treatment recommendations because of poor communication between the doctors and patients the probability of disease management is low. If the problems can be identified and corrected, then a prescriptive intervention can facilitate high medication adherence.

Illness perceptions are important to medication adherence. Those who understand the severity of their illness are more likely to adhere to medication. Likewise, those who have a belief in, and an experience of, their medications being effective are more likely to comply. Effective communications with health care providers who understand that taking medications requires considerable adjustments may also enhance medication compliance.

The Influence of Beliefs and Attitudes on Medication Adherence

In their qualitative study, Peters et al. (2006) interviewed 34 African Americans, between 27 and 60 years of age, diagnosed with hypertension, in 5 focus groups (3 all women and 2 all men). They examined beliefs and attitudes associated with non-adherence and hypertension prevention behaviors. They asked questions about three categories of beliefs, behavioral, normative, and control. The Theory of Planned

Behavior (TPB) guided the study. The TPB is defined as the "the perceived social pressure to engage or not engage in a behavior" (p. 848). The TPB has been used to predict human behavior. The TPB postulates that attitude, subjective norms, and perceived behavioral control estimates intention, and that intention and perceived behavioral control approximates health behaviors. The researchers identified 1 theme (circle of culture)" and 3 subthemes (a description of behavior passed from generation to generation, accountability, and acting different) as precursors that influence behaviors regarding hypertension prevention programs. The circle of culture is considered to be a safe haven for African Americans. Circle of culture is also a sense of belonging to and a feeling of connectedness, and provides a set of standards or shared norms within the culture that impact behaviors.

The TPB includes three component beliefs that shape attitude. For this study, cognitive beliefs were described as understanding the causes and consequences of hypertension, affective beliefs as recognizing pro and cons of participating in hypertension preventative behaviors, and cognitive beliefs as a commitment to engage in behaviors that will decrease hypertension and the complications associated with the disease. All participants recognized the importance of self-care hypertension management and the negative consequences of unmanaged hypertension, but few participants attributed hypertension to poor generational diet habits and the risk factors of smoking and obesity. Some correlated daily stress evolving from being unable to pay bills and living in high crime neighborhoods with a negative effect on blood pressures. They

believed that spiritual interventions and being accountable to each other would assist them in changing unhealthy life styles and making healthier choices.

Participants reported that during past attempts to conform to healthier behaviors they experienced a lack of support for their effort to changed negative behaviors, and described having disparaging remarks directed at them, including being called an "Uncle Tom," "acting White," or "diet Nazi." The findings suggest that understanding the impact of the "circle of culture" on African Americans can guide healthcare providers' behaviors to help African Americans achieve blood pressure control. Results from the study also offered African Americans insight into how to manage their hypertension and reduce health disparities (Peters et al., 2006).

Lewis, Askie, Randleman, and Shelton-Dunston (2010) also used the TPB (behavioral, normative and control beliefs) to guide their qualitative study. The TPB includes attitude, subjective norm, and perceived behavioral control, as three sub components of the model. The TPB hypothesizes that behavior and the beliefs that people hold true to are the deciding factors of social behaviors. The researchers recruited 40 low-income hypertensive patients, that were 18 years of age and older. Interviews, lasting 2 hours, were conducted at a local community center. Questions centered on behavioral, normative, and control beliefs. The researchers' goal was to understand the influence those beliefs have on medication adherence.

Behavioral beliefs are aligned with attitude, and whether or not the expected behaviors are achieved when performing the behavior. Behavioral belief findings

indicated that African Americans understand the advantages (decrease and manage your blood pressure and it saves your life) of taking their medication, but the negative symptoms of taking the antihypertensive medications, and lifestyle changes superseded the benefits related to taking the medication, resulting in their decisions to be non adherents. The adverse effects of taking the antihypertensive medications (i.e. increased urination, tiredness, and swelling) were considered more incapacitating than the actual disease.

Normative beliefs are beliefs about supportive others' approval or disapproval of the desired behavior. Normative beliefs were elicited by the question "Who approves of you taking your high blood pressure medication?" Findings indicated that significant others, friends, or family members were in agreement in the importance of participants adhering to their antihypertensive medication. There was a strong association between medication adherence and having spiritual guidance and significant others, friends, or family members as a support system.

Control beliefs are linked to perceived behavioral control and they are beliefs about the presence, or absence, of barriers or facilitators to taking action. Based on these, the person decides if the benefits of performing the desired behaviors, with or without symptoms, outweigh the barriers. Participants held more beliefs about barriers than facilitators. Barriers to taking antihypertensive medications included high daily stressors (racial discrimination, neighborhood violence), inadequate financial resources, and not being able to trust healthcare providers. The researchers concluded that it was important

that clinicians continue to provide hypertension education outreach, screen for social support system, inquire about the impact of violence on medication adherence, and consider how clinician behaviors influence medication adherence.

In a randomized clinical study Ard, Durant, Edwards, and Svetkey's (2005) examined perceptions of African Americans that could impede their ability to adhere to therapeutic recommendations. Ard et al. (2005) recruited 26 African Americans to participate in videotaped discussion sessions, lasting 90 minutes. In these group sessions cultural issues and personal understandings, and how they affected adherence, were addressed. Three unlike interventions, excluding medications, were used to improve blood pressures. The researchers observed and documented the nonverbal and verbal communications during these discussions and identified 7 patterns: 1) extensive use of nontraditional support systems, 2) general mistrust of European Americans, 3) African Americans being undervalued as human beings and members of American society, 4) effective use of improvisation, 5) uneven playing field as a result of persistent discrimination, 6) preservation of a unique ethnic identity, and 7) socioeconomic status influencing behavior. Ard et al.'s findings suggest that health behaviors, attitudes, perceptions, and beliefs are based in cultural norms and govern adherence behaviors.

Cohen (2009) completed a concept analysis of medication adherence. She found that an individual's perception of health risk status was an antecedent to medication adherence. She emphasized the importance of paying attention to the decision-making partnership between the provider and the patient. This is congruent with Horne and

Weinman (1999) and Phatak and Thomas's (2006) findings that a patient's beliefs and perceptions about the severity of his or her disease are significant to medication adherence.

For a study by Gatti et al. (2009), 275 impoverished, high-risk patients diagnosed with hypertension were recruited from three different inner-city hospital pharmacies. Two hundred and seventy-five individuals were recruited. They took an average of 3.5 prescribed medications each. Eighty-six percent of the participants were African Americans, 18 years of age and older (mean 53.9 years of age), and 72% were diagnosed with hypertension, 44% with hyperlipidemia, and 31% with diabetes. Participants completed a self-assessment of their beliefs regarding medication adherence. Of the 275 participants 53% had low medication adherence. They posited that when patients believe medicines are not needed or will have minimal impact on their health outcomes, they make a conscious decision not to take scheduled medications. Gatti et al. (2009) referred to this behavior as "intentional omission." When patients harbor negative beliefs concerning medications, they tend to decrease medication adherence. If medications are perceived as being ineffective and unnecessary, the patient will fail to remember to take them. If patients believe that their physicians are overprescribing medications or if they fear developing an addiction, medication adherence is hindered. Seventy-three patients, (26.5%) reported that they stopped taking medication if adverse side effects occurred and 93 patients (33.8%) described their medication regimen as being bothersome or being an inconvenience. A major finding was that health literacy was not independently associated

with medication adherence, while negative beliefs about medications were independently associated with medication adherence.

Fernandez, Scales, Pineiro, Schoenthaler, and Ogedegbe (2008) conducted a quantitative non-random study with 65 minority participants (self-identified as black, African American, Latino, or Hispanic) age 60 and older, recruited from six community-based senior centers in New York City. A pre-post design pilot study was done at six community-based senior centers and individuals completed a baseline assessment, a follow-up visit 1, (occurring at 6weeks), and a follow-up visit 2, (occurring at 14 weeks). The study examined the effects of several lifestyle interventions, physical exercise, decreased sodium intake, and increased fruit and vegetable consumption, on blood pressure in elderly minorities diagnosed with hypertension. Individuals received six weekly behavioral counseling sessions and two monthly maintenance "booster" sessions, lasting between 60 and 75 minutes. Content included goal setting, self-monitoring, stimulus control and problem solving approaches. Hypertension education, lifestyle modifications, education on antihypertensive medications and the importance of medication adherence, nutrition modifications, and increased physical activities were discussed during the sessions. Information was given to participants along with other interventions addressing negative lifestyle behaviors. Realistic goals were discussed and blood pressures were monitored. Although this population was not randomized and the

sample size was small, the results indicate that lifestyle changes contribute to a reduction in systolic blood pressure. A reduction of by 13.0 mmHg was noted in the intervention group and 10.6 mmHg in the waitlist control group. After the behavioral counseling sessions, there were an increase of 26% in medication adherence and a 23% increase of vegetable intake in the intervention group.

Cooper (2009) assessed patient and physician issues related to hypertension treatment adherence and sought to understand why there is uncontrolled hypertension among African Americans. On the basis of her interview with an African American man, she identified societal, health system, individual, and interactions with health professional as barriers to uncontrolled hypertension. She identified barriers similar to those discovered by other researchers: diet, adverse side effects, trust issues, social and economic factors, lack of health literacy, and negative beliefs. Although the patient being interviewed was aware that he had hypertension, he went for months without taking medications or visiting his primary doctor. The patient had no symptoms when his blood pressure was elevated, which caused him to believe it was not a serious disease. The patient was confused by his inconsistent medication treatments and believed that he would eventually experience adverse effects from the different prescribed medications. The patient purchased a blood pressure monitor but seldom used it because he was unsure of the meaning of the numbers. His physician attempted to understand African American

culture to modify his treatment to meet their medical needs but had a difficult time doing so.

Savoca et al. (2009) recruited 58 African American young adults (15 high risk and 13 low risk males and 14 high risk and 16 low risk females) to examine their views of hypertension and their threats of developing hypertension. Risk factors regarding hypertension knowledge were also examined. Although participants recognized that medication was used to treat hypertension and understood the consequences of having uncontrolled hypertension (heart disease and strokes), they lacked knowledge about prevention and risks of hypertension. The researchers suggested additional hypertension information and prevention programs were needed to help young African Americans not to succumb to generational beliefs and knowledge that may cause early deaths among African Americans.

Ayotte et al. (2009) suggested that African Americans without a high school education lacked hypertension knowledge needed to achieve blood pressure control. They described effective self–management as adhering to prescribed medications and having knowledge of hypertension to manage the chronic condition. Okonofua, Cutler, Lackland, and Egan's (2005) findings indicated that African American beliefs regarding hypertension differed from Whites. Although African Americans believed that hypertension can cause kidney failure and memory impairment, they did not believe that blood pressure could be controlled with lifestyle adjustments, and believed that medication was the only methodology to blood pressure control. Whites believed that

blood pressure could be controlled with lifestyle changes and medication adherence. Findings suggested gaps in African Americans' hypertension knowledge and beliefs were possible contributors to poor medication adherence and accounted for health disparities and blood pressure control, and hypertension control. Lewis, Colbert, Erlen, and Meyers (2006) examined medication adherence and hypothesized routine, self, and environment as contributing factors. The authors concluded that reasonable expectations, the efficacy of the medications, and a strong rapport with healthcare providers were essential elements to medication adherence. Borzecki's (2006) and Sanne, Muntner, Kawasaki, Hyre, and DeSalvo's (2008) findings suggested that controlling blood pressure involved different factors. Barriers to blood pressure control were linked to socioeconomics, demographics, health beliefs, having other chronic diseases, and knowledge deficit concerning hypertension in the African American culture. Mistrust stemming from the ethical problems in the Tuskegee study may have contributed to poor communication with health care providers and medication non-adherence among African-Americans. African Americans distrusted health care providers and did not adhere to therapeutic recommendations (Wolinsky, 1997). Schlomann and Schmitke (2007), Kressin et al. (2007), Lewis et al. (2006), and Copper (2009) suggested that a lack of communication with health care providers was a contributing factor to medication non-adherence.

Summary

Quantitative and qualitative research studies on African Americans' beliefs and attitudes about medication adherence have been reviewed. Some of these studies

highlighted barriers to effective management of hypertension among African Americans, including limited knowledge of hypertension, treatment, medication, risk factors, lifestyle changes, and complications associated with hypertension, causing non-adherence. Other studies led to different conclusions, namely that it was not lack of knowledge that was associated with adherence, but beliefs about effects of the medications and also the lack of collaborative decision-making that had an adverse effect on antihypertensive medication adherence. The majority of the studies were conducted with patient groups, often associated with specific outpatient clinics. Lacking were studies with participants recruited from the community. Among the studies considering beliefs and attitudes, some were based on existing theories (Lewis et al., 2010 & Peters et al., 2006), another focused on communications and how they may impede medication adherence (Ard et. al., 2005), another on intervention (Fernandez et al., 2008), another on developing the concept of medication non-adherence (Cohen, 2009), another used a self-assessment questionnaire (Gatti, et al., 2009), and another was a case study of 1 participant (Cooper, 2009). Thus this literature review indicated that there was a need for a study to learn from those who are successful in adhering to their antihypertensive medications and who are not associated with particular clinics or treatment centers.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

The purpose of this hermeneutic, phenomenological study was to examine attitudes and beliefs of African-American men regarding hypertension medication. This chapter contains a statement of the research design, hermeneutic interpretive phenomenology, and of the philosophical basis for the study and the method, Heidegger's philosophy. Included is a discussion of the setting, participants, protection of human subjects, data collection, and data analysis.

Method

A hermeneutic phenomenological research design, based on Heidegger's philosophy, was used to determine how beliefs and attitudes influence medication adherence in African American men 45 years of age and above with high blood pressure.

Setting

The study took place in Corpus Christi, a city on the Gulf Coast of Texas. According to a demographics report (City of Corpus Christi, 2006), the Corpus Christi total population is 282,024, of which 14,007 (5.0%) are African Americans. Participants were recruited from community agencies such as churches and senior centers where adult men who may have hypertension regularly meet. The interviews took place in a location mutually agreeable to the participant and researcher. At the meeting the purpose of the

study and the information on the informed consent were reviewed with the participant and then if the potential participant agreed to be in the study, informed consent and consent to record were obtained. The interviews took place in natural field settings, such as participant homes, work places, local churches, community and senior citizen centers, and in other places mutually agreeable to the participant and researcher in Corpus Christi, Texas.

Participants

Participants in the study met the inclusion criteria of being African American males, 45 years of age and above, diagnosed with hypertension, prescribed one or more antihypertensive medications, English speaking, and having the ability to hear the researcher from 2-3 feet away. Criterion sampling was combined with a snowball sampling technique. Brochures were distributed at churches, community senior citizen centers, and health care clinics. The researcher did face-to-face recruitment at the churches, community senior citizen centers, and health clinics, giving potential participants brochures for themselves or to pass on to people they knew. The researcher offered flexible times for interviews. The researcher maintained a positive relationship with the pastors, leaders, and healthcare providers by keeping them informed of research progression of the study. Participants received a gift of $10 for participating in the

screening process and interview. Gifts and monetary incentives were found to increase participation (Polit & Beck, 2008, p.352).

The sample size was large enough to elicit strong, rich and deep perceptions from participants explaining how beliefs and attitudes contributed to medication adherence (Marshall, & Rossman, 1999). Participant recruitment was continued until data saturation was reached. Data saturation was reached with 17 participants.

Protection of Human Subjects

Institutional review board approval was obtained from the review board of Texas Woman's University (Appendix A). All participants were fully informed and potential participants were provided with an overview of the study's purpose and proposed outcome via a study script (Appendix B). The researcher described the risks for participation and obtained an informed consent (Appendix C). Individuals from churches and community senior citizen centers agreed to recruit participants for the study (Appendix D), and brochures were left at these organizations. The brochures explained the study, inclusion criteria, and provided contact information for the investigator to potential participants (Appendix E). Those who agreed to participate were screened for eligibility using the Participant Eligibility Tool (Appendix F). During the initial meeting with the participant the purpose of the study and the informed consent form were reviewed with the participant and then, if the potential participant agreed to be in the study, informed consent and consent to audio record were obtained. Audiotapes and

transcripts were coded with a study identification number and kept in a locked file cabinet in the researcher's home office. Informed consent forms were kept in a separate and locked file cabinet in the researcher's home office. Only the researcher had access to the cabinets.

Data Collection

Participants completed the Participant Demographic Tool (Appendix G) and the Mini Mental Exam (MME) (Appendix H). If the participant obtained a MME score less than 24 the interview was not continued and he was thanked for his time and given the gift. All participants scored 24 and greater and was eligible to participate in the study. The interview was continued with participants whose scores were greater than or equal to 24 on the MME. Scores on the MME can range from 0-30, the higher the score the greater the cognitive abilities (Folstein, 1976). Semi-structured interviews were conducted with 17 participants who remained eligible and interviews were audio recorded and transcribed verbatim. Interviews lasted approximately 60 minutes. The interview guide (Appendix I) included open-ended questions and probes.

Data Analysis

Interviews transcripts were examined for accuracy and ensured that the meaning was understood and transcribed correctly. Data analysis followed the guidelines developed by Crist and Tanner (2003) who suggest five phases of analysis that overlap due to the circular process of exploring the narratives. The phases were a guide to interpreting transcripts by, identifying central concerns, pertinent themes and meaning from individual informants, and shared meanings from additional informants, and by

clarifying emerging interpretations, and finally, by reporting the interpretations. The interpretive process assisted the researcher in answering the research question and corroborated the theoretical background, sampling problems, interviews, and observation techniques (Crist & Tanner, 2003). The goal achieved in-depth meanings and insight. Observing physical expressions, signs and verbal intonations were essential elements in gaining meaning and experiences therefore the researcher made notes of observations of the setting and participant behaviors during the interviews, to supplement the information in the transcripts.

To identify central concerns and pertinent themes and meanings from individual informants, the researcher listened to each audio recording for tone and pace of speech and noted content that was given particular emphasis by the participant. The researcher referred back to notes about participant behavior with a similar goal. The researcher highlighted content that met this criterion in the transcript. The researcher read the transcript highlighting content that indicated beliefs and attitudes related to medication adherence. After this initial analysis of each transcript, the researcher conducted the next interview. This process followed with each interview. After the initial analysis was completed for two interviews, the analysis for shared meanings began. The findings (relevant content) from the prior interview(s) were compared with the findings from the most recent interview and shared meanings were identified and noted, along with key quotations from participants that provided support for the findings. Findings that were different for individual informants were noted. As the emerging findings were established

subsequent interviews were modified to allow for data collection to clarify various points. Throughout this process the researcher worked with members of the research team who were experienced in qualitative data analysis to confirm both the effectiveness of the data analysis process and the accuracy of the findings based on the data. After this process was completed, the findings were written up. During the writing phase analysis continued as details emerged that required further consideration. Data analysis was completed once the writing phase was completed.

This rigor of this research study was established by following Lincoln and Guba's criteria for trustworthiness (Lincoln & Guba, 1985). Credibility, transferability, dependability, and confirmability were established so that they are evident to those who read and applied the research findings. The researcher kept a log or audit trail of activities related to the research project. The log includes a discussion of the researchers early thoughts about the beliefs and attitudes of African American men related to medication adherence. It also includes the transcripts of the interviews completed in the pilot study, notes from the interviews, notes of the researchers thought processes as the research plan was modified based on the pilot study, and the data analysis of each transcript and of the comparisons of the analysis of each transcript with earlier transcripts. In it were the emerging findings and the data (quotes from participants and notes from the researcher) that supported their accuracy. The log also included copies of the IRB application and related material for the pilot study and the class presentation that resulted from the pilot study. The researcher continued to keep this log as this research process developed. It

was kept as a 3-ring binder so that it could be brought to meetings with the research committee and serve as a record establishing the credibility, transferability, dependability, and confirmability of the research findings.

Others will be able to determine that data findings, patterns, and themes from participants are accurate and based in the data. The log includes thick descriptions of the participants and the setting, which will allow transferability to be determined by others who plan to use the findings. Establishing these four criteria was essential to demonstrating the rigor of this investigation (Speziale, & Carpenter, 2007). The log provided a foundation for writing the final results of the research.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this study was to explore how beliefs and attitudes influence medication adherence in African American men over the age of 45 with high blood pressure. This chapter begins with a description of the participants, study findings are then presented, and results are summarized. The discussion of the findings is organized to first describe the overarching theme *understanding the impact high blood pressure*. Next the three themes supporting the overarching theme are described. They are *feeling no symptoms, becoming aware of serious complications, and managing with hypertension*. Each theme has one or more subthemes. The subthemes are discussed following the themes they are linked to. Findings are then discussed in the context of the supporting data.

Description of the Sample

Seventeen African American men aged 45 years or older participated in this study. They were recruited from a church (n=6) and from a community center (n=11). All the men had been diagnosed with hypertension, and had one or more prescribed antihypertensive medications. Participants' ages ranged from 48 to 73 years. Fourteen were between 45 and 65 years old, and three were older than 65. Of the seventeen, ten had high school diplomas, four had baccalaureate degrees, two had master's degrees, and

one had a doctoral degree. Eleven were married, one was widowed, and five were divorced. Each of the 17 participants in the study was prescribed at least one antihypertensive medication. The time since participants learned they had high blood pressure ranged from 2 ½ years to 50 years. When asked to recall blood pressure readings at the time of diagnosis six men reported readings ranging from 125/85 to 150/90 but the remaining 11 men stated they did not know or could not recall their blood pressure readings at diagnosis. At the time of the interview, of the 17 participants in the study eight reported adhering to their antihypertensive medications consistently since diagnosis, and four who were currently adherent reported being inconsistent in taking their medications in the past. Five men reported being inconsistent in taking their medications at the time of the interview. Reasons given for being inconsistent in taking medications included side effects, forgetfulness, not refilling prescriptions in a timely manner and not having or ignoring symptoms.

Findings

The analysis revealed one overarching theme, three themes, and nine subthemes. *Understanding the impact of high blood pressure* was the overarching theme that emerged from the data. Supporting the overarching theme were three themes: *feeling no symptoms, becoming aware of serious consequences,* and *managing with hypertension.* Associated with the theme *feeling no symptoms* were two subthemes: *it can't be serious because I feel ok, then I must be ok*, and *ignoring or failing to recognize symptoms.* The theme *becoming aware of serious complications* had four subthemes: *heading for*

something bad, opening up communication with loved ones, watching loved ones die, and *taking responsibility for my health*. The theme *managing with hypertension* had four subthemes: *affording medicines when you are poor and black, tiding myself over until I get my medication,* coping *through spirituality* and *religion, forgetting, skipping, and stopping medication,* and *coping through spirituality and religion* (Figure 1).

Understanding the impact of high blood pressure		
Feeling No symptoms	Becoming Aware of Serious Complications	Managing with Hypertension
1. It Can't be serious because I feel ok, then I must be ok 2. Ignoring or Failing to recognize Symptoms	1. Heading for Something Bad 2. Opening up communication with loved ones 3. Watching loved ones die 4.Taking responsibility for my health	1. Affording Medicines When You are Poor and Black 2. Tiding myself over until I get my medications 3. Forgetting, skipping, and stopping medication 4. Coping through Spirituality and religion

Figure 1. Overarching theme, themes and subthemes

Overarching Theme: Understanding the Impact of High Blood Pressure

Understanding the impact of high blood pressure was the overarching theme that emerged from the interviews and narratives. Understanding the impact evolved over time, from a lack of recognition of symptoms, to diagnosis and ultimately an understanding of the seriousness of high blood pressure. The 9 men who reported being non adherent with prescribed medications in the past gave various reasons, including ignoring and/or failing

to recognize symptoms, not recognizing the seriousness of high blood pressure, being unable to afford the medications, having side effects of the medications, and skipping or forgetting to take the medications.

Some men reported understanding the impact of high blood pressure after having complications including having a heart attack, congestive heart failure, quadruple bypass, angioplasty, and a stroke. Seven participants watched loved ones die from a heart attack, congestive heart failure, quadruple bypass, angioplasty, and a stroke. In addition men understood the impact of high blood pressure through educational resources including media, literature, personal experiences, and awareness programs.

Nine participants experienced symptoms, including dizziness, fatigue, and headaches before taking seeking treatment or, in some cases, taking the prescribed medications. Reed stated, "I started having some headaches and some pitting edema in my ankles. I decide to get my blood pressure checked and found that it was elevated, and I was diagnosed with having hypertension. It would be 150/95." Joe was diagnosed with having high blood pressure at the age of sixteen. Joe stated, "Back when I was drinking a lot I would find myself getting dizzy. A couple of times I fainted, so I ended up going to doctor, and he told me I had high blood pressure and needed to stop what I was doing." This was the second time Joe was diagnosed with hypertension.

Calvin was unaware of having high blood pressure and did not recognize the symptoms he experienced as related to high blood pressure. Calvin said: "At first I didn't know I had high blood pressure of course and I thought that I was just out of shape."

Because his high blood pressure symptoms were subtle, this participant continued with his everyday routine. His extreme fatigue, after activities, prompted a doctor's visit and the high blood pressure was diagnosed after an examination. He was inconsistently non-compliant with the prescribed medications after the second diagnosis, because of forgetfulness.

Two participants found out during a routine examination that they had high blood pressure. Neither had suspected having hypertension. Adrian stated, "This was a routine visit, and I never suspected I had high blood pressure because I had no symptoms." Billy's lack of symptoms caused severe complications, and required open-heart surgery. Billy was not aware of having high blood pressure until after complications. Billy stated, "On that particular day and at that particular time, I was not aware of any hypertension that I was having." Men who are not aware of the signs and symptoms, risk factors, and serious health consequences associated with untreated high blood pressure don't have the information they need to seek medical help and to change their behaviors.

Darryl stated that he would read comic books, but after having complications, he began reading on high blood pressure. He stated, "By me sitting down waiting for my appointment, instead of me grabbing a funny book or something I started grabbing different pamphlets concerning high blood pressure or whatever to enlighten myself to the danger of it."

Carl has not experienced any high blood pressure complications and read all the literature and follows the doctors' recommendations. Carl stated:

I have not had any complications from high blood pressure. I don't follow some advice is if uh everything is proceeding the way it should and I'm getting the numbers that I should be getting and like I say my blood work is taken every quarter and a consultation with my doctor and my physician that I already see on a quarterly bases and a 6 month bases. So between those three physicians there no reason to not follow because they pretty much keep it monitored.

The examples given above demonstrate that African American men arrive at an understanding of the impact of high blood pressure through a variety of experiences. The content of the themes and their related subthemes support the overarching theme.

Theme: Feeling no Symptoms

In the initial phases of hypertension, participants were unaware of their health problems, or if experiencing symptoms, sometimes denied the consequences. Five participants experienced no symptoms, while nine participants reported experiencing symptoms including dizziness and headaches. Lack of symptoms led two participants to not believe that the disease was serious, while another participant simply ignored the symptoms. Diagnosis was sometimes unexpected, as expressed by Adrian who stated: "She routinely takes my blood pressure and checks my heart rate and everything and that is when it was discovered." Jerry stated: "For years I just ignored it and stayed active."

Subtheme 1: It Can't Be Serious Because I Feel Ok, Then I Must Be Ok

Some participants reported past experiences when they felt well, and therefore, decided they were well. Even when diagnosed with hypertension, this sense of wellness

led to not beginning or to stopping medication. For example, Darryl said, "I had stopped taking my medication for one reason. It was because I didn't really think that the condition I had was very serious." After Darryl had to be admitted to the hospital due to congestive heart failure, he was told by healthcare professionals that he was headed for severe complications. Darryl did not comprehend the seriousness of the situation. After his body responded to aggressive treatment, he refused to stay in the hospital and left against medical advice. He feared the overnight hospital visits and stated, "Many died and never returned from the hospital... I had no knowledge of the condition or the danger. I heard them say that they call hypertension a silent killer but I really didn't know what they meant about it being a silent killer until a later date when I started studying on it, where they say hypertension has no symptoms…"

> Lack of symptoms prevented some participants from acknowledging the seriousness of the situation and from changing their behaviors. Arian indicated: My reaction was if this is supposed to be bad, it is not because I don't feel nothing. And that was a concern…I didn't have any concerns about it, and that was the doctor's concern. So, he gave me this journal on how serious it is and so forth. But again, when you don't feel anything, you don't care or you not concern. Basically, the literature was letting you know what it could lead up to. Uh, problems with the heart attacks and you know, uh strokes and those are the types of serious things. But I was like asking, "Don't you get any other warnings?" Does your blood pressure get high that you may get fatigue or faint or

some type of thing like that? I still was not concern because I didn't feel any of those things.

Subtheme 2: Ignoring or Failing to Recognize Symptoms.

Some participants had symptoms but did not seek treatment until they were severe. Jerry said: "I just kept on going you know like I didn't have to do anything right away. It was like I could live forever, you know." Roy did not recognize the signs and symptoms of high blood pressure, until complications occurred. Roy said, "I had a feeling in my chest all day and the night before, and I went to the doctor, and the doctor told me it was acid reflux. I got back home and took some medicine for it, and it lightened up a bit. But later it started up again. Then the pain traveled away from my chest to my arm, and I knew what it was. There were a lot of things that I should have known, but I just wasn't thinking about it."

Theme: Becoming Aware of Serious Complications

Because high blood pressure has no symptoms, participants were initially unaware of the potentially destructive effect of hypertension on organs, including the heart, coronary arteries and other organs, if left untreated. Seven participants related an unawareness of complications, with one participant indicating that lack of awareness reduced the need to worry about the situation. Darryl said: "I was just so ignorant of the dangers of hypertension. I really wasn't concerned about it. I feel like when a person don't know the true danger of the situation I feel like he's better off. " However, other participants described being aware of the serious complications. Billy stated, "So yes I

have read literature and continue to do the research and reading. I use the Internet, I read books, ask questions during the doctor visits as well."

Roy saw his mother suffer with a stroke and stated: "Seeing my mother's condition was enough. That was more than enough, especially when you see someone close sick like that." Darryl also witnessed a loved one being sick and stated, "What made me follow that advice was the death of my mother. That's why I started taking heed was the death of my mother. She suffered for years with high blood pressure." Joe had personal changes in his health and indicated, "It was a little scary for a while because I did not really know what to expect and at that age because I had to cut out some of the things I was doing wrong. It was something I had to work on."

African American men who realize that having high blood pressure leads to major health problems, either through education, changes in their own health (including angioplasty or open health surgery, or through observing problems others experience are more likely to adhere to antihypertensive medications. All of these factors changed participants' perceptions about the magnitude of hypertension and the potential consequences on one's health. They contributed greatly to the participants' decisions to adhere to prescribed medications.

The resulting data were clustered in four subthemes. Four participants experienced heart complications and realized they were heading for something bad. One participant's near death experience provided an avenue in opening up communication with loved ones. For others understanding the impact of high blood pressure on health

came through watching loved ones die and observing poor outcomes. For the majority of the participants these experiences empowered them to take responsibility for their health.

Subtheme 1: Heading for Something Bad

Lack of knowledge was problematic for some participants. Many did not recognize the signs and symptoms and the complications associated with high blood pressure. However when they learned that something bad could happen to them as a result of hypertension, they were more likely to adhere to prescribed medications. After Roy's doctor told him he might have a stroke if he didn't act to lower his blood pressure Roy adhered to the prescribed medication. Roy stated, "He said I was headed for something very bad – a stroke could happen." Joe stated, "It scared me a lot because I have heard about how bad it is. All the people I know or have seen have had strokes because of their high blood pressure. That is the main reason I was scared." Nate stated, "I can't see myself at 48 years old having a stroke or a heart attack."

Darryl stated, "It had a great impact on me and made me more disciplined. Between the death of my mother and the congestive heart failure that I suffered, it made a great impact on disciplining myself to take my medication." Darryl did not adhere to taking medications even after being told of having high blood pressure. Darryl stated, "I found out I suffered from high blood pressure, I think the time when I went to jail for a public intoxication case or something of that nature. At that time I think that you had these medical doctors at the jail take your blood pressure." Darryl continued being non-adherent until he required an angioplasty. Darryl stated, "I suffered with a heart attack

and they put four stints in my heart, and gave me what they call angioplasty surgery about nine years ago. They constantly were telling me I suffered with high blood pressure." Twenty five years of being diagnosed with high blood pressure and being non adherent, Darryl decided to take his medications after being rushed to the hospital with congestive heart surgery. He stated,

> Yes, here recently, May 17th of this year I suffered congestive heart failure. It was a very serious matter… After it was over, the RN looked at me and said, "Sir, whether you know it or not, you were in very serious condition when you came in here." I had stopped taking my medication for one reason. It was because I didn't really think that the condition I had was very serious.

Subtheme 2: Opening Up Communication With Loved One

Fourteen participants indicated that earlier in their lives they were unaware of how out-of-control blood pressure can lead to life threatening complications associated with the disease. One participant, after a near death incident from complications of high blood pressure wanted loved ones to learn from his unhealthy practices. This opened up the lines of communications with loved ones about healthier behaviors. Billy, 56 years old, had complications, requiring emergency quadruple bypass surgery.

Billy stated: "I know that during that time, my father was living, and he had high blood pressure, and we kind of talk about it, and he said that I needed to really watch that because that was a silent killer." Billy talked with his children about stress and coping strategies.

He wanted to be sure they benefited from his understanding of the importance of managing stress levels. Billy stated,

> We began to talk about to make sure that we asked him what is he doing and how does he deal with the stress level, and those things that he has and how does he continue to work out with all of the things going on the job as well as outside of the job, and those things that he do to control those variances. So, we discuss that with my middle daughter, which is now in school, we begin to just talk about those things.

Communication with family members including wives, children, siblings, and parents motivated participants to adhere to healthier practices and medications. For example, Nick stated: "My wife's reaction was she wanted me to live long. So, she insisted on me taking my high blood pressure medicines. So, she didn't want me to be at risk because her parents had heart disease, high blood pressure, strokes and stuff like that."

Reed stated:

> Well, I get advice from a number of sources. One is my wife and she certainly guards my weight because she is always, you know, making mention of my mid-girth measurements. So, she's pretty much critiquing how much weight I gain or lose. And secondly, when I look at myself in the mirror and put on my clothes or uniform, that's another reminder. And my daughter, she is not hesitant about telling me "Daddy you are fat!" Those are motivating factors!

Darryl's mother also advised him to change his lifestyle including exercising more, eating healthier, and taking his medications. Darryl stated, "When my mother found out, she told me different things to control it. Because she was a loving and caring mother, she did what she could to help us medically or give us advice medically. She told me to slow down eating pork, and the main thing she told me was not to eat salt. And I had a problem with the salt." Calvin stated, "One of the first things they told me was to stay away from fried food and red meat, and of course, I was exercising and they told me to exercise a little bit more." Dan stated, "I was married at that time, and my wife told me I had to watch my diet." Roy indicated, "She was a nurse and told me I had to eat right and that there were certain things I shouldn't eat."

Subtheme 3: Watching Loved Ones Die

Eight participants had watched loved ones die from complications of having high blood pressure. Participants' level of awareness increased their behaviors in medication adherence, exercise program and diet modifications after experiencing or witnessing personal complications or deaths from strokes or heart attacks among family members with high blood pressure.

One participant witnessed his mother die from complications of high blood pressure, but he changed his behavior after having a heart attack. Roy stated: "My mother had a stroke and it changed my outlook on this illness..It scared me, and I had to change because I did not want to end up like her. Seeing my mother's condition was enough. That was more than enough, especially when you see someone close sick like that." Nick

stated: "Yes, my mother had hypertension all of my life and even all of her life until she passed away several years ago of a stroke." Although Nick witnessed his mother's complications with high blood pressure, he continued to be medication non-compliant because of his job. Another participant learned from watching other die and was compliant with his medications. Dan stated, "All the people I know or have seen have had strokes because of their high blood pressure. That is the main reason I was scared." Joe stated: "In fact, it killed my grandfather. My mother had a stroke because of it." Joe continues to use home remedies, and is non compliant if he runs out of his medications. After witnessing loved ones die or have serious complications from heart disease, participants and their families began discussions of how serious the complications of high blood pressure can be and that lifestyle changes are very important to achieve positive outcomes. Men who had these experiences were more likely to take their antihypertensive medications. Joe stated, "Had I not done those things I probably would not be here. It scared me, and I had to change because I did not want to end up like her." Darryl stated, "What made me follow that advice was the death of my mother."

Subtheme 4: Taking Responsibility for My Health

Eleven participants indicated that they were responsible for their health and needed to implement changes to reduce risk factors, including keeping a blood pressure log, eating healthy, exercising, and managing their stress levels. It was clear that participants understood that health modifications needed to be implemented from their responses when asked how they take care of themselves to make their blood pressure

better. Participants had gained knowledge, after having complications, asking nurses or doctors' questions, and reading about how to manage their high blood pressure. Roy stated, "I am the one who has taken care of my conditions because no one is going to know my body better than me. If I do not know something I will go and ask." Calvin stated, "The only thing I received was if you don't take care of yourself, no one else will. So I said I will take whatever I needed to take to keep my health up." Jaime stated, "Life has problems that are handed to you and you just have to deal with them. Just something I had to do to stay healthy."

Sometimes their sense of responsibility for their own health was related to their relationship with their doctors. Joe's parents were ignorant of the signs and symptoms of high blood pressure and behavior modifications. However, Joe communicated with his doctor and received information on behaviors to change. Joe stated, "Nobody talked about it – nobody ever talked about it. The only time it got talked about was when you had problems, and ended up going to the doctor and he would tell you that you had high blood pressure and what you should or should not do. Nate stated, "But I think the doctor was pretty much telling me I need to go on a pretty good, healthy diet. As far as like not eating so much salt, not drinking so much alcohol, and slow down on my pork intake." Information about self-care was communicated through medication inserts and pamphlets distributed at the doctors' offices and in pharmacies. Jaime stated, "There is information that comes with the blood pressure medicine from the pharmacy."

Carl stated, "When you are not controlling your weight and stay fit. If you stay fit,

control your weight, nine times out ten, you probably will not have any hypertension problems." He monitors and records all blood pressure readings, adheres to the same time in taking his medications, and routinely makes all doctors' appointments. This participant's self- management behavior has kept his blood pressure within normal range.

Participants reported managing their blood pressure, in part, by reducing their stress levels through avoiding stressful situations, and exercise. Nick stated, "Well my relaxation is my golf time. That's what I use it for, to relax and to concentrate on something other than work, the stresses of life." Adrian stated, "The love for dancing is almost like meditation. I'll be in my house listening to the music and dancing as if I was in another world, and it's pretty much like that."

One participant, Joe, indicated that stress was a major cause of his hypertension diagnosis. He further stated that when his stress levels were high, taking his medications did not reduce his blood pressure. Joe stated, "I think stress is a big factor because I can tell you this for a fact; I can take my medication, but if something gets on my nerves, it will fight that medication until I can get it out of my system. If you are under pressure, medication sometimes doesn't help. It all depends on what is coming after you. I try not to get that way." Joe learned how to manage his stress and not allow himself to keep things inside as before. "Even right now, if something gets on my nerves and I don't talk about it, my blood pressure goes up no matter what, whether I take the medication or not. Because that is just the way I was. I kept a lot of things in and I try not to do that. If I have anything on my mind I talk about it. It just comes out because if I was like I used to

be I would probably get sick. So I don't hold things back anymore, I let it out." Adrian experienced stress by working as a manager at a company. He changed jobs to reduce his stress levels. Adrian stated:

> Well, the job I was doing when my blood pressure was up, I was working in Corporate America. That's an understatement right there. I was over four different shops in four different states. I traveled a lot and had responsibilities of facilities with about a total of 53 person personnel answering to me. Corporate office was also out of state, and uh it was a big rat race, and I was constantly going, going, and going and I didn't do anything except sit at the desk and do memos, paperwork, and doing budgets. It was on and on. Well the job I do now, first of all, it is my own business. So, I can make the decisions of what I want to do and what I don't want to do. I can grow the business as large as I want to or stay as small as I want to.

These participants had to make lifestyle changes to reduce their stress levels. Another participant, Nick, indicated: "Well, I stay away from the things that certainly would harm my body. I do not smoke. I do not drink. I keep my weight at the right size to not strain my heart, or to increase my blood pressure, and in my diet as well I try to eat healthy, as I mentioned earlier, fruits, vegetables, and low carbohydrates and low sodium, because I am salt sensitive, and that's about it."

The researcher asked participants to describe what affects the way they take their medication. Most participants responded that they gained knowledge by reading the

literature, listening to the media, and asking their primary physicians about high blood pressure and the complications linked to the disease. One participant, Adrian, indicated that he is more aware of high blood pressure. He stated:

> You need to be more aware of things that could happen to your body. Since my blood pressure was a problem, a known problem that was something I needed to keep close tabs on. … I should look at it a little bit more seriously. That is why I take my medicine religiously, daily.

Theme: Managing with Hypertension

Strategies for managing with hypertension may support health or be detrimental to health outcomes. The researcher asked the participants to describe what helps them take their medication as prescribed and if cost hinders them from taking their medications. Being able to manage their hypertension is contingent upon having the means to pay for the medications. This makes it hard for individuals who are dealing with financial struggles including low wages or unemployment in the face of increased health premiums and increased co-payments when purchasing medicines. Two participants reported using "old folk" medicines and religious and spiritual practices to tide them over when they were out of medicine. They did home remedies such as drinking vinegar, lemon or pickle juices, or eating garlic gloves. One participant indicated that if he runs out of medications, he will implement the home remedy prior to having time to refill his medication prescription. Eight participants reported discontinuing taking their medications due to side effects, and skipping or forgetting to take their medications.

Incorporating spirituality and religion were thought to be the most successful and the key to many African Americans' healing. Praying to a higher power were principles used to heal hypertension. Nick stated: "I guess that maybe my primary relaxation time is when I go to church and just praise God and just entering into the presence of the Lord." Reed stated: "I pursue God peace about different things that may come up. You know some folks may stress about things, but I don't. I try to walk in God's peace and it keeps me on an even keel disposition."

The resulting data was clustered in four subthemes: *affording medicines when you are poor and black; tiding myself over until I get my medication; forgetting, skipping, and stopping medication,* and *coping through spirituality and religion.*

Subtheme 1: Affording Medicines when you are Poor and Black

Each participant was asked if cost was a factor in the way they took their medications and, at the time of the interviews, all participants were able to afford their medications and adhere to taking their prescribed medications. However, two participants reported that in the past they did not take their medications due to economic reasons. Of the two, one used home remedies until he became financially stable. Jerry stated: "He felt that I should get on medication and stay on it and do the right thing, and eat right. But again, cost was a problem for me. So I used the vinegar and lemon juices and that seemed to work."

Adrian was able to afford to take his prescribed antihypertensive medications, but his health insurance required that he used generic medications. Adrian said, "Mainly

because of affordability, a generic brand instead of a name brand. As you may know, that generic medications are cheaper." "So, this one was generic and the pharmacy that they have suggested is Wal-Mart and you can get the generic medication for $5.00 and that was the difference. It was just a difference in cost in co-pay and the generic brand, as far as the insurance. Generic is $5.00 and brand is almost $30.00."

Sixty-three year old Darryl was a recovering substance abuser who described the struggles black men have in life, making it difficult to afford medical treatments and medications. Darryl stated:

> Well another thing about being a poor African American the first thing that does come to my mind is how I am going to pay these hospital bills or whatever. About me being a veteran – just so much days are paid because I am what you call a non-service connected disability veteran, and I am not service connected. By me being not service connected, I would have to foot the bills, and that is what makes me kind of stay away from the hospitals due to those bills because I am not able to afford those types of bills. I am struggling to get down there because they moved the hospital from San Antonio to Harlingen, and they don't have the proper transportation. So in all these situations, we as veterans have to pay for it out of our pocket."

Subtheme 2: Tiding Myself Over Until I Get My Medications

African Americans used folk remedies to treat illnesses because they did not have access to medical care, had financial difficulties, or lacked trust in mainstream healthcare

providers. Eating garlic and drinking vinegar, lemon, or pickle juices and water were traditional practices handed down by the elders in the culture as part of childhood rearing to treat illnesses. These practices were used for years to reduce high blood pressure. These folk beliefs of some African Americans were thought to be effective, but affected care and treatment, and placed participants at risk for complications (Snow, 1983). Only two of the participants used folk remedies, one as a way of managing when he could not afford to fill his prescription and the other if he had forgotten to fill his prescription. If they had medications they did not use these remedies. One participant reported that he did not think folk remedies were effective.

As noted above, in the past Jerry had not been able to afford medications and used folk remedies. Joe was able to afford his medications, but during past times had used old practices as a temporary fix, prior to refilling the prescriptions. Joe said:

> Yes I have done it two or three times. A couple of times I have let my medication run out, and those remedies come back to me. When that medication runs out and I got to take the prescription but don't get it for a day or two, I'll do that. I'll take some vinegar and water, or lemon and water, and drink it and it works. No, it is not the cost. It is just the fact that if it runs out today and I don't get it until the next day; I'll do vinegar and water in between that. Say for instance if I put it in this afternoon and I don't take it that night, I'll take vinegar and water that morning and then that evening I'll pick it up. If not, I would have a serious headache by the end of the day. "Yes. If my blood pressure goes down my

headache goes away. But it doesn't last like the medication would. It is just a temporary fix."

The first time Joe was diagnosed with hypertension he was not prescribed medications, for reasons unknown to him, and his mother gave him a home remedy. Joe stated, "At age 16 did not take meds but mother made a tea called "rabbit tobacco." There were no medications. If there were, I didn't get any." There are times when Joe is non-compliant, using home remedies when he runs out of his medications. After having symptoms and receiving the second diagnosis Joe understood the impact of high blood pressure and was prescribed medication. Carl, however, did not subscribe to home remedies and maintained stable blood pressure readings because he followed the doctors' instructions, kept all medical appointments, and kept documentation of his blood pressure readings. He stated: "It is a lot of old remedies, and I don't trust home remedies. Things like red powder, stuff like that red powder. I do not trust old remedies."

Subtheme 3: Forgetting, Skipping, and Stopping Medication

When describing their experiences with having hypertension and taking their medication, three participants reported discontinuing their medications because of severe side effects and five reported unintentionally or intentionally skipping or forgetting to take their medications. Nick stated, "My first reaction was I didn't want to be on any type of medicines. So, I tried the first medication that he put me on, and it wasn't good for me. It slowed and it stopped my bowels, and I couldn't tolerate it, so I stopped taking it."

Reed briefly discontinued taking his medication until he could report the side effects of the medication and be prescribed a different high blood pressure medication. Reed stated:

> Well, as of now, I am currently taking Micardis. I have been taking Micardis now for approximately 18 months. Well, the Micardis did not cause the same side effects or any side effects at all. Since I started the 40 mg, there is no dizziness, no weakness, or no of frequent urination throughout the day or at night. Prior to taking Micardis, I was prescribed hydrochlorothiazide, which I did not tolerate very well.

One participant discontinued taking his medications for months and had to be rushed to the hospital because of kidney failure and a right-sided paralysis. He stated, "It made me feel funny. I skipped it or wouldn't take it." Often times the men would forget or skip taking the medications for reasons including not having a routine, forgetfulness, or job related reasons. Nick worked long hours in the oil business and reported that the medications might impair his ability to think. Nick stated, "My job affects the way I take it because sometimes I work around the clock. I don't take it because I don't want to have it impair my judgment." Nick reported that sometimes he simply forgot and other times choose not to take it: "Well, sometimes I would forget to take it or I just won't take it. It was when I remembered, a day or two later." Calvin lacked a routine and would forget to take his medication unintentionally. Calvin, stated, "Well the only problem I had is just

remembering to take them because I've never had to take any pills so that was a challenge in itself."

Subtheme 4: Coping through Spirituality and Religion

Participants reported managing their blood pressure, through positive thinking, or through spiritual and religious practices. Darryl tries to think positively and stated, "I try not to think too much because too much negative thinking will stress me out. I just chill out. I try to limit myself from people. I try to limit myself with the conversation, because people are going to like you or dislike you whether you do something or not."

Nine participants reported attending church services and listening to spiritual music as a form of relaxation and meditation. These men sought a higher power to change behavior and reduce high blood pressure. These were childhood practices and observed from relatives, parents and friends. Roy stated, "With the grace of the good Lord I can survive. I want to survive to see my grandkids grow up..."

Reed stated: "I just try to keep my mind in the presence of God and not get angry. I try to go as often as possible. I go Monday nights for men teaching, Wednesday nights and Sundays. I try to help out at the church during the days when I am not working." Dan stated, "Well I like to go to church as often as I can." Nick, another participant, had strayed away from religious practices during his military tour. Upon reuniting with his family his church attendance was more consistent. Nick stated:

> Well, actually yes, I would say that my spiritual life certainly contributes to my blood pressure being under control. I do not stress about too many things. I try not

to stress at all. I pursue God's peace about different things that may come up. You know some folks may stress about things, but I don't. I try to walk in God's peace and it keeps me on an even keel disposition. …. Certainly, you know based on what I've experienced myself, when I compare to the time when I was deployed and away from my family, away from my home church, and being back here, with a consistent church life, there's a big difference. There is peace and less stress.

Darryl battles with drug addiction and seeks a higher power to help him maintain sobriety and conform to healthier behaviors, such as taking his medications. Darryl stated: "Sometimes that is why I did start drinking heavy amounts of alcohol trying to relieve the stressful situations that I put myself in. When I get out of the bed in the morning, the first thing I do is say my prayers." These participants have learned to cope with stress by using different coping practices including spirituality and religion.

Summary of the Findings

The major finding from this study is that African American men who understand the impact high blood pressure may have on their health are likely to take their antihypertensive medications. Three themes and related subthemes interact to influence the likelihood that an individual will understand the impact of high blood pressure on health and take anti-hypertensive medication. To enhance adherence to antihypertensive medications African American men need to be knowledgeable in 3 areas. They need to understand the impact high blood pressure has on health, the signs and symptoms that may accompany high blood pressure, and that even with an absence of symptoms the

impact continues. After the participants in this study reached this understanding, whether through seeing the results of high blood pressure in others, through regular doctor visits, or through having complications themselves, once they understood the effects high blood pressure has on health, and they were more likely to adhere to their antihypertensive medications. Individuals who recognize the impact of high blood pressure has on their health are likely to change their behaviors.

CHAPTER V

SUMMARY OF THE STUDY

Approximately 45% of African Americans have high blood pressure, placing them at risk for complications, such as cardiovascular diseases. Findings indicate 49.9% of black males die from hypertension (American Heart Association, 2007). The National Heart, Lung, and Blood Institute (2007) suggests delay in seeking treatment and failure to take prescribed medications increases the rate of complications and mortality in patients with hypertension. Johnson, Williams, and Marshall (1999) suggest that non-adherence is the main reason why patients are unsuccessful in controlling their hypertension. Patients' beliefs and attitudes can have a positive or a negative influence on medication adherence (Gatti et al., 2009).

A qualitative study was conducted using an interpretive (hermeneutic) phenomenology research methodology to investigate how beliefs and attitudes influence medication adherence in African American men 45 years of age and above with high blood pressure. A purposive sample of 17 African American men recruited from a church and a community center participated in semi-structured interviews. Data analysis using the methods described by Crist and Tanner (2003) provided a systematic guide to interpreting transcripts, identifying central concerns and shared meanings, clarifying emerging interpretations, and reporting interpretations. This chapter provides a summary

and discussion of the findings. Conclusions and implications are drawn and recommendations for practice and further study are proposed.

Summary

The findings of this study are that African American men who understand the impact high blood pressure has on their health are more likely to take antihypertensive medication as prescribed. Supporting the overarching theme *understanding the impact of high blood pressure* are three themes. The theme *feeling no symptoms,* has the sub-themes of *it can't be serious because I feel ok, then I must be ok,* and *ignoring or failing to recognize symptoms.* The theme *becoming aware of serious complications,* has the sub-themes *heading for something bad*, *opening up communication with love ones, watching loved ones die*, and *taking responsibility for my health*. The theme *managing with hypertension* has the sub-themes, *affording medicines when you are poor and black, tiding myself over until I get my medication, forgetting, skipping, and stopping medication*, and *coping with stress through spirituality and religion.*

Discussion of the Findings

The findings of this study generally support findings from earlier studies of the effect of attitudes and beliefs on medication adherence. However there are some differences. For example, earlier studies by Thomas and Quinn (1991) and Wolinsky (1997) found that African Americans were likely to mistrust health care providers but the

majority of the participants in this study emphasized their trust in their health care providers. A few participants in this study reported the use of vinegar and water or lemon and water as a strategy to tide them over if they had run out of their antihypertensive medications. There were no reports of such use found in reports from the earlier studies. Based on the literature reviewed, this study is unique for recruiting participants from the community.

The theme *feeling no symptoms* and the related subthemes support the findings from previous studies and are consistent with the lack of symptoms of hypertension. During stages one and two of hypertension, there are no physical symptoms (American Heart Association, 2008) and, even after diagnosis individuals may believe *it can't be serious because I feel ok, then I must be ok,* Therefore, feeling OK makes it difficult for individuals to realize that hypertension exists, and treatment is delayed until complications occur (Cooper, 2009; Gatti et al., 2009; National Heart, Lung, and Blood Institute, 2007; Phatak & Thomas, 2006; American Heart Association, 2008). Some participants reported that even after experiencing symptoms or being told they had hypertension they did not seek or accept treatment recommendations, *ignoring or failing to recognize symptoms*. This finding supports earlier findings that people may delay seeking treatment and may fail to take prescribed medications for hypertension (Cooper, 2009; Gatti et al., 2009; National Heart, Lung, and Blood Institute, 2007; Phatak &

Thomas, 2006; American Heart Association, 2008). Individuals with limited understanding of the possible health consequences of hypertension may place their health at risk for severe problems.

The theme *becoming aware of serious complications* is important because it is as this awareness develops that change takes place. Participants described not knowing the negative effects of eating greasy foods, including pork, fried chicken, bacon, ham hocks, and chitins on their health. This supports earlier findings by Savoca et al. (2009) that African Americans were not knowledgeable of the risk factors for hypertension, or the lifestyle modifications needed to prevent high blood pressure complications. The common sense model (CSM) postulated that individuals need to recognize the impact chronic illnesses have on their health, so that they can develop strategies to prevent the poor outcomes. Several authors have reported that understanding the severity of the illness can assist individuals to participate in healthier behaviors and follow a medical regimen (Hekler et al., 2008; Kressin et al., 2007; Horne, Clatworthy, Polmear, & Weinman, 2001). Savoca et al. (2009) wrote that African American men were unfamiliar with the risk factors for cardiovascular disease. For several of the participants it was not until after they understood the possible consequences of high blood pressure that they took the antihypertensive medications as prescribed. As reported earlier by Kresin et al. (2007) health care providers should provide teachings on actions of antihypertensive medications, proper times for taking medications, and complications of not adhering to recommendations. These findings support the findings of Schlomann and Schmitke

(2007) and Lewis et al., (2010) that most patients are unaware of the disease, high blood pressure, and of complications associated with the disease.

Not described in previous literature is the *opening up communication with loved ones* that occurs between family members when an individual has hypertension and is aware of the potentially serious consequences. This may have implications for the education of family members, as well as for the identified patient with hypertension. Discussions with loved ones about lifestyle behaviors and medications adherence may be effective for the identified patient and their family members in improving health-promoting behaviors.

A noteworthy finding was that the male participants reported taking responsibility for their heath in collaboration with their physicians. These men, who adhered to prescribed treatment regimens, did not expect others to look after them. Cohen (2009) emphasized that adherence to a treatment regimen is contingent upon how people differentiate the benefits of involving themselves in healthier behaviors, and being familiar with barriers. Ayotte et al. (2009) also found that education is the key to self-management of chronic disease. This study also supported the findings of Peters et al. (2006) where most participants recognized the importance of self-management behaviors, but few realized that poor diet habits contributed to major problems. Several of the participants in this study reported that they had not realized that poor diet habits could contribute to major problems. Also noteworthy, is that along with realizing that hypertension might have severe consequences, participants in this study had also learned

that dietary patterns could contribute to having hypertension – and in some instances reported talking to their children about following dietary and exercise practices to prevent hypertension.

Earlier reports hold that the effects of the Tuskegee study have continued to cause mistrust between health care providers and African American men (Cooper, 2009; Wolinsky, 1997; Thomas & Quinn, 1991). However nearly all participants in this study trusted their physicians and viewed physician recommendations as beneficial and valuable. Following their doctors' recommendations was part of *taking responsibility for my health.* Most aspects of the theme *managing with hypertension* are consistent with earlier findings. The majority of the participants' in this study were able to afford antihypertensive medications. However some reported that it was difficult *affording medicines when you are poor and black.* This finding is consistent with findings by other researchers (Lewis et al., 2010; Copper, 2009; Peters et al., 2006; & Ard et al., 2005). The sub-theme *tiding myself over until I get my medications* is about the lemon or vinegar and water, which a few participants reported using until prescriptions could be refilled or when they were unable to afford medications. This measure was used as a temporarily fix until their medications were refilled by the pharmacist or until they could afford medications. The belief that such remedies are useful in decreasing blood pressure was not found in the literature search for this study.

Lewis et al. (2010) found that African Americans stopped taking their medications because of medication side effects and lifestyle changes. Although some

participants in this study reported times of *forgetting, skipping, and stopping medications* because of side effects, most took the medications as ordered once they understood the importance of the medications for their long-term health. Supporting the findings of Peters et al. (2006) and Lewis, Askie, Randleman, and Shelton-Dunston (2010), findings from this study indicate that *coping through spiritual and religious* practices and beliefs were a conduit for dealing with life stressors and managing high blood pressure. Spiritual guidance (listening to gospel music and regularly church attendance) provided strength to modify behaviors and adhere to prescribed medications.

Limitations

A phenomenological methodology attempts to investigate the meaning of experience through understanding the person's own perception and understanding of the experience. A major limitation with phenomenological research is that the findings are based on data from a limited group of participants and may not be generalizable to others (van Manen, 1990). Participants in this study may have been hesitant to express some of their feelings and experiences concerning hypertension beliefs and attitudes. The participants may also have misremembered earlier experiences, and thus provided inaccurate data. For this study only African American men in one church and one community center participated. It may be that their experiences do not apply to others. This study took place in one community and these findings may not be transferable to other groups or communities.

Conclusions and Implications

The conclusions of this study are as follows:

1. Hypertensive African American men often fail to recognize the signs and symptoms of hypertension leading them to not comply with treatment regimens.
2. Significant complications that occur to AA men or their family members may serve as a 'wake-up' call to take their hypertension more seriously and comply with treatment regimens.
3. Knowledge about hypertension and personal awareness about the destructive effects of hypertension serve as mediators facilitating hypertension treatment compliance of AA men.
4. AA men trust their health care providers and take responsibility for their own health in collaboration with the health care providers.

Study findings highlight the need to teach African American men the impact high blood pressure has on their health. Lack of knowledge proved problematic at one time for most study participants. Many did not recognize the signs and symptoms and the complications associated with high blood pressure, and some did not believe that the disease was serious because they did not have symptoms. Implications related to study findings include:

1. Ongoing education and educational reinforcements need to be built into the treatment regime for all individuals diagnosed with hypertension.

2. Public health announcements in the media can provide information to those who are at risk for hypertension.

These strategies will help individuals learn to manage their high blood pressure, resulting in better health outcomes. Information obtained from this research will give health care professionals knowledge to provide competent care of African American men with hypertension.

Recommendations for Further Study

This study's findings clearly support the need for hypertension education by health care providers, consistent with Viswanathan and Lambert's (2005) and Fernandez, Scales, Pineiro, Schoenthaler, and Ogedegbe's (2008) recommendations. Obtaining a better understanding of symptoms and the need to adhere to medication is imperative in decreasing complications associated with high blood pressure. The following recommendations are made for future research:

1. A randomized control trial is needed to evaluate the effectiveness of education provided in health care settings.
2. Studies are needed to examine the effects of interventions such as the use of support groups, follow-up phone interventions, and self-monitoring blood pressure programs to enhance education and knowledge and increase adherence with disease management.
3. Studies are needed to evaluate the impact of promoting family discussions of behaviors to reduce the risk for hypertension.

Summary

The findings from this study provide a better understanding of how beliefs and attitudes influence medication adherence in African American men with high blood pressure. Understanding the impact high blood pressure has on health and awareness of serious consequences is central to following treatment plans that include antihypertensive medications. The findings from this study may encourage healthcare professionals to provide effective education about hypertension, and possible outcomes, to African American men. Findings from this study include factors that influence medication adherence. This study contributes to nursing science by highlighting the importance of interventions to educate African American men about hypertension so that they take their medications and thereby decrease their incidence of hypertension and the related untoward health outcomes, thus reducing health disparities.

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APPENDIX A

IRB Approval Letter

TWU
TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON

Office of Research
6700 Fannin Street
Houston, TX 77030-2343
713-794-2480 Fax 713-794-2488

September 22, 2010

Ms. Janell Bennett
College of Nursing - Lene Symes Advisor
6700 Fannin Street
Houston, TX 77030

Dear Ms. Bennett:

Re: "Exploring how beliefs and attitudes influence medication adherence in African American men 45 years of age and above with high blood pressure"

Your application to the IRB has been reviewed and approved.

This approval lasts for one (1) year. The study may not continue after the approval period without additional IRB review and approval for continuation. It is your responsibility to assure that this study is not conducted beyond the expiration date.

Any changes in the study or informed consent procedure must receive review and approval prior to implementation unless the change is necessary for the safety of subjects. In addition, you must inform the IRB of adverse events encountered during the study or of any new and significant information that may impact a research participant's safety or willingness to continue in your study.

The signed consent forms and final report must be filed with the Institutional Review Board in the Office of Research, IHS 10110, at the completion of the study.

Sincerely,

Carolyn Kelley, PT

Carolyn Kelley, PT, DSc, NCS
Institutional Review Board - Houston

APPENDIX B

Participant Recruitment Script

Recruitment Script for potential participants

Hello, my name is Janell Bennett. I am a registered nurse and a doctoral student at Texas Woman's University College of Nursing. I am exploring how beliefs and attitudes, in African American men, 45 years of age above, with high blood pressure, and how they take their prescribed medications. I am inviting participants living in Corpus Christi, Texas to enroll in the study. The purpose of the study is to give health care professionals knowledge to provide competent health care to African American men diagnosed with hypertension.

For those who volunteer as a participant in this study, you will be asked to answer interview questions for up to 1 ½ hours. At the end of the interview, you will be offered $10.

Would you like to consider participating? If you would like to consider participating, I will give you more information to make a final decision.

☐ 1. Yes ☐ 2. No

APPENDIX C

Consent to Participate in a Research Study

Texas Woman's University School of Nursing
6700 Fannin Street
Houston, Texas 77030-2343
713 794-2151

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Title: Exploring how beliefs and attitudes influence medication adherence in African American men 45 years of age and above with high blood pressure

Investigator: Janell Bennett RN MSN janellsample@yahoo.com 361/698-2895
Advisor: Lene Symes, PhD LSymes@mail.twu.edu 713/794-2151

Explanation and Purpose of the Research Study

You are being asked to participate in a study conducted by Mrs. Janell Bennett, a student at Texas Woman's University, as part of the requirement for her doctoral degree. The purpose of this research study is to explore how beliefs and attitudes influence African American men 45 years of age and above with high blood pressure to take their prescribed medication. The results will provide knowledge to health care professionals to improve the way they provide care for African American men diagnosed with high blood pressure.

Description of Procedures

For this study, Janell Bennett will talk to you, and up to 24 other African American men 45 years of age and above with high who have prescribed medication for high blood pressure, about your experience with managing high blood pressure. Interviews will be recorded, and then the audio recordings will be transcribed. Your maximum total time commitment for the study is estimated to be 1 ½ hours.

Potential Risks

The risks in this study include loss of confidentiality, fatigue during the interviews, loss of time, and emotional discomfort. Confidentiality will be protected to the extent that is allowed by law. The interview will take place in a private location agreed upon by you and the researcher. A code, rather than your real name, will be used on the audio recording and transcription. The recordings will be stored in a locked filing cabinet at the researcher's home office. The tapes will be shredded within 5 years. Informed consent forms will be kept in a separate and locked file cabinet at the researcher's home office.

_____**Initials**

Only the researcher will have access to the cabinets. It is anticipated that the results of this study will be published in the investigator's dissertation as well as in other research publications. However, no names or other identifying information will be included in any publication. If you become tired or emotionally distressed you are free to take a break at any time and to stop the interview at any time. The interview will take up to 1 ½ hours. The researcher will try to prevent any problem that could happen because of this research. You should let the researcher know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

There is no specific benefit to you for participating in this study, except that you will receive $10 to thank you for sharing your experience. The information from this study will add to health care professionals' knowledge and may improve the assistance African American men receive with taking prescribed antihypertensive medications. If you would like to know the results of the study I will mail a summary of the results to you. Federal rules say that you can see the health information that we collect about you and use in this study. Your involvement in this research study is completely voluntary, and you may discontinue your participation in the study at any time without penalty.

Questions Regarding the Study

You will be given a copy of this signed and dated consent form to keep. If you have any questions about the research study you should ask the researchers; their phone numbers are at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research at 713-794-2480 or via e-mail at IRB@twu.edu.

_____

Signature of Participant Date

*If you would like to know the results of this study put your contact information below. The researcher will then email or call you to tell you about meeting times and places where she will present the results.

Email:

_____

or

Phone number:

_____

APPENDIX D

Letter of Endorsement

Corpus Christi Christian Fellowship

Donald G. Leavell
Senior Pastor

August 26, 2010

To: Dr. John Radcliffe, PhD, RD
Texas Woman's University, Houston Center
Institutional Review Board Chair Person

From: Pastor Donald Leavell
Corpus Christi Christian Fellowship

Subject: Approval for Janell Bennett to use this organization to recruit African American participants

I am writing this letter to provide written documentation that Janell Bennett, a doctoral student at Texas Woman's University, has permission to recruit African American participants for her dissertation study titled, "Exploring beliefs and attitudes about medication adherence in African American men 45 years old and above with high blood pressure." The primary location will be at 6602 South Staples, Corpus Christi, TX and private rooms are available for interviews.

Sincerely,

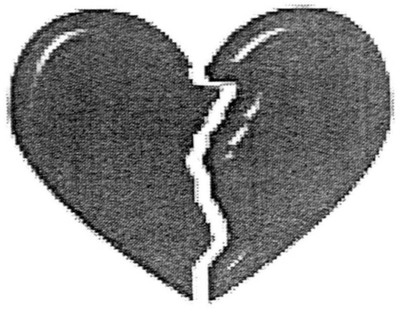
Donald G. Leavell, Senior Pastor,
Corpus Christi Christian Fellowship

6602 South Staples • Corpus Christi, Texas 78413 • (361) 993-2223 • Fax (361) 993-6997

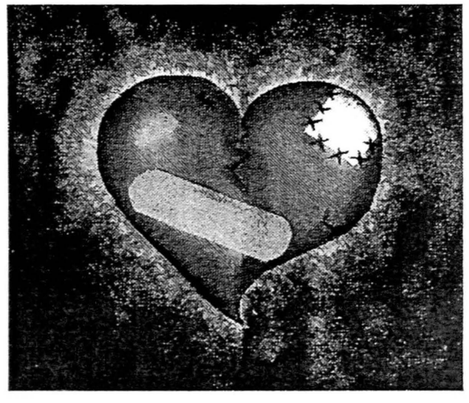
APPENDIX E

Brochure

- You may be eligible if you are African American, male, 45 years and older, & are prescribed medication for your blood pressure. If so—read more inside.
- If you are interested and eligible you will be asked to give your signed consent to be in the study.
- If you consent the nurse researcher will ask you some questions and interview you about your beliefs and attitudes about high blood pressure.



Taking care of your
Blood Pressure
is one of the best ways
to take care of your heart.



- Interview will take approximately 1 hour.
- Participants will receive a $10 gift certificate.

Can African American men decrease their risk of complications from high blood pressure? Help us learn more.

- HOW TO CONTACT THE RESEARCHER FOR MORE INFORMATION
- Call 361-698-2895. Janell Bennett will answer this phone. When you call—spell your name and give me your phone number.
- Calling for information does not mean you agree to participate in the study. I will give you more details and discuss the process with you.
- If you are interested and eligible, I will set up an appointment to meet with you at a place that is convenient for you.

This study has been approved by the Institutional Review Board for the protection of human subjects at Texas Woman's University Houston, Texas.

Janell Bennett MSN RN
Doctorate Student
is responsible for the study.
361-698-2895

AFRICAN AMERICAN MEN WITH HIGH BLOOD PRESSURE EXPLORING THEIR BELIEFS and ATTITUDES ABOUT MEDICATION ADHERENCE

89

You will help nurses and doctors learn more about helping African American men manage their high blood pressure

APPENDIX F

Participant Eligibility Form

Participant Eligibility Form

Instructions: All potential participants must be screened for meeting eligibility criteria in order to participate in this study. Only those who meet all the criteria are eligible for the study.

This Person:

Criteria	Yes	No
1. African American or Black Males		
2. Between the ages of 45 and above		
3. Diagnoses of hypertension		
4. Prescribed 1 or more antihypertensive medications		
5. Have the ability to understand English and to hear the researcher when sitting 2-3 feet away.		

Score: Yes to all questions = participant is eligible to participate. No to any questions = participant is INELIGIBLE for study.

Directions: The information requested is important to understand more about you and your health. A person's characteristics have been shown to influence health, either through heredity or current and past lifestyle practices. The information that you provide will be used for research purposes only and will be held in **confidence**. For each question, please select the response that best describes you. If you do not know the information requested, mark "Do Not Know" or "Unknown" as indicated. If you feel that a question does not apply to you, mark "Not Applicable."

Study ID Number _____ Date Screening Begins_____

Question	Yes = 1 No = 0	Data Entry
1. What is your age?	__ __ __	SDQ1____
2. Which one of the following best describes your current marital status?	1. Never Married __ 2. Currently Married __ 3. Living with partner/ significant other __ 4. Widowed __ 5. Separated __ 6. Divorced __ 7. Other (specify) ____	SDQ2____
3. What is your ethnicity?	Hispanic or Latino ____ Not Hispanic or Latino ____	SDQ3____
4. In addition to African-American do you identify as another race?	American Indian Alaska Native ____ Asian ____ Native Hawaiian or Other Pacific Islander ____ White ____	SDQ4____

5. What is your race? (Please choose ALL categories that apply)	(a.) White Yes ___ (b.) Black/African American Yes ___ (c.) American Indian Yes ___	SDQ5_____
6. How many years of formal education have you completed? *(For example, if you completed high school in the USA, you would have had 12 years of education)*	__ __ *(years)*	SDQ6_____
7. What is your education background? *(Please complete to the highest level of education attained.)*	*Complete below*	SDQ7_____
School:	Number of years attended:	Did you finish this school?
a.) Grade school *(Grades 1 - 8)*	__ __	Yes ___
b.) High School *(Grades 9 – 12)*	__ __	Yes ___
c.) Earned G.E.D. *Graduate Equivalent Diploma)*	*(Not applicable)*	Yes ___
d.) Vocational / Technical school	__ __	Yes ___
e.) 2 year college *(Associate's level)*	__ __	Yes ___
f.) 4 year college *(Bachelor's level)*	__ __	Yes ___

APPENDIX H

The Mini-Mental Status Exam

The Mini-Mental Status Exam

Participant code_____ **Date**_____

		Maximum	**Score**
		Orientation	
5	( )	What is the (year) (season) (date) (day) (month)?	
5	( )	Where are we (state) (country) (town) (street) (house)?	
		Registration	
3	( )	Name 3 objects: **apple, book, coat** 1 second to say each. Then ask the patient all 3 after you have said them. Give 1 point for each correct answer. Then repeat them until he/she learns all 3. Count trials and record. Trials _____	
		Attention and Calculation	
5	( )	Serial 7's. 1 point for each correct answer. Stop after 5 answers. Alternatively spell "world" backward. D_____L_____R_____O_____W_____	
		Recall	
3	( )	Ask for the 3 objects repeated above. **apple, book, coat** Give 1	

point for each correct answer.

Language

2 ( ) Name a pencil and watch.

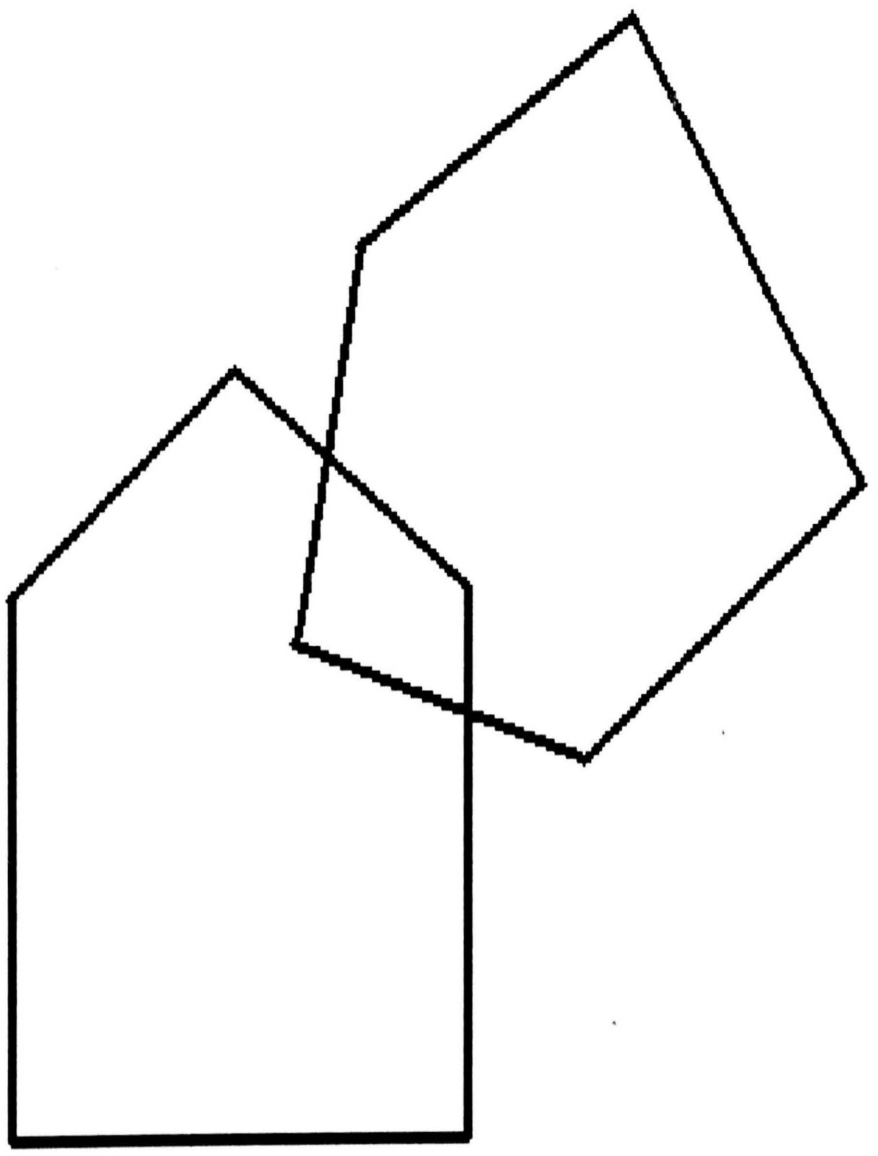
1 ( ) Repeat the following "No ifs, ands, or buts"

3 ( ) Follow a 3-stage command:
"Take a paper in your hand, fold it in half, and put it on the floor."

1 ( ) Read and obey the following: CLOSE YOUR EYES

1 ( ) Write a sentence.

1 ( ) Copy the design shown.



_____ **Total Score**

ASSESS level of consciousness along a continuum _____

Alert Drowsy Stupor Coma

Folstein M.F., Folstein S. E., & McHugh P. R. (1975). Mini-mental-state: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatry Research* 12(3), 189-198.

APPENDIX I

Interview Guide

Interview Guide

1. Tell me about your experience with having high blood pressure.
2. How did you find out you had high blood pressure?

    a. What was your reaction? (probes: What did you think? What did you feel?)

    b. What was your families' reaction?

    c. Did anyone's reaction change what you did about having high blood pressure?

3. How do you take care of yourself to make your blood pressure better? (probes: medications, exercise, meditation or relaxation, diet, special foods, teas, or other remedies).

    a. What affects the way you take your medication for high blood pressure? (probes: doctor instructions?)

4. Tell my about any problems you had taking your high blood pressure medication. For example, other men have said they experience things like constipation, feelings of dizziness, having to get up to pass urine at night, or upset stomach. For many men sexual difficulties are also a problem.
5. What advice have you received about taking care of yourself? (probes: from health care provider, from family, from friends, from the media)

    a. What makes you decide to follow the advice? (probes: relationship to person giving the advice, the way you feel, cost, effect of having high blood pressure on your health, anything else?)

    b. What makes you decide not to follow the advice? (probes: relationship to person

giving the advice, the way you feel, cost, effect of having high blood pressure on your health, anything else?)

6. Is there anything else you can tell me about taking care of your high blood pressure?