African American women and hypertension: Their resources of information, knowledge level, and health promoting behaviors

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African American Women and Hypertension: Their Resources of Information, Knowledge Level, and Health Promoting Behaviors

by

Winnie Wood

Field Study

Submitted to the department of Nursing Education

College of Health and Human Services

Eastern Michigan University

in partial fulfillment of the requirements

for the degree of

Master of Science

in

Nursing

January 29, 2008

Ypsilanti Michigan
Dedication

I want to dedicate this work in memory of my parents Mossie and Arny Wood.

Without their love and guidance I never would have made it this far.
Acknowledgements

I wish to thank Dr. Wu and Dr Wilson. I greatly appreciate your expertise, patience, encouragement, and for keeping me focused throughout this research project.

Dr Beard, thank you for your guidance and support throughout my graduate studies. I don’t know if I would have done it without you.

Professor G. Rubenfeld, thank you for being a mentor and the many years of encouragement to continue on with my education.

I deeply appreciate and thank all of my friends, for their patience, encouragement, support, and understanding during this long process. We can now “play”.

I especially want to thank my preceptors, J. Duerr MS, NP, M. Kocan MSN, and J. Grunawalt MS, APRN-BC, for all of their time, patience, expertise, and encouragement.

A. Withers MBA, RN, thank you for your support during this process and thank you M. Walters, MS, RN for your assistance.
ABSTRACT

The purpose of this study was to describe the information resources, level of knowledge on hypertension, and health promoting behaviors (diet and exercise) of young African American women, and to determine whether there was a relationship between their knowledge level and health promoting behaviors (diet and exercise). The study sample consisted of African American women (N=31) 18 to 30 years old. Data was collected using a demographic questionnaire, High Blood Pressure IQ Quiz, and the Health Promoting Lifestyle Profile II. Participants reported they received majority of their information from doctors, family, television, and schools. Participants scored an average of 70% on the High Blood Pressure IQ Quiz. No significant positive correlation was detected between knowledge level and health promoting behaviors diet ($r = -.060$) and exercise ($r = .199$). The implication from this study is that further research is needed to determine the variables affecting hypertension knowledge and health promoting behaviors.
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CHAPTER 1

Introduction

The incidence and death rate from hypertension in the United States, is higher in African Americans than any other race (American Heart Association, 2005). Education on hypertension and lifestyle modifications needs to be implemented early, because the damage from hypertension has usually occurred before it is diagnosed. There has been an increase in the amount of research on African Americans and their knowledge level, attitudes, and perceptions about hypertension, but more is needed to assist with improving this population’s compliance and control. The focus of this proposal is to explore the resources of information and knowledge level of African American women about hypertension and their health promoting behaviors.

Problem Overview

In the United States, it is estimated that over 40% of African American adults have hypertension (American Heart Association, 2005). Hypertension and its effects, have an earlier onset, are more severe, and occur more frequently in African Americans than in Caucasians. The incidence rate of hypertension in African Americans in the United States is the highest in the world. African American women are affected by hypertension more than African American men, and the prevalence of hypertension in African American women is 3 times that of Caucasian women (American Heart Association, 2005; Centers for Disease Control and Prevention National Institutes of Health, 2000a).

There are two major types of hypertension: essential hypertension and secondary hypertension. Essential hypertension is the most frequently diagnosed type and usually there is no obvious or identifiable cause. Secondary hypertension, usually caused by a reversible factor, is sometimes curable (Price & Wilson, 2003). Some of the causes may be kidney damage, overactive adrenal gland, thyroid dysfunction, pregnancy related, sleep apnea, medications, recreational drugs, alcohol, and food. In the early stages of hypertension, obvious changes to blood vessels and organs may not be detected. Over time if left untreated, blood vessels of kidneys, eyes, heart, and the brain are damaged. In long standing hypertension, large vessels
become sclerosed, and lumens blocked causing decreased or occluded blood flow to tissues and organs (Chobanian et al., 2003; Centers for Disease Control and Prevention National Institutes of Health, 2000a; Price & Wilson, 2003).

The National High Blood Pressure Education Program Coordinating Committee, a committee of consisting of seven federal agencies and public organizations, has updated their guidelines for the classification and management of blood pressure for adults 18 and older. In their report, The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7 report), a normal blood pressure is a systolic pressure less than 120 millimeters of mercury (mm Hg) and a diastolic pressure less than 80 mm Hg. The stages or classifications of hypertension are prehypertension, Stage 1 hypertension, and Stage 2 hypertension. The JNC 7 report includes information on blood pressure measurement procedures, patient evaluations, laboratory and diagnostic procedures, and treatment guidelines for hypertension. Once diagnosed, most African Americans need at least two hypertensive medications for treatment from the onset as compared to other races (Chobanian et al., 2003). Early detection and treatment of hypertension is very important as it is the leading risk factor for cardiovascular diseases and kidney failure. Research has shown that education on lifestyle modifications, prevention, and early detection are effective in controlling if not preventing hypertension (American Heart Association, 2003; Centers for Disease Control and Prevention National Institutes of Health, 2000a; Chobanian et al., 2003).

Lifestyle modifications for the prevention and control of hypertension, include dietary changes, decreasing alcohol consumption, eliminating smoking, maintaining a healthy weight, and increasing exercise. Majority of the hypertension studies conducted have included all ages or focused on older people in all populations (Okonofua, Cutler, Lackland, & Egan, 2005; Oliveria et al., 2005; Svetkey et al., 2003), or included all adults in African American communities (Carter-Edwards, Jackson, Runaldue, and Svetkey, 2002; Graham, et al., 2006; Martins et al., 2001). All examined the level of knowledge about hypertension and lifestyle modifications. A
very small proportion of African American women ages 18-30 were included in these studies, yet examining this age group may provide information on the amount and type of health promotion education needed to aid in decreasing the incidence of hypertension. Statistics show that African American women are more likely to be obese and have a higher prevalence of physical inactivity than Caucasian women (Centers for Disease Control and Prevention National Institutes of Health, 2000b).

African Americans face socioeconomic and environmental barriers. The barriers identified are access to medical treatment, stress from living in urban environments, provider-patient relationship, cultural barriers, and lack of health insurance (Bolton, Giger, and Georges, 2003; Centers for Disease Control and Prevention National Institutes of Health, 2000a; Thanavaro, 2005). Health disparities have been identified in many races and are being addressed nationwide by government agencies, according to the Center for Disease Control and Prevention (CDC). The Healthy People 2010 objectives are to reduce all health disparities including barriers to health insurance and access to primary care (Centers for Disease Control and Prevention National Institutes of Health, 2000a). National initiatives have been implemented to improve the quality of care and health of all Americans. National agencies are targeting programs to increase health education and awareness and decrease the incidence and death rates of African Americans related to heart disease, stroke, hypertension, diabetes, obesity, and kidney failure. National and local agencies are working with healthcare systems to partner with African American communities and provide programs in their churches, schools, and community centers.

There has been an increase in research on the knowledge level and beliefs of African Americans on hypertension and lifestyle modifications, but more is needed. Studies by Carter-Edwards et al., (2002), Graham et al., (2006), Martins et al., (2001), and Okonofua et al., (2005) have shown that although the awareness of hypertension in general has increased, there is still a need for culturally appropriate educational programs on what are normal or optimal blood pressure levels, the causes of high blood pressure, and the effect of lifestyle modifications. As
stated earlier majority of the studies focus on older adults or report the results of the group as a whole. There is a gap in the reporting and research on young African American women and their knowledge on hypertension and lifestyle modifications. Existing risk factors such as pregnancy, use of birth control hormones, and increased alcohol intake are higher in this age group. Therefore, it is important that young African American women and their knowledge of hypertension and lifestyle modifications are studied. The results from research on this group may provide information on the amount and type of educational programs needed to increase health promoting activities that aid in decreasing and controlling hypertension. Education on hypertension and lifestyle modifications should be started at an early age, especially in the identified populations that are most at risk.

**Purpose of the Study**

The purpose of this research is to explore the information resources and knowledge level of young African American Women about hypertension and their health promoting behaviors.

**Research Questions**

1. What are the information resources, level of knowledge about hypertension, and health promoting behaviors (diet and exercise) of African American women aged 18-30 years in a Midwestern community setting?

2. What is the relationship between knowledge level about hypertension and health promoting behaviors (diet and exercise) in African American women aged 18-30 years in a Midwestern community setting?
CHAPTER 2
Literature Review

The literature review will introduce the significance of cardiovascular disease and hypertension in African American women on the national, state, and local level, and introduce the CDC’s Healthy People 2010 objective for hypertension. The significance of hypertension on African Americans, its definition, and the updated guidelines for diagnosis and management will be reviewed. Research on the importance of lifestyle modifications, healthy behavioral changes that can aid in prevention of hypertension as well as aid in the control of it will be presented. The literature review will conclude with a review of literature related to African American’s knowledge level on hypertension and lifestyle modifications, the findings and areas of future research.

The search of the literature was conducted using key words, hypertension, blood pressure, African Americans, blacks, women, diet, exercise, perceived risk, ethnic differences, knowledge, awareness, beliefs, cardiovascular disease, studies, lifestyle, health promotion, and barriers. The data bases used to conduct the searches were Cumulative Index to Nursing and Allied Health Literature (CINHAL) first search, Pub Med, and Google Scholar. Internet searches using the same keywords were conducted on the American Heart Association, Centers for Disease Control and Prevention, and the National Heart, Lung, and Blood Institute web sites.

Cardiovascular Disease

Cardiovascular disease remains the leading cause of death in America. Cardiovascular disease includes, stroke, coronary heart disease, hypertension, and diseases of the heart. Research shows that approximately 71.3 million Americans have some form of cardiovascular disease. It is the leading cause of death among African Americans (non-Hispanic Blacks) and women. In 2003, cardiovascular disease was the cause of death for 36.4% of African Americans and 53.1% of women. The direct and indirect cost of cardiovascular disease for 2006 is estimated to be 403.1 billion dollars (American Heart Association, 2005; Centers for Disease Control and
Prevention National Institutes of Health, 2000a).

Statistics from the Centers for Disease Control and Prevention lists the death rates from heart disease in the state of Michigan for women ages 35+ years as 607 per 100,000 for black women and 460 per 100,000 for white women, and in Washtenaw County black women accounted for 619 per 100,000 and white women 476 per 100,000 (1996-2000, the rates age-adjusted and spatially smoothed). In Washtenaw County 11% of the women are black and 85% are white (Centers for Disease Control and Prevention, 2005). Both national and local government agencies have objectives and programs in place to decrease cardiovascular disease and hypertension in adults.

The CDC’s Healthy People 2010 objective for hypertension is to decrease the number of adults with hypertension. Another objective is to also increase the proportion of adults who have their hypertension under control by medication or lifestyle changes (Centers for Disease Control and Prevention National Institutes of Health, 2000a). The American Heart Association, Centers for Disease Control and Prevention, National Heart Lung and Blood Institute (NHLBI), and other government and medical associations, have sponsored or conducted research on the causes, treatment, and prevention of cardiovascular diseases and hypertension. A landmark study is the Framingham Heart Study, which is still in progress, began in 1948 and has followed the participants and their offspring over the years. The results from this study have driven research in other health areas and have provided information on relationships between lifestyles and heart disease. Some of the resulting research will be discussed further in this paper (Appel et al., 1997; Sacks et al., 2001; Svetkey et al., 2003). Programs sponsored by the government and other organizations, have been established to educate the public, and promote healthy behaviors to decrease cardiovascular disease.

**Hypertension**

Based on the findings, approximately 50 to 65 million people ages 6 and older have hypertension, which is nearly 1 in 3 adults, and in 2006, the estimated direct and indirect cost for
high blood pressure is 63.5 billion dollars (American Heart Association, 2005). According to the CDC and the American Heart Association, hypertension accounts for a higher incidence and death rate in African Americans than in any other race. The prevalence in African American women is 45.4% and men 41.8% for 2003, and the death rates were 6.5 thousand per 100,000 for women and 5.4 thousand per 100,000 for men (American Heart Association, 2005). Although the number of men with hypertension outnumbers women with hypertension from ages 20 to 45 years, women outnumber men from 55 to 75+ years of age across all ethnic groups. Providing hypertension and health promotion education to younger women as a nursing intervention may increase the adoption of proper lifestyle modifications and therefore decrease the hypertension prevalence rate.

**Definition and Types of Hypertension.** According to research literature, hypertension is sustained systolic or diastolic blood pressure greater than 139/89 mm Hg. According to the JCN 7 report, classification of hypertension is based on the mean of two or more seated blood pressure readings, on 2 or more consecutive office visits (American Heart Association, 2005; Centers for Disease Control and Prevention National Institutes of Health, 2000a; Chobanian et al., 2003). Hypertension causes the heart to work harder and increases the risk of cardiovascular diseases, retinopathy, renal failure, and peripheral vascular disease. Essential hypertension and secondary hypertension are the two major types of hypertension (Price & Wilson, 2003).

Other types of hypertension are malignant hypertension, isolated systolic hypertension, white coat hypertension, and resistant hypertension. Malignant hypertension, the most rare and severe type, is when the diastolic blood pressure is extremely high. It can rapidly lead to organ damage and death if left untreated. Isolated systolic hypertension is when the systolic pressure is consistently elevated and the diastolic remains normal. This type of hypertension occurs more in elderly people, and is attributed to age related stiffening of the arteries. White coat hypertension has been attributed to anxiety when being tested by a health professional. It is usually confirmed by normal blood pressure readings obtained outside of the clinical area. Resistant hypertension
is when despite the drug regime, blood pressure cannot be reduced to an acceptable range (American Heart Association, 2005; Chobanian et al., 2003; Price & Wilson, 2003).

The 7th Report of the JNC updated their past guidelines for diagnosis, and management of hypertension, 6th report of the JNC, to now include prehypertension. Prehypertension is a systolic blood pressure between 120-139 mm Hg and a diastolic blood pressure between 80-89 mm Hg. Stage 1 hypertension is now a systolic blood pressure between 140-159 mm Hg and diastolic between 90-99 mm Hg. Stage 2 hypertension is a systolic blood pressure greater than 160 mm Hg or diastolic greater than 100 mm Hg. Treatment at each stage is dependent upon compelling indications. These include heart failure, post-myocardial infraction, diabetes, chronic kidney disease, high coronary disease risk, or recurrent stroke prevention (Chobanian et al., 2003).

The recommendations for prehypertension are to provide education to the patient on adopting the low sodium Dietary Approaches to Stop Hypertension (DASH) diet, and other lifestyle modifications. Medication treatment begins at Stage 1 hypertension using a thiazide type diuretic for most people. The 2-drug combination, a diuretic and another antihypertensive, usually begins with Stage 2 hypertension. If diuretics prove ineffective at Stage 1, the 2-drug combination is implemented. This is more commonly seen with African American patients. Although drug therapy may be used for treatment, lifestyle changes should be encouraged for decreasing the severity and possibly the onset of hypertension (Chobanian et al., 2003).

Lifestyle Modifications

Lifestyle modifications are healthy activities that can enhance ones quality of life and aid in the prevention of cardiovascular disease. The most effective lifestyle modifications are to quit smoking, limit alcohol intake, reduce weight, maintain a healthy diet, and increase physical activity. There has been a tremendous amount of research on the affects of smoking with all types of diseases.
Tobacco and Alcohol. Research has proven that all types of tobacco have negative effects on the body. Smoking increases the risk of cardiovascular diseases, and is damaging to one’s health. Nicotine constricts blood vessels which decreases blood flow and increases heart rate and blood pressure. Limiting alcohol intake is another lifestyle modification. There still remains conflicting research on alcohol consumption, in moderation, and its health benefits. The majority of the research states that limiting consumption to no more than two drinks per day for men and 1 drink per day in women is acceptable. Systolic blood pressure reductions of 2-4 mm Hg have been shown as a result of limiting alcohol consumption (Centers for Disease Control and Prevention National Institutes of Health, 2000a; Chobanian et al., 2003).

Obesity. One of the leading lifestyle modifications for all diseases is weight reduction. A large proportion of the U.S. population is overweight or obese. According to the CDC age adjusted prevalence, from 1999-2002 approximately 65% of Americans were overweight and 30% were obese. The classification of overweight is a Body Mass Index (BMI) in excess of 25 and a BMI over 30.0 is considered obese (American Heart Association 2005; Centers for Disease Control and Prevention/National Center for Health Statistics, 2004; Chobanian et al., 2003). Research has provided strong evidence that being overweight or obese predisposes individuals to type 2 diabetes, hypertension, high blood cholesterol, cardiovascular diseases, stroke and many other illnesses and diseases. The current recommendations are to maintain a normal body weight, a BMI between 18.5 and 24.9 to reduce the risk for cardiovascular and other diseases. Weight reduction not only helps to normalize blood pressure by reducing strain on the heart, it also lowers blood cholesterol. According to research, weight reduction of 5-10kg and maintaining a normal BMI (under 25) can decrease systolic blood pressure 5-20 mm Hg (American Heart Association, 2005; Chobanian et al., 2003). A well balanced diet is also important in aiding weight reduction and preventing obesity.

Diet. Research has shown that dietary modifications have been effective in weight reduction, preventing obesity, and aids in preventing and controlling different disease processes.
Research on the effects of diet and nutrition on health, has demonstrated that by maintaining a diet with ample fruits and vegetables, low in sodium, and low in fat is effective in preventing cardiovascular disease. A landmark study, the Dietary Approaches to Stop Hypertension (DASH) trials (Appel et al., 1997), demonstrated the effects of diet on decreasing hypertension. The diet in this trial encouraged a high number of vegetables and fruits, which provide high levels of potassium, magnesium, and fiber. The diet also consisted of low-fat dairy products, and foods low in total and saturated fat, cholesterol, and approximately 3 grams of salt per day. The DASH diet was most effective on people with prehypertension to moderate hypertension, but it also improved responses to hypertension medication in persons with more severe hypertension. The results from this study were that the DASH diet lowered blood pressures in hypertensive participants on average 11.4/5.5 mm Hg (systolic/diastolic). The diet also lowered systolic blood pressures in non-hypertensive participants on average 3.5/2.1 mm Hg (systolic/diastolic). The greatest difference was found between minorities 6.8/3.5 mm Hg (systolic/diastolic) and non-minorities 3.0/2.0 mm Hg (systolic/diastolic). Other findings from the diet included reduction in weight and cholesterol (Appel et al., 1997).

The second DASH trial by this group, led to another reduction in the daily recommended sodium allowance, and the name changed to the DASH eating plan (Sacks et al., 2001). The DASH eating plan is a combination of the original DASH diet and another reduction of sodium in the diet from 3 grams to 1,500-2,400 milligrams per day (Sacks et al., 2001). This reduction in sodium resulted in a decrease in hypertension in women, African Americans, and people over 45 years of age. The DASH eating plan and low sodium intake lowered systolic blood pressures on average 11.5 mm Hg for those with hypertension and 7.2 mm Hg for those without hypertension. The DASH eating plan (Sacks et al., 2001), demonstrated significant results in African Americans; there was a decrease in systolic blood pressures by 12.6 mm Hg versus 9.5 mm Hg for other races. A decrease in sodium alone can reduce systolic blood pressure 2-8 mm Hg (Sacks et al., 2001).
The third study conducted by this group was the Premier study (Svetkey et al., 2003). It was conducted on subjects in an uncontrolled setting comparing the combined effects of lifestyle changes: exercise, weight loss, reduced sodium intake, and limited alcohol intake, with a healthy diet or the DASH eating plan. The control in this study was the type of interventions the groups received. The interventions were advice to make lifestyle changes and eating a healthy diet, individual/group behavioral counseling and eating a healthy diet, or individual/group behavioral counseling and following the DASH eating plan. Participants in each group demonstrated a reduction in blood pressure by 5-10mmHg (Svetkey et al., 2003). The results from this study encourages healthcare providers to educate their patients to implement the DASH eating plan along with sodium reduction and other lifestyle modifications, as a way of life and not a short term treatment (Svetkey et al., 2003). These landmark studies provided non-drug approaches for controlling blood pressure.

**Exercise.** The impact of physical activity is associated with improving health in people of all ages. Regular physical activity has many health benefits including decreasing the risk of cardiovascular diseases, obesity, and diabetes. Exercise aids in weight control and is a key part of weight loss. It increases muscle and bone strength, decreases body fat, and enhances psychological well-being. Exercise is also beneficial in controlling and reducing hypertension. According to research and recommendations from the CDC, it is suggested that people perform moderately intense exercise 30 minutes a day, most days of the week. Some research has shown that 30 minutes of exercise a day can lower systolic blood pressure 4-9 mm Hg (Centers for Disease Control and Prevention National Institutes of Health, 2000a; Chobanian et al., 2003). Education and promotion of exercise and other lifestyle changes in persons with hypertension are an important part of a healthcare provider’s role.

**African Americans Knowledge level about Hypertension and Lifestyle Modifications**

The number of studies focusing on African Americans and their awareness, attitudes, and knowledge level on hypertension and lifestyle modifications is increasing. Most of the research
on hypertension for this population has been focused on examining the effects and behaviors of older men and women (Okonofua et al., 2005). The mean age of the subjects in studies that included younger African Americans ranged from 42 years and older (Carter-Edwards et al., 2002; Graham et al., 2006; Martins et al., 2001; Oliveria et al., 2005). The outcomes from the research were similar in that they revealed an increase in general hypertension knowledge and that there is a gap in the knowledge level on the value of lifestyle modifications (Carter-Edwards et al., 2002; Graham et al., 2006; Martins et al., 2001; Okonofua et al., 2005).

**Knowledge level.** The research has confirmed that there has been an increase in the general knowledge of hypertension and its effects (Carter-Edwards et al., 2002; Graham et al., 2006; Martins et al., 2001; Oliveria et al., 2005; Wilson et al., 2002), but there remains a lack of awareness in the clinical normal systolic and diastolic blood pressures (cutpoints for stage 1 hypertension), and people not knowing their blood pressure values (Carter-Edwards et al., 2002; Oliveria et al., 2005). According to the results from the studies conducted by Okonofua et al. (2005) and Wilson et al. (2002), majority of African Americans stated that the only way to control blood pressures was with medication, yet medication compliance is a problem. Some of the barriers to medication compliance were cost of medications due to lack of insurance or money. Carter-Edwards et al. (2002) found a negative correlation between positive attitudes about health and hypertension knowledge and status. Martins et al. (2001) found in their study, that the middle-aged group had more knowledge about hypertension than the younger and older-aged groups. Therefore it is important to examine hypertension knowledge in young African American women.

**Diet.** There was a lack of knowledge about the value of lifestyle modifications (Carter-Edwards et al., 2002; Horowitz et al., 2004). Participants were very knowledgeable about the effects of smoking and alcohol, but their knowledge on diet varied. Most of the participants did not know the daily recommendations and serving sizes for dietary sodium, fat, fruits, and vegetables (Carter-Edwards et al., 2002; Horowitz et al., 2004). Some of the reported barriers to
incorporating a healthy diet included the high cost of fresh fruits and vegetables, access to stores, and cultural differences in cooking (Dietz, 2001). Afro-centric food was identified as being central to social and family gatherings, and alternate substitutions to lower fat and sodium were considered bland or tasteless (Carter-Edwards et al., 2002; Horowitz et al., 2004). African American food and dietary habits are complicated, as its roots began with slavery when the foods available were foods of low nutritional value. People who are economically disadvantaged may not have a choice but to purchase what is available and what they are able to afford. These foods usually are higher in sodium, have lower nutritional value, and are higher in fat (Centers for Disease Control and Prevention National Institutes of Health, 2000a).

**Exercise.** African Americans demonstrated limited knowledge on the benefits of weight loss and exercise (Carter-Edwards et al., 2002; Okonofua et al., 2005; Oliveria et al., 2005). Populations with high sedentary rates are women, people with lower incomes levels, and lower education levels, African Americans, Hispanics, and elderly (Centers for Disease Control and Prevention National Institutes of Health, 2000b). Reported barriers to physical activity identified by African Americans include lack of a safe environment in which to be active, and access to convenient facilities (Bolton et al., 2003; Thanavaro, 2005).

**Information Resources.** Two of the studies assessed the participant’s sources of information on hypertension (Okonofua et al., 2005; Wilson et al., 2002). Healthcare providers were the main source followed by television (mass media), friends or family. A major part of a healthcare providers care includes patient education. It is important that education on hypertension and lifestyle changes is provided to patients who are at risk for and diagnosed with prehypertension, as well as for those with stage 1 and stage 2 hypertension (American Heart Association, 2003; Centers for Disease Control and Prevention National Institutes of Health, 2000a; Chobanian et al., 2005; Svetkey et al., 2003). Time spent during each office visit, to ensure the patients understanding of lifestyle modifications, medications, and to answer questions aids in not only building trusting relationships, but identifies areas in which knowledge
is lacking (Mather, 2004; Svetkey et al., 2003)).

More research is needed about African Americans to identify knowledge deficits related to hypertension, and to identify attitudes or beliefs associated with hypertension and lifestyle modifications (Carter-Edwards et al., 2002; Graham et al., 2006; Martins et al., 2001; Okonofua et al., 2005; Oliveria et al., 2005). This information can assist healthcare providers with developing educational programs and interventions tailored towards African Americans. Increased knowledge remains a prerequisite for change in health behavior. Interventions over time can produce cognitive and affective changes that may result in long-term behavioral and medical changes.

Summary

Hypertension is a major risk factor for heart disease, stroke, and kidney disease. Damage from hypertension begins before a diagnosis is made, but with early detection and treatment its effects can be reduced if not eliminated. Hypertension affects African Americans as a whole more than any other group in the world and African American women are affected the most. Studies have provided evidence that lifestyle modifications are important in reducing the effects of hypertension. Although African Americans knowledge level on hypertension has increased, there is still a need for education on the clinical norms for systolic and diastolic levels, and the importance of lifestyle modifications.

In populations identified as at risk for hypertension, education about the disease, its effects, and lifestyle modifications need to begin at an early age. Studies focusing on the young adults, particularly African American women and their level of knowledge on hypertension and health promoting behaviors are needed. The results from research on this group may provide information on the amount and type of educational programs needed to increase health promoting activities at an earlier age and decrease the incidence and improve the management of hypertension.
CHAPTER 3

Conceptual Framework

Overview

The conceptual framework used for this study will be the Health Promotion Model developed by Nola Pender. The health promotion model assumes that people take an active role in seeking to maintain healthy behaviors and change their environment context to support these behaviors. This model was derived from the integration of constructs from the expectancy-value theory, and the social cognitive theory (Pender, Murdaugh, & Parsons, 2002). The theoretical propositions summarize that people will commit to performing behaviors in which they anticipate will benefit them, based on their behavior specific cognitions, perceived barriers, perceived competence, and emotions (Pender, Murdaugh, & Parsons, 2002; Peterson & Bredow, 2004).

The components of the health promotion model are individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes (Appendix A). The individual characteristics and experience variables are personal factors such as, biological and sociocultural information, and experiences are prior related behavioral habits. These directly affect subsequent health behavior actions. Behavior-specific cognitions and affect variables are perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity related affect, interpersonal influences, and situational influences. These variables are considered the major motivational factors for commitment to action and performance of the behavioral outcomes.

Engagement in the behavioral outcome begins after a commitment to a plan of action has occurred. Immediate competing demands like family responsibilities or work, may influence or interrupt the implementation of health promoting behaviors (Pender, Murdaugh, & Parsons, 2002; Peterson & Bredow, 2004). Health promoting behavior is defined as “behaviors or actions
that people carry out with the intention of improving their health” (Peterson & Bredow, 2004 p. 288). Health promoting behavior is the outcome of the health promoting model (HPM).

Modified Framework

Pender’s Health Promotion Model (HPM) was chosen for this study for two reasons. The first is that the HPM focuses on the relationship between individual’s characteristics, experiences, behavior specific cognitions, and behavioral outcomes. The second is that the HPM assumes that people take an active role in seeking to maintain healthy behaviors. In the HPM the traditional variable for experiences is prior related behavior and the variables for the behavior-specific cognitions and affect component are the person’s perceptions of barriers, benefits, self-efficacy, and influences on their behavior (Appendix A). In this study the experience variable will be the person’s awareness of their blood pressure and maintaining it in a healthy range and information resources. The individual characteristics variables will be personal factors such as the person’s age, marital status, educational level, household income, and health insurance status. The variable for behavior-specific cognitions will be the person’s general knowledge level on hypertension (Figure 1). According to the Taber’s Cyclopedic Medical Dictionary (Thomas et al., 1997), cognition is described as the mental process in which one gains knowledge. The health promoting behavior variables in this study will be nutrition and physical activity. The relationship between knowledge level on hypertension and health promoting behaviors in African American women may be demonstrated by using the HPM.
Figure 1.
Model of the Relationship between Knowledge of Hypertension in Young African American Women and Health Promoting Behavior
(Based on Pender’s Health Promotion Model).
Conceptual and Operational Definitions

Awareness. Awareness is defined as knowing one’s blood pressure reading and how to maintain it within the recommended blood pressure range. Awareness will be measured using the two questions. “I know my blood pressure numbers and how to maintain it in a healthy range” (American Heart Association, 2006), one of ten questions on the American Heart Association high blood pressure IQ quiz. The participant will be asked to write down their last known blood pressure.

Behavioral Outcomes: Diet. The health promoting behaviors in this study will be diet and exercise. The definitions for both are defined according to the defining dimensions of the health promotion lifestyle (Walker & Hill-Polerecky, 1996). Diet or nutrition is knowingly selecting and consuming proper foods that promote ones health, and well-being. It includes choosing foods daily that are consistent with guidelines of the Food Guide Pyramid (Walker & Hill-Polerecky, 1996). This will be measured using the Health Promoting Lifestyle II (HPLP-II), a 52 item instrument containing six subscales that measure self-reported behaviors on health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management. Diet behaviors will be measured by nine items from the HPLP-II nutrition subscale asking the respondents about their dietary choices. The responses are on a 4-point likert scale ranging from 1 (never) to 4 (routinely).

Exercise. Physical activity or exercise involves regularly participating in light, moderate, and/or vigorous activity. This activity may be a planned and monitored program for reasons of fitness and health or a part of daily or leisure activities (Walker & Hill-Polerecky, 1996). Exercise behaviors will be measured by eight items from the HPLP-II physical activity subscale asking the respondents about their activity choices, duration, and intensity. The responses will range on a 4-point likert scale ranging from 1 (never) to 4 (routinely).
**Information Resource.** Information resource is defined as the mode they received the information on health promoting behaviors and hypertension and will be operationalized by asking the respondents to list the three places they received their information.

**Knowledge.** In this study the subject’s general knowledge level on high blood pressure will be examined. Knowledge level is defined as “the mental process or faculty of knowing or that which comes to be known” (American Heritage Dictionary, 1994), the general understanding a person has about hypertension. Knowledge on hypertension will be measured using the ten questions on the American Heart Association high blood pressure IQ quiz (American Heart Association, 2006).

**Personal Factors.** Personal factors such as age, marital status, level of education, household income, and insurance status will be included in this study. All of these will be measured by using five single item questions.
CHAPTER 4

Methods

Research Design

This study will utilize a descriptive correlation design. Descriptive correlation design is used “to describe the variables and examine the relationships between them” (Burns & Grove, 2005, p.734). This type of design provides a means to gain information about the characteristics of the subjects or variables, the frequency in which the phenomena occurs, and describe the strength or direction of the relationship between the variables (Brink & Wood, 2001). The purpose of this study is to describe the information resources and knowledge level that African American women have on hypertension, their health promoting behaviors, and examine the relationship between their personal factors, information resources, knowledge of hypertension, and their health promoting behaviors (diet and exercise).

The strengths of utilizing a descriptive design is that it is effective for describing or obtaining information on personal factors, information resources, awareness, knowledge of hypertension and health promoting behaviors and for collecting large amounts of data about the phenomenon. The credibility of the responses is greater as they are obtained directly from the sample population.

Sampling

The sampling design used will be a nonprobability convenience sample. The advantage of using a convenience sample is that it is inexpensive and the subjects are easily accessible. In this study a large number of subjects will be needed, and a convenience sample will be feasible to obtain the number of participants fitting the criteria.

Inclusion/Exclusion Criteria. The subjects targeted for this study are African American women, 18 – 30 years of age, who live in southeastern Michigan, who are able to give informed consent, and complete the questionnaire. The subjects in the sample will be recruited from local churches, beauty shops, and community centers. A sample size of 30 respondents will be
obtained for data analysis of correlations.

Instruments

The instruments that will be utilized are a demographic questionnaire, High Blood Pressure IQ Quiz (American Heart Association, 2006), and the Health Promoting Lifestyle Profile II (HPLP-II) (S. Walker, K Sechrist, & N Pender, 1995). Permission to use the instruments has been granted from the American Heart Association and Dr. S. Walker (Appendices B and C). The demographic questionnaire was developed by the researcher as well as the two questions at the end of the High Blood Pressure IQ Quiz (Appendix D and E2). One question developed is to measure the subject’s awareness by asking them to write their last known blood pressure. Another question developed by the researcher will measure the subject’s information resources by asking the respondents to list three places they received their information. The frequency of the responses for information resources and the percentage of respondents knowing their last blood pressure will be calculated.

Personal Factors. Personal factors will be measured by four questions related to the subject’s age, marital status, education, socioeconomic, and health insurance status (Appendix D). These questions were developed to obtain personal information on the respondents. The questions will be located at the beginning of the questionnaire. The respondent will be asked to circle their response. The mean age and the frequency of each response will be calculated.

Knowledge. Knowledge and awareness will be measured by the high blood pressure IQ quiz developed by the American Heart Association in 2006 (Appendix E1). It is a multiple choice quiz that is available on the American Heart Associations website. Awareness will also be measured using the question “I know my blood pressure numbers and how to maintain it in a healthy range” (American Heart Association, 2006). The High Blood Pressure IQ Quiz will be provided as a paper and pencil questionnaire. The responses to the 10 questions will contain 4 to 6 choices. The method for calculating the scores for the Blood Pressure IQ Quiz will be the frequency or percentage each answer was chosen, the percentage of correct answers, the
frequency of their yes or no selections, and the blood pressure reading they fill in if known. The correct answer and information on the topics are available on the American Heart Association web site and this web site address will be given to the participants.

Reliability and Validity. According to the American Heart Association, reliability and validity have not been tested on the high blood pressure IQ quiz, as they are not collecting information on the data and use the quiz as a way to provide high blood pressure information. For this study content validity will be established through the use of literature review.

HPLP-II. Diet and exercise will be measured by two subscales of the HPLP-II. The original Health Promoting Lifestyle Profile instrument was developed by Walker, Sechrist, and Pender in 1987 and was used to measure health-promoting behaviors. It was revised in 1995 and renamed the Health Promoting Lifestyle Profile II (HPLP-II) (Appendix F). The 52 item instrument contains six subscales to measure self-reported behaviors on health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management. The response scale is a 4-point likert, with responses ranging from 1 (never) to 4 (routinely). The instrument is appropriate to use with Pender’s health promotion model (S, Walker, personal communication, June 9, 2006). The instrument is a paper pencil questionnaire. The statements are about the respondent’s present personal habits and they are to circle the frequency in which they engage in the behavior. The Lifestyle Profile questionnaire nutrition and diet subscales will be scored by calculating the mean of the responses to the subscale items.

Reliability. Tests for validity and reliability have been completed on the HPLP-II instrument (Walker & Hill-Polerecky, 1996). Reliability of the instrument was tested in two ways. Test retest reliability was used and the coefficient for stability of the total score was .89. The alpha coefficient on the total score for internal consistency was .94. The alpha coefficients for each of the subscales ranged from .79 to .87 (Walker & Hill-Polerecky, 1996). For this study, internal consistency of the subscales will be conducted again once the data are collected.

Validity. According to Walker & Hill-Polerecky (1996), content validity was established
through evaluation of the statements by experts and review of literature. Construct validity was supported by factor analysis that confirmed a six-dimensional structure of health-promoting lifestyle, by convergence with the personal Lifestyle Questionnaire ($r = .678$), and by a non-significant correlation with social desirability (Walker & Hill-Polerecky, 1996, Abstract).

Data Collection

Potential subjects will be approached at local churches, hair salons, and community centers by the principal investigator. The subject’s eligibility will be verified and an informed consent letter introducing the investigator and the purpose of the study will be given to them at that time. Informed consent will be obtained before the questionnaire will be given to the participants. The paper and pencil questionnaire will contain 68 questions pertaining to the respondent’s personal factors, hypertension knowledge, resources of information, and health promoting behaviors (diet and exercise). The responses will be in the form of multiple choice and a 4-point likert scale, and it will take approximately 20 minutes to complete. The researcher will be available to answer any questions the participant may have, read questions to the participant and record the answers if needed. If the participant is unable to complete the questionnaire and wishes to take it home, they will be provided with a stamped self-addressed envelope to return the questionnaire to the investigator.

Ethical Components of the Research

The Proposal will be reviewed by the Human Subject Review Committee at Eastern Michigan University. The informed consent form will be given to each person that is approached for the study. Participation will be strictly voluntary and the subjects will have the right to withdraw from the study or refuse to answer any questions on the questionnaire at any time. The potential for physical, psychosocial, and social harm to the participant is minimal as this study only involves the administration of a questionnaire (Appendix G).

Confidentiality will be maintained at all times as the data will be coded and names will not be used. All information pertaining to the study will be kept in a locked file cabinet in a
secure environment for a minimum of two years and may then be destroyed. The only person with access to the secured room and locked file cabinet will be the researcher. The raw data will be shared with the researcher’s committee chair, and co-chair.

Data Analysis

The information will be coded and entered into the statistical package for the social sciences (SPSS) software program. The data will be double checked for accuracy, and the SPSS program will be used for calculating the results for this study. The measures of central tendency will be used in answering the first research question; to describe the information resources, level of knowledge on hypertension, and health promoting behaviors (Diet and Exercise) of African American women. The frequency will be obtained for the personal factors, marital status, education level, and health insurance. The mean age and median household income will be calculated. The frequency and percentage of each answer will be calculated for the blood pressure knowledge IQ quiz, and the mean of the HPLP-II nutrition and physical activity subscales will be calculated. Values from these analyses will be used to describe the information resources, level of knowledge on hypertension, and health promoting behaviors.

The second research question is to describe the relationship between knowledge level of African American women and their health promoting behaviors (diet and exercise). Correlational analysis will be performed to determine if there is a relationship between the variables, and to describe the strength, and direction of the relationship. Pearson’s correlation and the chi-square test will be used in this study. The relationships examined will be between knowledge level on hypertension and health promoting behaviors (diet and exercise), and the relationship between information resources, personal factors, and health promoting behaviors (diet and exercise). This study is to examine if there is a relationship between these variables and what the direction and strength is of that relationship.

Limitations

The possible limitations of this study are in the sample design, convenience sampling,
and the study design, which will be descriptive. The weakness of a convenience sample is that it does not represent the population as a whole and provides little opportunity to control biases, as it is a nonexperimental design. Possible biases are selection bias, as the subjects are volunteers and not randomly selected, and the possibility that respondents may answer questions in a way that they feel is socially correct or expected.

A weakness of a descriptive study design is that all related variables may not be addressed. The focus of this study is on the level of knowledge, information resources, and health promoting behaviors (diet and exercise), it does not address if the person has hypertension, is being treated for hypertension, their alcohol intake or smoking habits, or if they are obese. The primary threat to internal validity in a descriptive design is that it lacks causation. Descriptive studies examine the relationships between the variables, not the cause.
CHAPTER 5
RESULTS

Sample Characteristics
A total of 34 surveys were handed out and 31 participants returned their survey. The ages of participants ranged from 18 to 30, with the mean age being 22.8 (n=28). One participant did not complete the demographic data and two others did not fill in their age. Majority of the respondents (77%) were single and had never been married, 63% stated their household income was less than $30,000 a year, 50% had completed some college, and 73% had health insurance (see table 1).

Information Resources, Hypertension Knowledge, and Health Promoting Behaviors
The first research question was to describe the information resources, level of knowledge on hypertension and health promoting behaviors (diet and exercise) of African American Women. A total 26 participants identified their source of information on hypertension, diet and exercise. The top four information sources listed were from doctors (22.9%), family (16.2%), television (12.2%) and school (10.8%). Nurses (8.1%) and Nurse Practitioners (4.1%) were infrequently listed (see figure 2).

Hypertension knowledge was measured using the scores from the high blood pressure IQ Quiz (HBP score) which contained nine multiple choice questions, and was developed by the American Heart Association in 2006 (Appendix E1). Out of nine questions, the number of correct answers on the quiz ranged from three (6.5%) to eight (19%) with an average score of 69.5% (mean of 6.26). Three of the most frequently missed questions were #1 what is the most desirable blood pressure (46.7% missed), # 2 the main cause of high blood pressure (92% missed), and #8 identifying what was most dangerous for people with high blood pressure (41.3% missed). Only 44.8% stated they knew their blood pressures and how to maintain it in a healthy range.

Health promoting behaviors were measured using two subscales (diet and exercise) on
the Health Promoting Lifestyle Profile II (HPLP-II). Items were scored as never (N) =1, Sometimes (S) =2, Often (O) =3, and Routinely (R) =4. The score for the overall health promoting lifestyle and its subscales was obtained by calculating the mean of the individuals’ responses. The mean for the diet subscale was 2.37 and the exercise subscale was 2.06.

Knowledge level and health promoting behaviors

The second research question was to describe the relationship between the hypertension knowledge score of African American women and their health promoting behaviors (diet and exercise). Pearson’s $r$ correlation coefficient was calculated to determine these relationships. There was no significant correlation between the women’s hypertension knowledge score and their health promoting diet behavior ($r = -.060$) or between hypertension knowledge and the exercise behavior ($r = .199$). Within the exercise subscale there was a moderately weak correlation ($r = .375, p<0.05$) between the hypertension knowledge score and following a planned exercise program.

Other Findings

Pearson’s $r$ correlation coefficient was calculated to determine the relationship between the participant’s age and the hypertension knowledge scores. A moderate correlation ($r = .412, p<0.05$) was found with increasing years in age and hypertension knowledge scores. No significant correlation was found between the participant’s age and diet or exercise. Although the overall HPLP-II mean was 2.59, showing that these participants frequently performed some health promoting behaviors, the Pearson’s $r$ correlation coefficient between the overall HPLP-II and age was not significant ($r = -.092$).
Table 1

Demographics Data of Sample (N=31)

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<th>Variables</th>
<th>Frequency (n)</th>
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<td>$15,001-$30,000</td>
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</tr>
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<td>Not married, living with a partner</td>
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</tr>
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<td>No</td>
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<td>26.7</td>
</tr>
</tbody>
</table>
Figure 2

Sources of Information on Blood Pressure, Diet, and Exercise
CHAPTER 6
Discussion

*Information Resources*

One of the purposes of the study was to describe the information resources, level of knowledge on hypertension, and health promoting behaviors (diet and exercise) of young African American women. The results from this study revealed that doctors (22.9%), family members (16.2%), television (12.2%), schools (10.8%), and magazines (10.8%) were the main sources of information about hypertension and health promoting behaviors for young African American women. These findings were similar to the results from the Knowledge of Diet and Blood Pressure Study (KDBP) in which the top five sources of information were doctors (40.2%), food nutrition labels (38%), television news (37.4%), family members (34.6%) and books (30.2%) (Carter-Edwards et al., 2002). In another study about hypertension, African Americans indicated that they obtained information about hypertension mostly from the television (Okonofua et al., 2005). Nurses were not identified as one of the major sources of information in the previous studies (Carter-Edwards et al., 2002; Okonofua et al., 2005). In the current study Nurses (8.1%) were infrequently identified as an information resource. This may be due to the fact that at most doctors’ offices medical assistants (techs) perform the admission procedures and the patients are then seen by the doctor. Nurses have little if any interaction with patients at office visits.

*Knowledge Level*

The High Blood Pressure IQ Quiz was used to measure hypertension knowledge and the group in this study scored an average of 70%. This study found a moderate correlation \( r = .412, \ p < .05 \) between increasing years in age and hypertension knowledge. In the Knowledge of Diet and Blood Pressure Study it was found that their sample had a relatively high awareness about general high blood pressure prevention and nutrition related information, and that the older participants were less knowledgeable than the younger participants (Carter-Edwards et. al, 2002).
In another study on high blood pressure knowledge the researchers found that the participants had a high level knowledge about hypertension and that the middle-aged participants were more knowledgeable than the younger and older participants (Martins et. al, 2001).

The results from the current study revealed that the majority of the participants (93%) did not know the main cause of hypertension, 46.7% did not know what the most desirable blood pressure was, and that only 44.8% knew what their blood pressure was and how to maintain it in a healthy range. In another study about hypertension knowledge only 65% of the hypertensive patients reported they had been told their optimal blood pressure reading and approximately half of the participants reported they had been told that it was important to keep their systolic and diastolic numbers under control (Oliveria et al., 2004). Nurses can play a significant role in helping patients achieve and maintain healthy blood pressures by providing patient education regarding what the patients target blood pressure should be, the importance of lifestyle modifications, and the importance of adhering to a blood pressure treatment plan (Mather, 2004; Svetkey et al. 2003).

Knowledge Level and Health Promotion Behaviors

The second purpose of this study was to determine if there was a relationship between the knowledge level of African American women and their health promoting behaviors (diet and exercise). The results from the current study revealed that there was not a significant relationship between the hypertension knowledge level of African American women and their health promoting behaviors (diet and exercise). A similar study about hypertension knowledge also found that there was no association between nutrition and blood pressure related knowledge (Carter-Edwards et al., 2002). In the current study, the mean score on the HPLP-II subscale for diet was 2.37 and for exercise 2.06. These results show that this group does not routinely participate in health promoting behaviors (diet and exercise). In a previous study about blood pressure knowledge and diet 73.2% of the study participants reported that they engaged in exercise or sporting activities; the mean body mass index (BMI) for the study population was
29.8 (over weight); 28% reported that they added salt to their meal prior to tasting it, and 36.6% reported that they added salt to their food while cooking (Carter-Edwards et al., 2002).
CHAPTER 7

Conclusion

The purpose of this study was to explore the information resources, level of knowledge on hypertension, and health promoting behaviors (diet and exercise) of young African American women 18-30 years old in a Midwestern community setting, and to determine whether there was a relationship between their knowledge level and health promoting behaviors (diet and exercise). The study consisted of 31 participants (N=31). The data for this study was collected using a demographic questionnaire, High Blood Pressure IQ Quiz, and the Health Promoting Lifestyle Profile II (HPLP-II) (American Heart Association, 2006; Walker & Hill-Polerecky, 1996).

The participants reported they received majority of their information about hypertension and health promoting behaviors from doctors (22.9%), family (16.2%), television (12.2%), and schools (10.8%). Nurses (8.1%) were infrequently reported as an information resource. The participants scored an average of 70% on the High Blood Pressure IQ Quiz (American Heart Association, 2006). The results from the High Blood Pressure IQ Quiz revealed that majority of the respondents (93%) did not know the main cause of hypertension, 46.7% did not know what a desirable blood pressure was and only 44.8% knew their blood pressure and how to keep it in a healthy range (American Heart Association, 2006).

The means from the subscales diet (2.37) and exercise (2.06) were obtained from the Health Promoting Lifestyle Profile II (HPLP-II) (Walker & Hill-Polerecky, 1996). The scores from these subscales demonstrated that this group did not routinely participate in healthy diet and exercise activities. Although there was not a significant positive correlation between knowledge level about hypertension and health promoting behaviors diet ($r = -.060$) and exercise ($r = .199$), there was a moderate correlation ($r = .412$) between increasing years in age and hypertension knowledge. The implication from this study is that further research is needed to determine the variables affecting hypertension knowledge and health promoting behaviors.
Implications for clinical practice

All nurses have a responsibility to provide patient education and promote healthy lifestyle behavior. Perhaps by increasing the number of nurses in doctors’ offices, or their interactions with patients, would provide the opportunity for nurses to assess and provide hypertension education to patients. According to Mather (2004) and Svetkey et al. (2003), during each office visit time should be spent with the patient to ensure their understanding of lifestyle modifications, medications, and to answer their questions. By placing an emphasis on providing hypertension and health promotion education to younger women in populations at risk, the prevalence rate may decrease as they age and proper lifestyle modifications may be adopted.

Limitations

One of the limitations of this study was that the results cannot be generalized. This was a convenience sample and may not represent young African American women outside of the Ann Arbor Ypsilanti area. This study was also limited by the small sample size (N=31) and because it was a descriptive correlation study, all of the related variables may not have been captured.

Recommendations for Further Research

Further research on understanding how to improve hypertension knowledge and increase health promoting behaviors, diet and exercise, in young African American women is needed. The use of questionnaires may not capture where or what the deficits in hypertension and healthy lifestyle knowledge are or what type and how much education is needed. It would be useful in the future to perform a qualitative study to capture an essence of what hypertension means and what are the diet and exercising behaviors of young African American women.
References


Walker S.N., Sechrist, K., Pender, N. (1995) *Health Promotion Lifestyle II*. College of Nursing, University of Nebraska medical Center, Omaha, NE.


Appendix A
Health Promotion Model (revised)

<table>
<thead>
<tr>
<th>Individual Characteristics and Experiences</th>
<th>Behavior-Specific Cognitions and Affects</th>
<th>Behavior Outcome</th>
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<tbody>
<tr>
<td>Prior related behavior</td>
<td>Perceived benefits</td>
<td>Immediate competing demands</td>
</tr>
<tr>
<td>Personal factors</td>
<td>Perceived Barriers to action</td>
<td>Commitment to a Plan of action</td>
</tr>
<tr>
<td></td>
<td>Perceived Self-efficacy</td>
<td>Health Promoting behavior</td>
</tr>
<tr>
<td></td>
<td>Activity-related affect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interpersonal influences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Situational influences</td>
<td></td>
</tr>
</tbody>
</table>

Appendix B
American Heart Association Approval Letter

Ms. Wood,

Thank you for promptly returning your signed Copyright Use Agreement. The American Heart Association is pleased to grant final permission to use the materials as outlined in the Agreement.

Please let us know if we may be of additional assistance.

Phyllis Riddle

Copyright Permissions Specialist

American Heart Association
Legal Department
Appendix C

Promotion Lifestyle Profile II Approval Letter

Dear Colleague:

Thank you for your request and payment to use the Health-Promoting Lifestyle Profile II. As indicated in the enclosed form, you have permission to copy and use the enclosed Health-Promoting Lifestyle Profile II for non-commercial data collection purposes such as research or evaluation projects provided that content is not altered in any way and the copyright/permission statement at the end is retained. The instrument may be reproduced in the appendix of a thesis, dissertation or research grant proposal without further permission. Reproduction for any other purpose, including the publication of study results, is prohibited without specific permission.

We thank you for your interest in the Health-Promoting Lifestyle Profile II and wish you much success with your efforts.

Sincerely,

Susan Noble Walker, EdD, RN, FAAN
Professor and Dorothy Hodges Olson Chair in Nursing

Encl.: Health-Promoting Lifestyle Profile II
   Scoring instructions
   Excerpt from unpublished manuscript
   List of publications reporting use of the original Lifestyle Profile
Appendix D

Demographics Questionnaire

ID: ________

Demographics

Please tell me your age: _______

1. Marital status:
   a) Currently married
   b) Not married, living with a partner
   c) Single and have never been married
   d) Separated
   e) Divorced
   f) Widowed

2. What is your highest education degree that you have?
   a) Less than High school
   b) High school
   c) Some college
   d) College degree

3. Which of the following categories best describes your total household income during the past year?
   a) Less than $15,000
   b) $15,000 -- $30,000
   c) $30,001 -- $50,000
   d) $50,001 -- $70,000
   e) $70,001 or more

4. Do you currently have health insurance?
   a) Yes
   b) No
Appendix E-1

High Blood Pressure IQ Quiz

1. Which of the following is the most desirable blood pressure reading?
   a) 130/90
   b) 180/110
   c) 140/81
   d) lower than 120/80

2. The main cause of high blood pressure is?
   a) Stress
   b) Obesity
   c) Unknown
   d) Aging

3. Which of the following groups has the highest rate of high blood pressure?
   a) Caucasians
   b) African Americans
   c) Hispanic
   d) Asian/Pacific Islanders

4. A person with high blood pressure:
   a) Has high cholesterol
   b) Has a high risk of stroke and heart attack
   c) Has a nervous condition
   d) May experience erratic heartbeats

5. High blood pressure medication is usually prescribed to be taken:
   a) Under stressful situation
   b) As a lifelong way to manage high blood pressure
   c) When activities require physical exertion
   d) Whenever a patient feels bad

6. Which of the following is more likely to contribute to your high blood pressure?
   a) Physical activity
   b) Salt/sodium intake
   c) High cholesterol level
   d) Ice cream

7. Major risk factors other than high blood pressure for heart disease and stroke include:
   a) High cholesterol
   b) Smoking
   c) Family history of heart disease
   d) All of the above
8. Which of the following may be dangerous for people with high blood pressure?
   a) Physical activity
   b) Eggs
   c) Cold and flu medicines
   d) Microwaves

9. If you or a close blood relative has high blood pressure, you have a higher risk of stroke. Do you know which of these is a stroke warning sign?
   a) Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
   b) Sudden confusion, trouble speaking or understanding
   c) Sudden trouble seeing in one or both eyes
   d) Sudden trouble walking, dizziness, loss of balance or coordination
   e) Sudden, severe headache with no known cause
   f) All of the above

10. I know my blood pressure numbers and what to do to keep my blood pressure in a healthy range.
    a) True
    b) False

---

Appendix E2: Questions Developed by Researcher

11. What was your blood pressure at your last doctor/medical visit?
    a) 
    b) I wasn’t told
    c) I don’t know

12. I received information on high blood pressure, diet, and exercise from:
    List the 3 most common sources

---

- Family member
- Doctor
- Nurse
- Nurse Practitioner
- Television
- Newspaper
- Magazine
- Internet
- School
Appendix F
Health Promotion Lifestyle Profile II Questionnaire

This Questionnaire contains statements about your present way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:

N for never,  S for sometimes,  O for often, or  R for routinely

Discuss my problems and concerns with people close to me.  
Choose a diet low in fat, saturated fat, and cholesterol.  
Report any unusual signs or symptoms to a physician or other health professional.  
Follow a planned exercise program.  
Get enough sleep.  
Feel I am growing and changing in positive ways.  
Praise other people easily for their achievements.  
Limit use of sugars and food containing sugar (sweets).  
Read or watch TV programs about improving health.  
Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).  
Take some time for relaxation each day.  
Believe that my life has purpose.  
Maintain meaningful and fulfilling relationships with others.  
Eat 6-11 servings of bread, cereal, rice and pasta each day.  
Question health professionals in order to understand their instructions.  
Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).  
Accept those things in my life which I cannot change.  
Look forward to the future  
Spend time with close friends  
Eat 2-4 servings of fruit each day.  
Get a second opinion when I question my health care provider’s advice  
Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).
N for never,  S for sometimes,  O for often, or  R for routinely

Concentrate on pleasant thoughts at bedtime.

Feel content and at peace with myself.

Find it easy to show concern, love and warmth to others.

Eat 3-5 servings of vegetables each day.

Discuss my health concerns with health professionals.

Do stretching exercises at least 3 times per week.

Use specific methods to control my stress.

Touch and am touched by people I care about.

Work toward long-term goals in my life.

Eat 2-3 servings of milk, yogurt or cheese each day.

Inspect my body at least monthly for physical changes/danger signs.

Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).

Balance time between work and play.

Find each day interesting and challenging.

Find ways to meet my needs for intimacy.

Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.

Ask for information from health professionals about how to take good care of myself.

Check my pulse rate when exercising.

Practice relaxation or meditation for 15-20 minutes daily.

Am aware of what is important to me in life.

Get support from a network of caring people.

Read labels to identify nutrients, fats, and sodium content in package food.

Attend educational programs on personal health care.

Reach my target heart rate when exercising.

Pace myself to prevent tiredness.

Feel connected with some force greater than myself.

Settle conflicts with others through discussion and compromise.

Eat breakfast.
N for never,  S for sometimes,  O for often, or  R for routinely

Seek guidance or counseling when necessary.

Expose myself to new experiences and challenges.
Appendix G

Eastern Michigan University Request for Approval

EASTERN MICHIGAN UNIVERSITY
Division of Academic Affairs

Request for Human Subjects Approval

Use this form for initial approvals and protocol modifications. To renew an approval after one year, please use the Continuation Form.

Submit this completed form and your proposal with all required elements as email attachments to human.subjects@emich.edu.

Also, send one hard copy of signed original approval form with proposal and all required elements to: Human Subjects Review Committee, Starkweather Hall, Eastern Michigan University, Ypsilanti, MI 48197 (734.487.0042).

CHECK ONE

___ FACULTY/STAFF ___ DOCTORAL ___ MASTER’S ___ UG Student

PROJECT TYPE – STUDENTS

___ Dissertation ___ Master’s Thesis ___ GR Project ___ Honor’s Thesis ___ UG Project

NOTE: Minimal risk undergraduate or graduate theses/projects should be submitted to the appropriate college-level committee: CAS, 411 Pray-Harrold; COB, 473 Owen; COE, 310 Porter; CHHS, 206 Marshall; COT, 150 Sill. ALL dissertations come to the university committee.

Date Submitted: November 1, 2006

Title of Project: African American Women and Hypertension: Their Resources of Information, Knowledge Level, and Health Promoting Behaviors

Principal Investigator Winnie Wood

Department Nursing Phone

Email Fax

Co-PI/Project Director Dr. Tsu-Yin Wu PhD, RN/ Dr Lorraine Wilson PhD, RN

If a student project, list faculty sponsor Dr Tsu-Yin Wu PhD, RN/Dr Lorraine Wilson PhD, RN

Signature of faculty sponsor

Student number
Program and status/year Master Science Nursing Degree/ 3rd year
Mailing address

If an external grant is being sought for this project, state the funding source and submission deadline N/A

Is this application ___X___ New ___ Modification of previously approved study

If Modification:
  a. Date of last approval by this Committee
  b. Principal Investigator of previously approved protocol
  c. Describe any modifications to the previously approved protocol:

  d. Were any Human Subjects problems encountered in previous research? No ___ Yes ___
     If yes, how were they addressed?

I. If you are requesting an exemption from HSRC review, explain the statutory basis for
   the requested exemption (see attached list of exempt project types): N/A

II. Numbers, Types and Recruitment of Subjects

A. Numbers and characteristics of subjects (e.g., age ranges, sex, ethnic background, health
   status, disabilities, etc.):
   The sample will consist of at least 60 African American women aged 18-30, of various
   health and handicapped levels, from a community setting.

B. Special Classes. Explain the rationale for the use of special classes or subjects such as
   pregnant women, children, prisoners, mentally impaired, institutionalized, or others who
   are likely to be particularly vulnerable.
   None known.

C. How are the individual participants to be recruited for this research? Is it clear to the
   subjects that participation is voluntary and that they may withdraw at any time without
   negative consequences?
   The subjects will be recruited on a voluntary basis from churches, hair salons, and
   community centers within a 50 mile radius of Eastern Michigan University. Letters/flyers
   with information about the study will be announced or posted at selected sites after
   permission is obtained from the site. (Attachment #1). There will be a small gift (value of
   1-2 dollars) given to the subjects for their participation in the study. The informed
   consent form explains who the researcher is, the purpose of the study, researchers contact
   information, and their role in the study. They will be informed that they have the right to
withdraw at any time, and they will be asked to sign an informed consent form before participating in the study (Attachment #2).

III. Informed Consent

A. To what extent and how are the subjects to be informed of research procedures before their participation?
   Letters/flyers with information about the study will be announced in church service or posted at selected sites (Attachment #1). The informed consent letter explaining who the researcher is, the purpose of the study, researchers contact information, and their role in the study will be given to each person. The researcher will be present to answer any questions (Attachment #2).

B. Attach a copy of the written "Informed Consent" form or a written statement of the oral consent. (See attached checklist for essential elements of informed consent). They will be informed that they have the right to withdraw at any time and they will be asked to sign an informed consent form before participating in the study (Attachment #2).

IV. Risks Involved in the Research

Describe potential risks involved in project/research participation. What procedures will be in place to minimize any risks to subjects?
Risk to subjects will be minimal if any as it involves filling out a questionnaire. The questions will not be offensive. If the subject wishes to fill out the questionnaire at home, a stamped envelope addressed to the researcher's post office box will be provided.

Does the research involve any of the following procedures?

Deception of the participant? No X Yes
Punishment of the participant? No X Yes
Use of drugs/medications in any form? No X Yes
Electric shock? No X Yes
Deliberate production of anxiety or stress? No X Yes
Materials commonly regarded as socially unacceptable? No X Yes
Use of radioisotopes? No X Yes
Use of chemicals? No X Yes
Drawing of blood? No X Yes
Handling of any other bodily fluid? No X Yes
Any other procedure that might be regarded as inducing in the participant any altered state or condition potentially harmful to his/her personal welfare? No X Yes
Any other procedure that might be considered to be an invasion of privacy? No X Yes
Disclosure of the name of individual participants? No X Yes
Any other physically invasive procedure? No X Yes

If the answer to any of the above is "Yes," please explain this procedure in detail and
describe procedures for protecting against or minimizing any potential risk.

VI. Confidentiality

A. To what extent is the information confidential and to what extent are provisions made so that subjects are not identified?
The subject’s name will only be on the informed consent, it will have a code number that matches the code number on the questionnaire. The subjects name will not be published.

B. What are the procedures for handling and storing data so that confidentiality of the subjects is protected (particular attention should be given to the use of photographs, video and audio recordings)?
All information will be kept in a locked box in a secure location. Only the principle investigator will have access. The raw data will only be shared with the project director. Information will be kept for a minimum of two years and then will be destroyed.

C. How will the results of the research be disseminated? Will the subjects be informed of the results? Will confidentiality of subjects or organizations be protected in the dissemination? Explain.
The results of the study may be presented at the nursing scholarly achievement day program and shared with the community organizations that participated in the study. Subjects may obtain result information from the organization or request to be contacted by the researcher. Confidentiality will be maintained at all times. Subjects’ information or organization names will not be published at any time. Only the aggregate data will be published.

VII. Describe any anticipated benefits to subjects from participation in this research.
The subjects will be able to ask questions about hypertension and receive information about hypertension and the American Heart Association web site. The questionnaire used in this study is from that web site.

VIII. Submitting Your Protocol -- CHECKLIST

✓ If this is a Doctoral dissertation, Master’s or Honor’s thesis, please attach your Committee Approval form. NOTE: Master’s and Honor’s thesis that are not beyond minimal risk should be submitted to College committees.

Check here if not applicable _____.

✓ If available, attach a full copy of your research proposal (grant, thesis, dissertation
proposal, etc.) Check here if not available _____.

__X__ Regardless of whether or not a full research proposal is available, attach a concise, two-page summary that includes:

- A brief summary of the background literature stimulating this research
- The rationale for the proposed study, including specific aims and hypotheses
- A description of the participants and how they will be recruited
- A detailed description of study methodology

NOTE: You may “cut-and-paste” as needed from your full proposal, if available, and the committee may refer to the full proposal for clarification.

__X__ Consent Agreement(s) -- (check here if not applicable _____). See attached checklist of required elements to include in these consent documents.

NOTE: Please add the following statement to the final copy of your Informed Consent Agreement: “This research protocol has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee. If you have questions about the approval process, please contact Dr. Deb de Laski-Smith (734.487.0042, Interim Dean of the Graduate School and Administrative Co-chair of UHSCR, human.subjects@emich.edu).”

__X__ Copies of all instruments, questionnaires, or tests to be used (if instruments are not fully developed yet, attach drafts, and so indicate).

__X__ Flyers to be posted on campus (NOTE: These must be stamped with Committee Approval prior to posting)

For clarification on human subjects procedures at EMU, please see this webpage:
http://www.gsr.emich.edu/_pages_gsr/downloads.html#Anchor-33869

Principal Investigator ____________________________ (Signature)  
Date: ____________________________

Submit this completed form and your proposal with all required elements as email attachments to human.subjects@emich.edu. Also, send one hard copy of signed original approval form with proposal and all required elements to: Human Subjects Review Committee, Starkweather Hall, Eastern Michigan University, Ypsilanti, MI 48197 (734.487.0042).
Listed below are elements that a faculty UHSRC reviewer will look for in your application and consent agreement. To save valuable time in the review process, please check off all items on the list before submitting your proposal. Provide an explanation for any item not checked off.

Checklist of Required Elements of Informed Consent

X A statement that the study involves research

X Purpose of the research

X Duration of subject’s participation

X Description of the procedures followed

X Means of public dissemination

X Description of foreseeable risks or discomforts to subject

X Description of benefits to subject or to others

N/A Disclosure of appropriate alternative procedures or courses of treatment

X Statement of extent to which confidentiality of records identifying subject is maintained

X Statement of how participant confidentiality is maintained in public dissemination

N/A For research that poses greater than minimal risk, information regarding medical treatments or counseling should personal injury or problems occur

X List of contacts who can answer questions about the research and subject’s rights and respond to research-related injury to subject. Include the paragraph above regarding how to contact the UHSRC, in addition to information about how to contact the investigator(s).

X Statement that participation is voluntary
X____ Statement that refusal to participate will involve no penalty or loss of benefits

X____ Statement that the subject may discontinue participation at any time

N/A____ Statements of significant new findings developed during the course of research that may relate to subjects’ willingness to continue participation

Rationale for Exclusion of a Required Element: Research does not pose greater than minimal risk. Research instrument is a questionnaire that will be filled out at the site; new findings would not affect their participation.

Exempt Activities

Investigators may not determine their own research to be exempt from HSRC review. Exemption decisions are made through the expedited review process.

Activities that are not research are exempt from HSRC review. Research is defined as: “A systematic investigation designed to develop or contribute to generalizable knowledge.”

Research that does not involve human subjects is also exempt from HSRC review. A human subject is defined as “a living individual about whom an investigator conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information.”

Research activities in which the only involvement of human subjects will be in one or more of the following categories may be determined to be exempt from UHSRC review. Requests for exemption must cite the statutory basis for the requested exemption from the categories listed below:

I. Research

A. Research conducted in established or commonly accepted educational settings, involving normal education practices.

B. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), if information taken from these sources is recorded in such a manner that subjects cannot be identified, directly or indirectly, through identifiers linked to the subjects.

C. Research involving observation of public behavior or survey or interview procedures for all of the conditions below. This exemption does not apply for research involving children except when the investigator does not participate in activities being observed.
(1) The research does not place subjects at the risk of civil or criminal liability or damage the subject's financial standing or employability, AND

(2) The research does not deal with sensitive aspects of the subject's own behavior, such as illegal conduct, drug use, sexual behavior or use of alcohol, AND

(3) The research does not use materials, procedures or settings likely to be embarrassing, upsetting or intrusive to the subjects, AND

(4) The subject cannot be identified and confidentiality is protected

D. All research involving survey or interview procedures is exempt, without exception, when the subject is an elected or appointed official or a candidate for public office.

E. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded in such a manner that subjects cannot be identified directly or indirectly through identifiers linked to the subject.

II. Program Review

A. Federal Regulations Exemptions. Research and demonstration projects that are conducted by or subject to the approval of department or agency heads, and that are designed to study, evaluate, or otherwise examine 1) public benefit or service programs; 2) procedures for obtaining benefits or services under those programs; 3) possible changes in or alternatives to those programs or procedures; or 4) possible changes in methods or levels of payment for benefits or services under those programs.

C. EMU Program Review Data. Data collected for the purpose of the evaluation, review, and improvement of EMU academic and extra-curricular programs is exempt from review under the Federal Regulations exemptions listed above unless these data are collected: 1) for use beyond program review, and/or 2) for publication beyond the review process for EMU programs administered by EMU, by its associated accrediting agencies, and by other related educational bodies. Program Review proposals that meet the criteria for exemption from review do not need to be sent to the EMU HSRC.

Note: The above exemptions do not apply to research involving prisoners as subjects.
Appendix H

Informed Consent

**Project title:** African American Women and Hypertension: Their Resources of Information, Knowledge Level, and Health Promoting Behaviors

**Investigator:** Winnie Wood, Master of Nursing Candidate, Eastern Michigan University

**Co-Investigator:** Dr. Tsu-Yin Wu PhD, RN

**Purpose of the Study:** The purpose of this research study is to gain a better understanding of the relationships between knowledge about hypertension, health promoting behaviors, and information resources on hypertension in African American Women 18-30 years of age.

**Procedure:** The investigator will explain the study to you, answer any questions you may have, and witness your signature to this consent form. You must be an African American female 18-30 years of age to take part in this study.

You will be asked to complete questionnaires about your demographic information, hypertension knowledge, and health promoting activities. Upon completing the questionnaires, you will be given a duplicate copy of this informed consent, which includes follow-up contact information, if needed. The approximate total time to complete the questionnaires should be about 20 minutes.

**Confidentiality:** Only a code number will identify your questionnaire responses. The results will be stored separately from the consent form, which includes your name and other identifying information. At no time will your name be associated with your responses to the questionnaires. All information will be kept in a locked file cabinet in a secure location for a minimum of two years and will then be destroyed.

**Expected Risks:** There are no foreseeable risks to you by completing this survey. All results will be kept completely confidential.

**Expected Benefits:** Although this study may not benefit you directly, it will assist nursing in gathering information on how well healthcare providers are providing information on hypertension, what normal blood pressure ranges are, and healthy behaviors (diet and physical activity). This information will assist in the development of educational programs to fit the needs of young adult African American women.

**Voluntary Participation:** Participation in this study is voluntary. You may choose not to participate. If you do decide to participate, you can change your mind at any time and withdraw from the study without negative consequences.

**Use of Research Results:** Results will be presented in aggregate form only. No names or individually identifying information will be revealed. Results may be presented at research
meetings and conferences, in scientific publications, and as apart of a master’s thesis being conducted by the principal investigator.

**Future Questions:** If you have any questions concerning your participation in this study now or in the future, or to request a copy of the study results, you may contact Dr Lorraine Wilson PhD, RN, at [email address]

**Human Subjects Review Board:** This research has been approved and reviewed by the Eastern Michigan University Human Subjects Review Committee. If you have any questions about the approval process, you may contact the Human Subjects Review Committee of the College of Health and Human Services at Eastern Michigan University.

**Consent to Participate:** I have read or had read to me all of the above information about this research study, including the research procedures, possible risks, side effects, and the likelihood of any benefit to me. The content and meaning of this information has been explained and I understand. All my questions, at this time, have been answered. I hereby consent and do voluntarily offer to follow the study requirements and take part in the study.

PRINT NAME: ______________________________________

Signatures:

_________________________________________ Date

Participant (your signature) Date

_________________________________________ Date

Investigator