A SCREENING PROTOCOL AND EDUCATIONAL PAMPHLET TO AID IN THE IDENTIFICATION AND TEACHING OF RISK FACTORS ASSOCIATED WITH HYPERTENSION IN AFRICAN AMERICAN PERI-MENOPAUSAL WOMEN

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ABSTRACT

A SCREENING PROTOCOL AND EDUCATIONAL PAMPHLET TO AID IN THE IDENTIFICATION AND TEACHING OF RISK FACTORS ASSOCIATED WITH HYPERTENSION IN AFRICAN AMERICAN PERI-MENOPAUSAL WOMEN

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Hypertension is a significant health concern because it can lead to other diseases such as coronary heart disease, stroke, and congestive heart failure to name a few. Although hypertension is a common condition, there are a disproportionate number of African-American women who develop this disorder. At any decade of life African American women are more likely to develop hypertension than their white counterparts. This scholarly project is based on a review of the literature that supports the need for early intervention in the prevention of hypertension.

The Health Belief Model provides the theoretical framework for this project. This model is relevant because it takes into consideration the specific demographics of this unique population. Through the identification of risk factors for hypertension, the Health Belief Model promotes self-efficacy through the perceived threat of illness. The acronym BP HELPED is screening tool used by the APN in the screening process based on the model. The educational pamphlet provides the client with relevant information to improve understanding of how to prevent hypertension.

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CHAPTER 1

INTRODUCTION

African American women in the United States have one of the highest rates of mortality and morbidity related to cardiovascular disease in the developed world (Gillum, 1996). One of the attributing factors for the higher rate of disease continues to be the prevalence of essential hypertension (HTN) in this population. African Americans and white Americans are likely to differ on those aspects of hypertension because of their daily experiences and their management (Brown & Segal, 1996). The disease develops earlier in African Americans than in whites and is generally more severe (American Heart Association, 1990). The longer hypertension is left untreated the more severe are the complications and risks for serious disease. When compared to whites, African Americans have 1 ½ times the incidence of strokes, 10-18 times more kidney failure and 3-5 times more heart failure related to high blood pressure (American Heart Association, 1990).

Women in general tend to develop coronary heart disease (CHD) and HTN later in life because of the protective mechanism of estrogen in the peri-menopausal period. After menopause the risk for the development of CHD and HTN

increases dramatically. However, peri-menopausal African American women still tend to be at an increased risk for HTN. When comparing every age group of African American and white women, African American women have a higher systolic blood pressure (SBP) (Gillum, 1996). Early intervention for African American women is found to be effective in controlling or delaying onset of HTN (Gillum, 1996).

Coronary Heart Disease is the leading cause of death and disability among adult women killing nearly 500,000 each year in the United States (Haan, 1997; Wenger, 1997). While CHD prevalence is similar in African American and white men, African American women generally have a higher incidence than white women. African American women have a higher occurrence of risk factors with a higher death rate at a younger age than their white counterparts (Haan, 1996; Stamler, 1989; U.S. Dept of Health and Human Services, 1996). The literature does not give specific numbers on the mortality of African American women. Strong family history coupled with early onset of disease, increasing age and race are unalterable factors that raise the risk (Haan, 1997). In 1995, the death rates due to CHD were 35% higher for African American females than for white females (American Heart Association, 1995).

Hypertension with a prevalence of 20-40% of the population, is one of the most powerful predictors of CHD. The higher proportion is found in African American females (Carlson, Eisenstat, Frigoletto, & Schiff, 1995).

Hypertension is an independent risk factor for the development of CHD. The more severe the HTN the higher the risk of developing CHD. If HTN is coupled with other risk factors such as elevated cholesterol, smoking, or obesity the risk of CHD increases substantially (Carlson et al., 1995). The research shows that nonpharmacologic interventions play a part in the prevention of early onset of the disease. Hypertension requires vigilant and continual treatment of a disease that may have few or no symptoms.

Purpose

The purpose of this project is to develop a screening tool that will consider the unique characteristics of the 40 to 50 year old peri-menopausal African American females in the identification and management of hypertension. This is a time when screening, education, and teaching will be most important due to the progression of the disease in this population. The protocol will emphasize the unique way that African Americans approach health care as well as the socioeconomic situations that African American women face. The literature will support the fact that while not all-ethnic groups are homogeneous some generalities can be made regarding this unique population. The Health Belief Model (HBM) will further guide the screening protocol as it relates to the effect of treatment.

Advanced Practice Nurses (APN) can use this tool to guide the care of this particular population. It will make

the APNs aware of the increased risk for HTN for the peri-menopausal African American female population. APNs can then screen these women for HTN especially those with multiple risk factors for the development of HTN. An individualized plan of care with education most appropriate to that client can then be developed. The goal of both the screening tool and the educational pamphlet is to make the African American peri-menopausal female aware of her risk for HTN and give her the education she needs to achieve self-efficacy.

The focus of this project is to develop a screening protocol that guides the APN in developing an individualized plan of care for the peri-menopausal African American female. The second part of this project is to develop a pamphlet that will educate this population in an attempt to give them self-efficacy to prevent CHD by early intervention against HTN.

CHAPTER 2

CONCEPTUAL FRAMEWORK

The Health Belief Model (Figure 1) is applicable when assessing hypertension and its effects on African American women (Pender, 1996). The premise of the HBM is that failure to engage in health promoting activities is the belief that these activities will not improve the condition. The second assumption is that the illnesses are not perceived as life threatening enough to warrant health promotion (Weick, 1997). Hypertension is such a disease that in its earlier stages it is basically asymptomatic. Health belief is important if individuals are to believe that they are empowered to influence their risk for further illness. This model can aid the APN in identifying and promoting healthy behaviors in the African American peri-menopausal female population.

The HBM is based on a combination of five variables that can determine if an individual will take a preventative health action (Glanz, Lewis, & Rimer, 1997). The first variable is whether the person feels she is susceptible to a disease. An example is that the woman does not perceive that not monitoring her blood pressure (BP) is a risk to her future health. The second variable is whether the person

HEALTH BELIEF MODEL

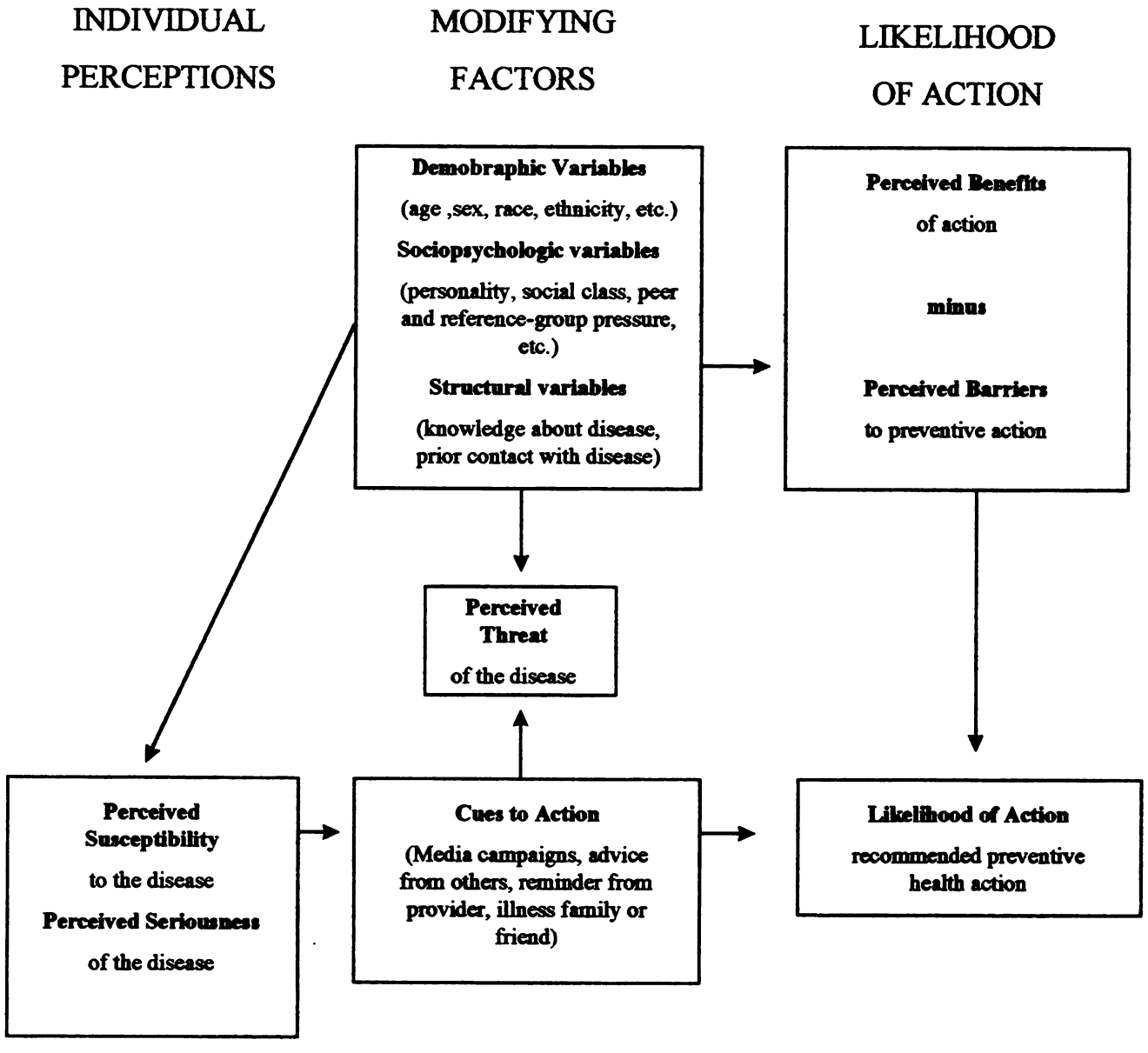

Figure 1. Health Belief Model (Pender, 1996).

believes the disease is serious in its consequences. If hypertension goes untreated the consequence is worse than the treatment. The third variable is whether a perceived benefit of action is advantageous. If the women's actions are able to prevent HTN there is a perceived benefit to the action. The fourth variable is whether there are barriers to action. These are opinions already learned or believed that are different from those actions that promote health. The last variable is whether cues to action, give motivation to take a specific course. In addition to APN interventions these are media campaigns, advice from others, awareness of illness from social contact.

These five factors fit into the three basic areas of modification in the HBM: individual perceptions, modifying factors, and likelihood of action (see Figure 2). The strength of the HBM is that it enables the peri-menopausal African American woman to understand her likelihood of disease and her self-efficacy in preventing a disease. For behavioral changes to succeed, the woman must feel threatened by her current behavioral patterns and believe that specific protocol changes will be beneficial resulting in a valued outcome (Glanz, Lewis, & Rimer, 1997).

Definition of Concepts

To better understand how the Health Belief Model relates to the problem of hypertension in the African American peri-menopausal women several words need to be defined. The following words or phrases are defined for

Application of Health Belief Model to Peri-Menopausal African American Female (Osbourn & Hartman, 1999)

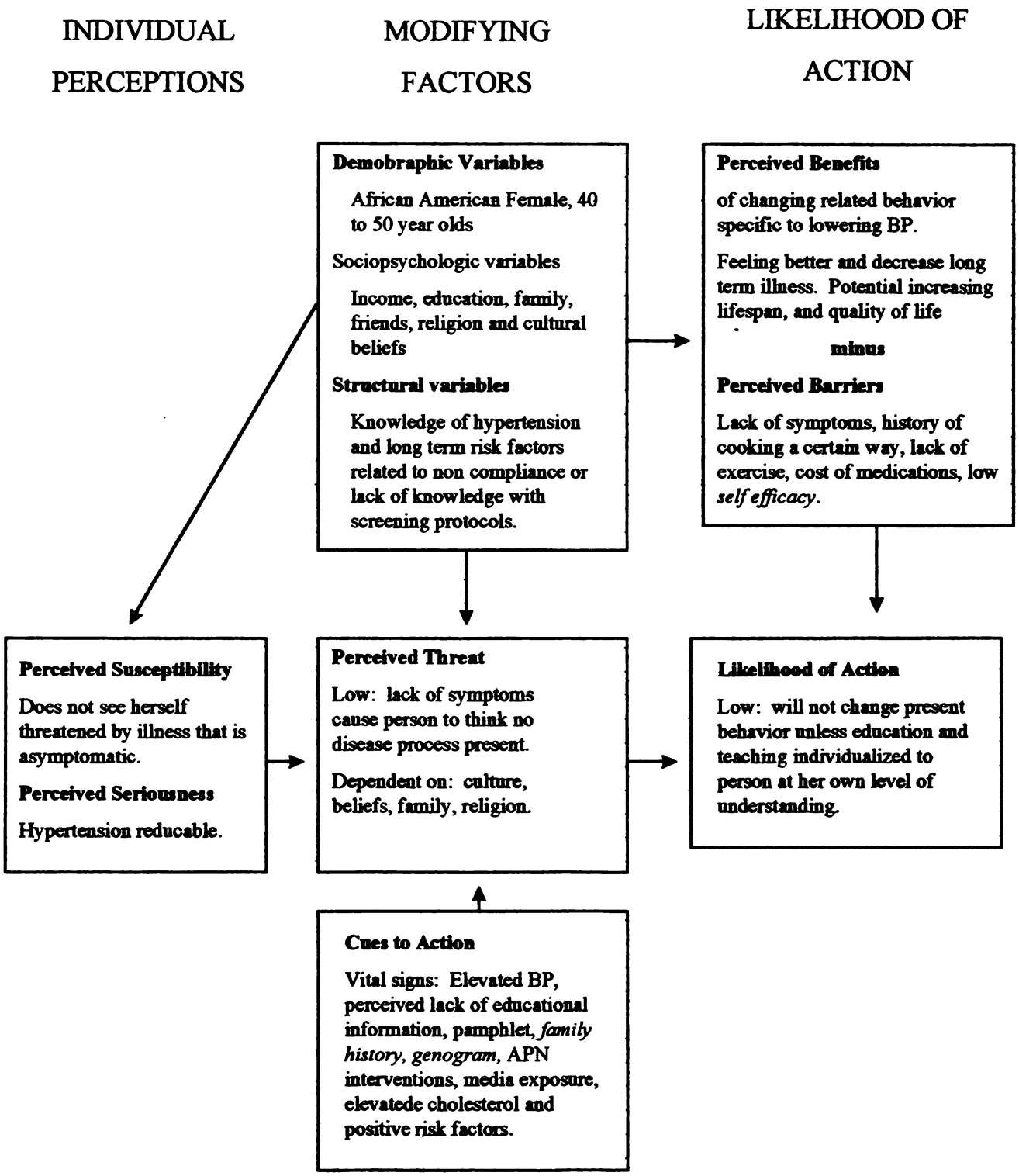

Figure 2. Adapted Health Belief Model for the Peri-Menopausal African American Female.

this purpose: hypertension, peri-menopausal women, self-efficacy, temporal orientation, ethnicity, poverty status, and life experiences.

Hypertension: For the purpose of this paper hypertension is diagnosed if the diastolic pressure is greater than 90 mm Hg during 2 or more consecutive clinical visits or when the average systolic blood pressure measures > 140 mm Hg during 2 or more consecutive visits (McCance & Huether, 1994).

Peri-menopausal women: These are defined as women in the time period around or about the cessation of the menses, known as menopause. Natural menopause occurs at the age of 50 to 51 for the average female (The Merck Manual, 1992).

Self-efficacy: Self efficacy is the belief that the person can perform the behavior required to meet the need and produce positive outcomes based on the disease process (Glanz, Lewis, & Rimer, 1997).

Temporal Orientation: This term is defined as the time perspective an individual holds with regards to disease and its management (Brown & Segal, 1996). Results from the Brown and Segals (1996) research reveal that African Americans were more present oriented than whites regarding their daily experiences with managing hypertension. Present orientated people see themselves less susceptible to consequences because they fail to see the future implications of their present health choices.

African American female: For the purpose of this paper African American female is defined as any women who identifies herself as having African American heritage.

Low Income: Low income reflects not only the lack of money but also the lack of adequate housing, nutrition, and access to health care that impacts the risk factors of the African American population.

Religious Beliefs: African American persons have a strong belief in the powers of spirituality. They view their health as a harmony or disharmony with God. Health promotion activities may be viewed as futile if their health is a consequence of God's will (Jennings, 1996).

CHAPTER 3

REVIEW OF LITERATURE

Hypertension has been a significant health concern in the US for at least the last three decades. The cost of hypertension is not only high in dollar amounts spent annually, but it also affects a large percentage of the American population and increases morbidity and mortality. The annual cost of drug therapy exceeds 8 billion dollars (Neaton et al., 1993). The annual mortality rate due to hypertension is over 37,000 and it affects 50 to 60 million Americans (American Heart Association, 1995). The diagnosis of hypertension is relatively easy and cost effective. It is based on an average of 2 or more BP readings. Then those readings are staged based on the level of the severity and if the systolic and diastolic fall into different stages, the higher stage is assigned. Early detection and treatment greatly reduces morbidity and mortality, which also decreases the overall dollar cost (Schumann & Emerson, 1998).

Pathophysiology

There are two different types of hypertension, primary or essential and secondary. Although there are different theories about the causes, the pathophysiology of primary

Table 1.

Classification of Blood Pressure for Adults 18 years and older

Category	Systolic (mm Hg)	Diastolic (mm Hg)
Normal	<130	<85
High normal	130-139	85-89
Hypertension		
Stage 1 (mild)	140-159	90-99
Stage 2 (moderate)	160-179	100-109
Stage 3 (severe)	180-209	110-119
Stage 4 (very severe)	>209	>119

(The Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure, 1993).

hypertension is unknown which accounts for 90-95% of the diagnoses. The renin-angiotensin-aldosterone system plays a key role in blood pressure control, but its role in primary hypertension is not known. Renin is released in the presence of decreased renal perfusion, hypovolemia, increased circulating catecholeamines, increased sympathetic nervous system outflow, increased arteriolar stretch, and hypokalemia. Renin converts angiotensin to angiotensin I, which then innervates with angiotensin-converting enzyme to form angiotensin II, a potent vasoconstrictor (McCance & Huether, 1994). Angiotensin II then stimulates aldosterone, which stimulates the renal tubule to reabsorb water and sodium and excrete potassium (McCance & Huether, 1994). The reason that it is difficult to pinpoint hypertension to this system is that there are both low renin or high renin hypertensives. African Americans and elderly hypertensives

tend to have lower plasma renin levels, which are associated with increased intravascular volumes and younger hypertensives have higher plasma renin levels, which are associated with an increased cardiac output (Abul-Ezz, Bunke, Singh, & Shah, 1997). BP is also influenced by a number of other factors including atrial natriuretic factor, endothelin, endothelium-derived relaxing factor, calcium-regulating hormones, kininogen, and vasopressin (Schumann & Emerson, 1998).

Secondary hypertension accounts for only 5-10% of hypertension and as is implied, it is caused by another disease process. This type of hypertension is often controllable. The major causes of secondary hypertension are: renal artery stenosis, renal parenchymal disease, estrogen use, coarctation of the aorta, pheochromocytoma, hyperaldosteronism, Cushing's syndrome, hyperthyroidism, and hyperparathyroidism (Schumann & Emerson, 1998).

Comorbidities

Why is it so important to prevent or keep tight control of hypertension? Not only is hypertension a major cause of death, but it is a significant preventable risk factor in the development of coronary heart disease, congestive heart failure (CHF), cerebrovascular accidents (CVA), hypertensive heart disease, and end-stage renal disease (ESRD) to name a few. The annual costs for each of these diseases are excessive. Not to mention the impact these diseases have on the individual and family.

Hypertensive heart disease is diagnosed when an individual has both hypertension and left ventricular hypertrophy (LVH). Prior to the development of LVH, there are both physiological and hemodynamic compensatory changes that occur. LVH is recognizable as there has already much damage to the heart muscle and is indicative of long-standing, advanced hypertension. The risk of morbidity and mortality increases markedly after LVH has developed. Hypertensive African American men and women are three to four times more likely to develop LVH than their white counterparts (Savage, 1991). There is a twofold to ninefold increase in the chance of stroke, cardiac failure, a significant cardiac event, or symptomatic peripheral arterial disease. Approximately 30% of patients with LVH die within 5 years of the development of LVH (Savage, 1991).

In the 1980's the cost of ESRD was approaching more than 3 billion dollars annually. This is an area, which is especially significant for African Americans because almost two thirds of all dialysis patients are African American although they only constitute approximately 12% of the total population. Forty percent of this population developed ESRD secondary to hypertension. The white population has the lowest incidence of ESRD in the US. Pathophysiologically, hypertensive African Americans have a 20% lower renal blood flow than their white counterparts with a similar BP. In addition, they have smaller renal accurate arteries,

decreased sodium excretion, and are more likely to have proteinuria (Shulman & Hall, 1991).

Unfortunately, one of the reasons for the disproportionate number of African Americans with ESRD may be due to Medicaid and Medicare. In some states anti-hypertensive medications are not covered until another complication develops such as ESRD. A survey done in Georgia on individuals with diastolic pressures greater than 105 found that almost 50% of African Americans were unable to afford refills of medication in comparison to 9% of whites (Shulman, Martinez, Brogan, Carr, & Miles, 1986).

In the US, CHF is the number one reason for admission to the hospital for older adults. Although medications have improved the treatment of CHF and the death rate has recently decreased, CHF is still a chronic, disabling, and often fatal disease. African American men and women are almost twice as likely to have CHF, this being explained by the occurrence of risk factors: hypertension, smoking, diabetes, higher average BMI, and LVH. A recent study on the racial differences and hospitalization for CHF found that hypertension had a significant correlation with hospitalization, except in women with controlled hypertension who were younger than 60. The participants all had similar health insurance (Alexander, Grumbach, Selby, Brown, & Washington, 1995). Persons who survive a myocardial infarction (MI) or other hypertension related diseases are at greater risk for developing CHF. Among

white Medicare recipients CHD is the most common secondary condition to CHF whereas in their African American counterparts hypertension is the most frequent secondary condition (Centers for Disease Control, 1980-1995). Therefore the primary prevention for CHF is preventing hypertension and MI's through healthy lifestyle choices and the use of anti-hypertensive medications if necessary.

In the US, strokes are responsible for a significant number deaths and disabilities yearly. Strokes account for 6-7% of the annual mortality rate. The degree of disability varies from individual to individual. The stroke patient may fully recover or may have some degree of paralysis, which accounts for a large number of admissions to extended care facilities. The mortality rate for African American males is 52.2 per 100,000 which is 97% higher than in white males and for African American females it is 39.6 per 100,000 which is 71% higher than their white counterparts. Young African Americans are approximately three times more likely to suffer an ischemic stroke than their white counterparts. The key risk factors for strokes are: hypertension, diabetes, excessive alcohol intake, cigarette smoking, heart disease, and sickle cell anemia. Other risk factors include: obesity, sodium, potassium, and calcium intake, stress, and access and attitudes about health care. Hypertension is by far the most important risk factor for strokes; therefore it is imperative that BP control is maintained (Caplan, 1991).

Coronary Heart Disease

In the past 30 years the incidence of mortality from CHD has declined because of prevention and advanced technology. In spite of this heart disease remains the leading cause of mortality in the US among both men and women. It is responsible for approximately one out of every three deaths. Strokes account for 6-7% of all deaths, so CHD is responsible for about 40% of all deaths in the US (American Heart Association, 1995). This accounts for 750,000 deaths per year. It is the leading cause of death of men by 45 years of age and women by 65 years of age. African American men and women have a significantly higher risk of mortality from CHD than their white counterparts.

Of great concern is the overall health of US teenagers. Cigarette smoking and obesity in this age is on the rise while participation in regular physical activity has been decreasing. This is of great concern for the future health of this age group because they are putting themselves at risk for early onset CHD. Worldwide the incidence of CHD is increasing. It is predicted that by the year 2020, CHD will be the number one cause of both morbidity and mortality. The reason for this is the eradication of malnutrition and infectious disease as the primary cause of death; thus the population is aging and cigarette smoking is continually on the rise in the developing nations (Hennekens, 1997).

There are a number of risk factors that put people at higher risk for CHD. Some of these are modifiable and some

are not. Family history and genetics are believed to play a part in the development of CHD. However what needs to be taken into account along with genetics is the environment. In the Ni-Hon-San study, Japanese men who lived in two Japanese cities, Hawaii, and the San Francisco were followed and significant differences were found. Those men living in Japan had the lowest incidence of CHD and those in San Francisco had the highest incidence of CHD. This study concluded that even though persons may be genetically similar, lifestyle practices may have a greater impact on the development of CHD (Hennekens, 1997). This is important for health care providers to understand and explain to their clients. Some clients may feel that there is nothing they can do to prevent CHD, because it runs in their family. When, in fact, if they make lifestyle changes then they can reduce their chances considerably for the developing CHD. The three risk factors which are definitely unmodifiable are race, age, and gender.

Coronary Heart Disease and Women

With the increasing life expectancy of women, CHD is the number one cause of death and disability among women over forty years old. The mortality from CHD for women is 50%, whereas breast cancer accounts for one death for every nine women. Only 7% of women realize that CHD is the number one cause of death among women, most believing that cancer is their biggest risk. Forty percent of women die with their first myocardial infarction (MI). The most

significant difference in CHD between men and women is the onset of the disease. Women are diagnosed with CHD ten years later than men and CHD is extremely rare in women less than 40 years old. Estrogen protects peri-menopausal women from developing early onset CHD (Jensen & King, 1997).

The risk factors for the development of CHD are similar in both men and women; however what is different is the impact of each of these risk factors on women. The following conditions put one at risk for the development of CHD: diabetes, hypertension, obesity, lipid levels, smoking, and age. Diabetes is a significant precursor to CHD; however female diabetics are much more likely to develop CHD than their male counterparts. Male diabetics are twice as likely as nondiabetic males to develop CHD, whereas female diabetics are 5-7 times more likely to develop CHD than their nondiabetic counterparts. Obesity in American women is fairly common. Thirty-four percent of white women and fifty percent of African American women are considered obese, which is a BMI greater than 32.3. BMI is the weight in kilograms divided by height in meters squared. Obesity is the greatest risk factor for CHD in women under forty (Moser, 1997).

Hypertension, like diabetes, is a powerful risk factor for CHD. Hypertension in peri-menopausal women increases the risk of mortality from CHD tenfold. In postmenopausal women there is a higher incidence of CHD than in men. In women over 45 years old, 60% of white women and 79% of

African American women have hypertension. At least one third of those women do not realize that they have hypertension and only 20% have adequate control. Exercise and weight control are effective means for controlling blood pressure, although if blood pressure remains uncontrolled anti-hypertensive therapy is indicated. Anti-hypertensive therapy is effective for both women and men and is perhaps the most beneficial for African American women (Moser, 1997).

Hypertension and Women

The Framingham study (1975) was one of the first long range studies to look at coronary heart disease. Others had been attempted but were not completed due to the complexity of the study. This study looked at healthy, asymptomatic individuals over a 20 year period for the development of CHD. Even though periodic physical examinations by a physician were recommended in the 1950's in the US the trend was to only go to the physician if one had symptoms. When the Framingham study was initiated, it was believed that one would wait to see a physician indefinitely, however this was found not to be true with the healthy, asymptomatic patient (Dawber, 1980).

The Framingham study was conducted in Framingham Massachusetts, between 1950 and 1974. The participants in the study were randomly selected from Framingham and were examined biannually. The total sample was 6,507 of which 5127 were considered free of CHD. There were 3074 men and

3433 women in the sample. It is difficult to say that this sample was representative of a larger population. There were virtually no African Americans or Asians living in Framingham and the composition of the white population did not necessarily match white populations elsewhere. However it was decided for this study that the population would be large enough to compare subgroups. The following hypotheses were tested:

1. CHD increases with age. It occurs earlier and more frequently in the male sex.
2. Persons with hypertension develop CHD at a greater rate than those who are normotensive.
3. Elevated blood cholesterol level is associated with an increased risk of CHD.
4. Tobacco smoking is associated with an increased occurrence of CHD.
5. Habitual use of alcohol is associated with increased incidence of CHD.
6. Increased physical activity is associated with a decrease in the development of CHD.
7. An increase in thyroid function is associated with a decrease in the development of CHD.
8. A high blood hemoglobin or hematocrit level is associated with an increased rate of development of CHD.
9. An increase in body weight predisposes to CHD.

10. There is an increased rate of development of CHD in patients with diabetes mellitus.
11. There is a higher incidence of CHD in patients with gout (Dawber, 1980 p. 54-58).

For the purpose of this paper, hypertension as a risk factor will be discussed. At the time of the Framingham study anything below 160/95 was considered normotensive. At this time it was recognized that those dying from atherosclerotic diseases often times had high blood pressure and that hypertension was a manifestation of a disease process such as renal disease. However, high blood pressure was considered benign in the absence of other diseases. First it was found that systolic and diastolic blood pressures increase with age. However this increase is slight and accounts for only a small percentage of hypertension. Certain individuals developed a substantially higher blood pressure than would be expected from age alone. These persons were then divided into two groups: those with higher blood pressures at any earlier age and those who were normotensive at an earlier age but their pressure rose at a rapid rate to reach hypertensive levels. The increase with age was noted more with women than men. In the age group 35-39 women had an average BP of 122/78 and men 132/83. In the 55-59 age group the opposite was true as women had an average BP of 150/90 and men 140/87. In the age group of 45-49 BP was almost identical in both sexes. Although the study hoped to determine what causes BP to rise more in some

individuals than others, the only correlate that was found was weight gain (Dawber, 1980).

For both men and women regardless of age, the incidence of CHD increases from normotensive to borderline to hypertensive. In younger men followed for 24 years, those in the hypertensive group were more than two times as likely to develop CHD. In women the ratio was greater although the onset of CHD occurred later in life. Both hypertensive men and women were three times more likely to suffer a stroke than their normotensive counterparts. The Framingham study discovered that elevated BP is a significant risk factor for the development of CHD, although at the time of the study the benefit of lowering BP was unknown (Dawber, 1980).

The difference between African Americans and whites with hypertension

The first National Health and Nutrition Examination Survey (NHANES I) provided data from a nationwide representative biracial sample of civilian noninstitutionalized US residents aged 1-74, excluding Alaska, Hawaii, and reservation lands of American Indians. From this data several follow up studies have been done that show the ethnic differences between African Americans and whites in relation to hypertension and CHD risk factors. The first of those is the NHANES I Epidemiological Follow-up study (NHEFS). The sample in this study consisted of 1641 African American and 9660 white persons between the ages of 25-74 from the NHANES I who did not have a history of CHD.

Significant risk factors for the development of CHD among African American women were age, systolic blood pressure (SBP) > 140, and smoking and among African American men age, SBP > 140, serum cholesterol, and low family income. From this study it is believed that 19% of the incidence of CHD among African American women and 34% among African American men could have been prevented if the SBP was maintained below 140 (Gillum, Mussolino, & Madans, 1998).

The NHEFS showed that hypertension is more common in both African American men and women. Out of this has come the question; is hypertension more severe among US African Americans or is hypertension more common? One of the beliefs has been that hypertension is more severe in the African American population. What was found is that it is just more prevalent and as a result the higher morbidity and mortality rates associated with hypertension is more common among African Americans. There is no evidence to date that African Americans have a genetic predisposition to hypertension and the reason that morbidity and mortality is higher in this population is because hypertension is just more common (Cooper, Liao, & Rotimi, 1996).

The data shows that in both African American men and women, SBP is 10 mm Hg higher and diastolic BP (DBP) is greater than 5 mm Hg higher than their white counterparts. African American men and women are about three times more likely to have severe hypertension. But on the individual level those with severe uncontrolled hypertension were more

likely to suffer end organ damage and increased mortality. What has been found is that adequate blood pressure control among African American hypertensives significantly decreases the difference in the African American/white mortality ratio (Cooper, Liao, & Rotimi, 1996). The question that remains is why is hypertension more common among African Americans. This study identifies other factors that increase the likelihood of hypertension in this group.

The next variable from the NHANES that was looked into was weight change in African American and white women in relation to socioeconomic status and level of education. The mean weight change was higher for African American women (3.8 + 9.6) versus white women (2.8 + 8.0). African American women who were overweight at the initial survey gained a higher percentage of weight at the follow-up. Although African American women were found to have a greater weight gain, this study is not suggesting that just being African American is a risk factor for weight gain: other variables not looked at in this study need to be taken into account. The significance of weight gain also found in the Framingham study is that obesity is a risk factor for hypertension. Variables that affected weight gain were low family income and low educational attainment < 12th grade (Kahn, Williamson, & Stevens, 1991).

Another study that looked at ethnic differences in blood pressure and CHD is the CARDIA (Coronary Artery Risk Development in Young Adults Study). The CARDIA study is a

longitudinal study that looked at many variables that may account for the racial differences in blood pressure and risk factors for CHD. The sample consisted of 5116 young African American and white men and women, ages 18-30, of varying socioeconomic status. The sample was drawn from Birmingham, Ala., Chicago, IL, Minneapolis, MN, and Oakland, CA. The study hoped to answer the following questions:

1. Are there differences in systolic and diastolic blood pressures and pulse rate between African American and white young adults?
2. Are there differences in body mass index (BMI), lifestyle, and psychosocial characteristics between African American and white adults?
3. Are systolic and diastolic blood pressure related to BMI, lifestyle, and psychosocial characteristics in young African American and white adults?
4. Are observed patterns of differences in blood pressure and pulse rate associated with differences in BMI, lifestyle, and psychosocial characteristics? (Liu et al., 1989).

Before the exam, the subjects were asked to fast for 12 hours and to avoid smoking and physical exercise for 2 hours prior to the exam. After a 5 minute rest in a quiet room pulse and BP were recorded. In addition the participants had to fill out a questionnaire. The results of the study are as follows: African American participants had a higher SBP than their white counterparts in every age, sex, and

education group. The findings were statistically significant in every group except for men aged 18-24 with more than 12 years of education and women 18-24 with less than or equal to 12 years of education. In every age, sex, and education group the African American population tended to have a slightly higher DBP; however the findings were only significant in men and women aged 25-30 with more than 12 years of education (Liu et al., 1989).

In addition, African Americans had significantly lower average duration on the treadmill, which was considered in overall physical fitness. African Americans had a lower percentage of alcohol drinkers and they had a higher number of smokers although they smoked fewer cigarettes than their white counterparts. African Americans had lower calcium and potassium intake, higher hostility scores, and fewer years of education than their white counterparts in every age and sex group. BMI was significantly higher in African American men aged 25-30 and African American women aged 18-24 and 25-30. In this study there were greater differences in the SBP and DBP between groups as the participants got older. Therefore it is reasonable to assume from this study that the most important time to prevent hypertension especially in the African American population is in early adulthood or sooner. The interventions should focus on decreasing BMI, lifestyle choices, and ways to decrease psychosocial stress (Liu et al., 1989).

Another area of study from the CARDIA study is the relationship of cardiovascular risk factors to left ventricular (LV) mass. Left ventricular hypertrophy is a strong independent indicator for morbidity and mortality in adults. In the young healthy subjects men in general have more LV mass than women. LV mass in this study was found to be correlated across age, gender, BMI, subscapular skinfold thickness, height, and SBP. The importance of this data is that LV mass may increase prior to elevation in blood pressure secondary to BMI and obesity (Gardin et al., 1995).

Hypertension awareness

The main goal of the atherosclerosis risk in communities study (ARIC) is to investigate the cause and natural course of subclinical atherosclerosis and its clinical outcome. The sample consists of 15800 persons of both genders, ages 45-64 selected from four communities: Forsyth County, NC, Jackson, Miss., Minneapolis, MN, and Washington County, MD. This particular aspect of the study was looking at population awareness and control of hypertension and hypercholestrolemia. Eighty-four percent of those with hypertension were aware of their diagnosis and of those only 50% had their conditions both treated and controlled. Women were more likely to be aware and treated for their condition. African American women had the highest level of awareness about hypertension, but African American hypertensives were less likely receive treatment for the disease and as with the other studies hypertension was more

prevalent in the African American population. The associations for race persisted after adjustment for education, income level, and obesity status.

As is expected those from a higher socioeconomic status were more likely to have their hypertension treated and controlled. Individuals who quit smoking were more likely to be treated for hypertension. Family history of CHD or hypertension was positively associated with awareness and treatment of hypertension. However, increased awareness did not significantly affect adequate control of hypertension. Less access to care, lack of health insurance, and the cost of medication are significant factors that are inhibiting treatment and control of hypertension in persons in the lower socioeconomic status (Nieto et al., 1995).

Obesity and Hypertension

The Nurses Health Study is a longitudinal study, which has a sample size of 82,473 US female nurses ages 30-55 who have been followed every 2 years since 1976. The follow-up rate is 95%. By 1992 there were 16, 395 diagnosed cases of hypertension. It was found that those with a higher BMI were at increased risk for hypertension. Women who have long-term weight gain after the age of 18 have a 48% chance for developing hypertension in comparison to women who have a medium weight gain in mid-life have a 21% chance of developing hypertension. Weight loss is an effective intervention for reducing the risk of hypertension (Huang et al., 1998).

Epidemiology of Hypertension in African American women

The literature supports that hypertension in African American women is a significant health concern. The following risk factors show that African American women are more likely than their white counterparts to develop hypertension at an earlier age. Family history is associated with the prevalence of hypertension. There is also a positive correlation in BP measurement between mother and daughter in the African American population. Increased BMI, skin fold thickness, and abdominal obesity are associated with higher BP readings in African American women. This is of particular concern because when comparing every age group there is a higher percentage of obesity in African American women in comparison to their white counterparts. The racial differences for the higher blood pressure readings in the third decade of life are likely linked too: BMI and cigarette smoking is higher in African Americans and physical fitness and alcohol consumption is lower in African Americans (Gillum, 1996).

Socioeconomic status and psychosocial variables also have important implications in the development of hypertension. African American women with college education had a lower incidence of hypertension than those without college, however in both cases the prevalence is higher than in white women. African Americans living in the inner city, with low education, in poverty are more likely to have hypertension. Studies that have controlled for

socioeconomic, psychosocial, or biomedical variables have not eliminated the African American-white BP difference in the US (Gillum, 1996). Through the literature review African American women of all ages have been shown to be at increased risk for the development of hypertension; therefore for the purpose of this project all African American women will be considered at risk.

Signs and symptoms of hypertension

The signs and symptoms of hypertension often times are vague and vary from person to person. One may have headaches, lightheadedness, dizziness, visual disturbances, or numbness and tingling in the extremities. However, the reason that routine screening for hypertension is so important is that in most cases the individual is asymptomatic. Hypertension is often called the silent killer because of the lack of symptoms. Often times when it is diagnosed end organ damage has occurred. Therefore it is imperative that those who are normotensive and not at high risk have their BP checked minimally every 2 years and those at high risk and normotensive should be checked annually (American Heart Association, 1995).

The review of the literature highlighted some of the major studies related to hypertension and its comorbidities. Hypertension is a major modifiable risk factor for CHD including myocardial infarctions, strokes, and CHF and ESRD. It is also linked with non-insulin diabetes especially in the African American women. Hypertension is a serious

health problem among both African Americans and white Americans; however the problem is much more significant and severe in African Americans. When comparing African American and white women, African American women have a higher blood pressure at every decade of life and develop hypertension at an earlier age. Hypertension and the comorbities associated with it, is more prevalent in African American women is more likely to be inherited, and is linked with obesity. The purpose of this project is to develop a screening protocol and an educational pamphlet, which considers the unique cultural and health behaviors of African American women. The screening protocol includes both a screening tool and a genogram, which will aid in identifying each client's specific risk factors for the development of hypertension. This serves two purposes; it alerts the APN which areas to focus on and it educates the African American woman of her risk factors. The educational pamphlet then serves as a guide for the APN to educate the client and gives some needed information about her risk and ways to reduce that risk.

CHAPTER FOUR

PROJECT DEVELOPMENT

The purpose of this project is to develop a screening protocol and educational pamphlet for the peri-menopausal African American woman who is seen during a primary care visit. Realizing that all these women are at risk for hypertension the APN can use this information to identify who would benefit from further intervention and continue to screen those who may be at risk. In an extensive review of the literature many major concerns for this unique population were revealed. The need for intervention is critical when the client is young because hypertension tends to progress without symptoms. The peri-menopausal African American woman has been found to develop the disease at a younger age, is more likely to develop end organ failure and is found to have a greater number of preventable risk factors.

Since at least 1979, the government has emphasized the importance of health promotion, health protection, and clinical preventative services amongst the whole population with a special emphasis on minorities (McGinnis, Richmond, Brandt, Windom, & Mason, 1992). In Healthy People 2000, the

National objectives for hypertension prevention and control in African American women are as follows:

1. Increase to > 90% the number of persons with high blood pressure who are taking action to control their blood pressure by taking medication and making life style modifications (low fat, low salt diet, exercise).
2. Reduce the number of overweight African American women to less than 30%.
3. Increase to > 30% the number of persons who engage in light to moderate physical activity for >30 minutes per day.
4. Reduce to < 15% the number of persons age 6 and older who engage in no leisure time physical activity.
5. Decrease salt and sodium intake.
6. Increase to greater than 90% the proportion of adults who have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high (Department of Health and Human Services, 1991).

To date these objectives have not been met and hypertension continues to be one of the priority areas. Even though drug therapy has been found to be effective in the treatment and control of hypertension in African American women, this population still experiences one of the highest rates of hypertension-related mortality (Gillum, 1996). Therefore it is imperative that the APN identifies

and educates this population in order to prevent hypertension and the mortality associated with it.

Tools

There are four tools that are included in this project. The first is the screening protocol (Appendix A), the second is the instructions for use of the genogram (Appendix B), the third is the genogram (Appendix C), and fourth is the educational pamphlet (Appendix D). The Health Belief Model provides the foundation for the above tools. These tools were developed to be used in conjunction with one another to provide a comprehensive ongoing plan of care. The APN is an appropriate primary care provider to use the screening tool, implement the genogram, and educate based on the educational pamphlet.

The screening tool will be used by the APN. When asking if the clients know their blood pressure and blood pressure history the APN is assessing the perceived susceptibility and seriousness of hypertension. The demographic variables (age, race, and sex) define the population and are unmodifiable. One of the cues to action relates to the taking a family history and doing a genogram. The perceived threat is addressed when asking if she feels threatened by hypertension and if she feels she has any control over the outcome.

This tool uses an acronym to remind the APN of the specific areas of concern in the screening process. The acronym BP HELPED will be the trigger for the assessment: B-

Blood pressure (Do you know what your blood pressure is?) (Blood pressure history-record of it), P-Perceived Knowledge of Disease (Ask if she feels threatened by high blood pressure) (Do you think you have any control over the outcome of high blood pressure), H-History (personal history, family history, genogram), E-Efficacy (Do you believe you can take the actions necessary to prevent high blood pressure?), L-Lifestyles (Do you smoke cigarettes, drink alcohol, or have increased stress in your life? If you do are you willing to take the steps necessary to make positive lifestyle choices?), P-People you know with high blood pressure (How do the people you know manage their high blood pressure? Are they successful? Can you learn something from them?), E-Exercise (How much exercise do you get? What type of exercise of exercise is it? What kind of neighborhood do you live in? Any changes in weight in the last 5 years?), D-Diet and Drugs (Diet history-24 hour recall. Low sodium diet-limiting sodium use)--Drugs (Are you on or ever been prescribed blood pressure medications? What do you know about blood pressure medications? Do you use any home remedies? Ex. Garlic cloves or capsules, vinegar, aloe vera juice, multiple vitamin therapy and various combinations of these products.)

The genogram displays information graphically in an orderly fashion. It provides structural, relational and functional information on a family. It provides a quick reference for complex family patterns and a source for

determining how clinical problems are connected in the context of family (McGoldrick & Gerson, 1985). Genograms in general provide much information about the family; however for this project the focus is on the medical history. The genogram is generally done with the initial assessment and is revised as necessary.

The genogram (see Appendix C) is the effective tool used to evaluate the family history of hypertension. Hypertension runs in families and by using a genogram with the woman, she is better able to visualize her vulnerability. Assessing her perceived threat of illness, which is based on the HBM may motivate her to take action. The genogram can be done during the primary care visit in a short period of time. Instructions for completing the genogram are provided to guide the APN (See Appendix B). A three-generation genogram is done to reflect the familial tendencies toward the disease.

The educational pamphlet was developed with the African American female in mind. It was designed to focus on her special needs. The idea is not that the APN just hands her the pamphlet but instead goes over the pamphlet with the patient to focus on the areas which are of particular concern to each individual client. The first section of the pamphlet provides an area for the client's blood pressure today and gives her room to make a diary if she chooses. The pamphlet is meant to be taken home and serve as a resource for the client.

The pamphlet is also based on the Health Belief Model. The cover page depicts familial tendencies based on a picture of three generations of African American women. This was chosen because it focuses on the sociopsychologic variable of family from the HBM. The first page of the pamphlet provides cues to action by providing the client's own blood pressure and educational information. The second page (risk factors) incorporates the individual's perceptions of perceived susceptibility and the seriousness of the disease. By making clients aware of their suspectibility and the seriousness of the disease, the objective is that the APN is increasing her perceived threat of illness.

The headings for page three and four were titled to promote self-efficacy. It tells clients that they have the ability to promote their health which may lead to positive outcomes. The goal is that the client's likelihood of action will increase. Page three gives the client suggestions of what she can do which in turn acts on her likelihood of action by decreasing their perceived barriers. How it is done is on page 4. Promoting self-efficacy will increase their likelihood of action because their level of understanding about hypertension will increase. By individualizing the education and teaching to their level of understanding APNs are promoting self-efficacy.

Target Population

The screening tool is to be used with the genogram during the 40 to 50 year old African American female's annual visits to her primary care provider. If no annual visits are scheduled the tool can be initiated during any health care encounter. This was designed to be a concise and efficient way of teaching in a short span of time. The intent is that this will allow this population to become aware of their increased risk for hypertension.

While the vitals are taken the blood pressure would be written in the informational pamphlet to be given to the client during the appropriate time of the visit. The BP HELPED acronym will be a quick reminder of the questions that the APN needs to cover. If the blood pressure is elevated then the acronym can become a part of the chart to be updated with further visits. The genogram will be done with the client so that she is aware of her family tendencies for hypertension and other disease processes. This will also become a part of the chart. The pamphlet will be reviewed with every client in the target population and this will be documented in the chart and reviewed annually.

Timeframe for completion of tools: As mentioned earlier the tools were designed to be concise and time efficient. During the initial visit the genogram and screening tool should take 5-10 minutes to complete. Because 10 minutes can take up a significant portion of a

health care visit, it is important to realize that although the focus is preventing hypertension the interventions key in on having an overall healthy lifestyle. In follow-up visits just the problem areas need to be covered which may take only five minutes unless the client has many questions or concerns. The pamphlet is designed to be part of an ongoing process. The convenient aspect about blood pressure monitoring is that it is quick, cheap, and is offered in a variety of places outside of the primary care office (grocery stores, drug stores, and shopping malls to name a few). This gives the client the opportunity to check and see how effective her interventions have been. After explaining the importance of blood pressure monitoring, the pamphlet provides adequate space for monthly monitoring of blood pressure so that information can be shared with the APN at the annual visit.

Research for tool development: The following section will focus on research that was not presented in the literature review. The development of the screening tool and educational pamphlet are based on a review of the literature that is grounded in the African American population. The paper discusses that African American females get hypertension at an earlier age and suffer more co-morbidities than their white counterparts but, being African American is not an independent risk factor for hypertension (Thomas, Quinn, Billingsley, & Caldwell, 1993). In any decade of life hypertension is more severe in African

Americans than in whites (American Heart Association, 1995).

The literature has shown that African American females have a high awareness about the risk of hypertension, however this group is least likely to have their blood pressure under control (Nieto, 1995). This could be due in part to where African American females get their health care information. It is more likely that African American women get their information through informal sources such as church, the grapevine, someone who has the disease, and the media. African American women are less likely to get their health care information from a health care professional whereas white women are more apt to obtain their information from this source (Schoenberg, Amey, & Coward, 1998).

The family history is significant in assessing for hypertension. A family history is associated with an increased prevalence and earlier onset of hypertension. A significant correlation has been found between the blood pressure of mothers and daughters among African Americans (Gillum, 1996). A strong family history of the early onset of heart disease, increasing age, and race are significant risk factors for the development of hypertension which can not be modified (Haan, 1996). It is imperative that family history is discussed in great detail with every peri-menopausal African American female.

There are many attitudes in this population, which are difficult to overcome in order to promote self-efficacy. One has to do with the strong religious beliefs in this

population. Spirituality has a strong influence on lifestyle and health care behaviors. A commonly held belief among the African American population is that illness may be either natural or unnatural, and influenced by being in harmony or disharmony with God. Disease may be the consequence of God's will; health promotion activities may be viewed as futile (Jennings, 1996). In addition this population believes God is responsible for protecting the health of individuals and that illness is alleviated through strong faith in God and the use of prayer (Russell & Jewell, 1992).

It is difficult to encourage health-promoting activities to the healthy individual. This is especially true with hypertension because it is generally present without symptoms and the individual feels fine. It is generally believed that the condition is not life threatening so self-efficacy is hampered due to the perceived lack of illness. The next belief is that there is nothing that can be done. The first step to empowering individuals is that they must believe that they can influence the outcome of a condition for which they are at risk (Wieck, 1997).

Lifestyle modification probably encompasses some of the most challenging health-promoting activities especially when individuals do not feel sick presently and are not thinking about their future health. The challenge to the APN is to motivate the client to be a futuristic thinker. One way to

do this is to encourage small changes and build on each positive change. There has been found to be a significant correlation between obesity and hypertension in African American women. The Framingham study found that obesity is a significant risk factor for the development of CHD (Dawber, 1980). Approximately 50% of African American women and 30% of white women are more than 20% above there desirable weight levels (Wenger, 1998). Abdominal obesity which is associated with a higher incidence of heart disease and hypertension is more common in African American women (Wenger, 1998).

Cultural attitudes towards obesity vary. The cultural definition for obesity tends to focus on cosmetics and overall body image. The white culture tends to focus on the cosmetics of obesity and has body image disturbances whereas the African American culture tends to be more accepting of its body image. If the African American woman is overweight but has a positive body image, APNs should use that self acceptance when making a plan of care. The focus should be on realistic weight loss goals which promote overall health (Kumanyika, 1995).

Smoking cessation is another area that is difficult to conquer. Twenty-two percent of African American women are smokers (American Heart Association, 1995). The CARDIA study found that there is a higher percentage of African American females aged 25-30 who smoke, but they tend to smoke fewer cigarettes than their white counterparts (Liu et

al., 1989). In recent years the overall number of smokers has decreased, however the number of adolescent smokers is increasing. Smoking is the single most significant health concern for women. There is no evidence in the literature about cultural differences when it comes to smoking cessation. An interesting statistic related to women and smoking is that as obesity decreases, the number of female smokers increases and vice versa (Wenger, 1998).

Little research has been done on alcohol consumption by African American females. The CARDIA study did find that there are a lower percentage of African Americans who drink (Liu, 1989). As has been said for many years, the key word is moderation. That is equivalent to one to two ounces of alcohol a day. Anymore than that has been found to increase blood pressure (Helfant, 1993).

The next concern is exercise. The literature reveals many cultural differences and attitudes towards overall physical activity. African Americans participate in regular physical exercise less often than whites do, regardless of level of income or education (Wenger, 1998). Almost 68% of African American women lead a sedentary lifestyle and 43% percent report no leisure time physical activity (American Heart Association, 1995). Time for rest is more valued in the African American culture than exercise. Many African Americans consider their work and daily activities as exercise. For professional African American women, exercise during lunch hour is not an option because it messes up

their appearance. African American women like to exercise in the evening in a group atmosphere with friends or relatives. Friends tend to have the greatest influence in the area of exercise. One of the myths found in the African American culture is that they do not view exercise as a treatment for hypertension. They are more likely to believe that regular hard physical activity is the cause of high blood pressure (Airhihenbuwa, Kumanyika, Agurs, & Lowe, 1995).

The Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure (1997) developed the diet DASH which stands for Dietary Approaches to Stop Hypertension. The guidelines in the pamphlet on diet are based on the recommendations of this diet. The reason the diet is not just handed out is because at this point the attempt is to get the client to make healthier life choices. This diet has been shown to decrease blood pressure in individuals with a slightly elevated blood pressure.

Sodium is known to increase blood pressure by retaining water. The difficulty in measuring sodium is that often times persons don't know what foods contain a lot of sodium or they don't consider the salt they cook with. A possible hypothesis for increased sodium sensitivity in African American women may be related to a decreased renal excretion of sodium, which may be linked to living in a tropical environment where sodium is scarce (Gillum, 1996). Other dietary issues that play a part in hypertension in African

Americans are low levels of calcium, potassium, and magnesium. Primary prevention of hypertension includes following a low fat diet and reducing salt intake (Gillum, 1996). In the African American culture the female matriarch is held in high esteem and the diet in the family is heavily influenced by her, which can have a generational effect.

Brown and Segal (1996) found in their research that African Americans are 30% more likely than white Americans to use home remedies. The home remedies that respondents use to treat hypertension include vinegar, garlic cloves and capsules, aloe vera juice, multiple vitamins and various combinations of these products. Although random clinical trial data is limited, the research suggests that antioxidants delay or prevent progression of atherosclerosis which in turn modifies the known risk factors of CHD (Haan, 1996). The antioxidants vitamin E, vitamin C, and b-carotene are found in many multivitamin preparations. The pamphlet encourages this preventative therapy and suggests that this be incorporated in all diets.

Folic acid, a B vitamin, has been found to decrease homocysteine levels. High homocysteine levels are associated with an increased risk for atherosclerosis. Women are not getting enough folic acid in their diets. The Food and Drug Administration recommends that women have a daily intake of 400 micrograms (mcg) of folic acid per day and 800 mcg if they are pregnant. Since the people considered here are still in their childbearing years

recommending a multivitamin with 400 mcg of folic acid will not only serve as a preventative measure for their coronary health, but it may also decrease birth defects related to folic acid deficiencies (Women's Health Watch, 1998).

Stress effects people in different ways. Stress has been found to increase the risk of hypertension. Increased stress over long periods of time is positively correlated with hypertension (Helfant, 1993). African American women report more life events than white women (Liu et al., 1989). Living in areas with high levels of poverty, crime, and mobility is associated with increased blood pressure (Gillum, 1996). African Americans who accept racial discrimination were found to have a higher blood pressure whereas those who challenge it had lower blood pressures. African American working class women are most likely to accept discrimination and as a result have higher blood pressure (Krieger & Sidney, 1996). As APNs it is important to discuss with the patient ways to decrease stress in one's life.

The pamphlet design was based on Price & Everett's (1995) research on how to make a pamphlet for the African American population. Often times pamphlets are written at too high of a grade level. This article suggests that the writing should be done at the 6^{th} grade level. One and two syllable words should be used and sentences should be concise. Use simple fonts and present one idea at a time. Use culturally relevant illustrations, photos, and cartoons.

Headings should be used to introduce new ideas. The article focuses on the special considerations needed to deliver health information to this unique population.

CHAPTER FIVE

IMPLICATIONS FOR THE ADVANCED PRACTICE NURSE

The educational and screening tools can be utilized in many different ways by the advanced practice nurse (APN). Clients obtain preventative health care information from a variety of sources but not all of the information gained is accurate. This protocol will offer the APNs the opportunity to assess their clients' risk factors while simultaneously building a rapport with them. At this time adequate information specific to the peri-menopausal African female has been fragmented. This screening protocol will incorporate many aspects of the preventive care needed and will give APNs necessary resources to impact this unique population.

Implications for Practice

The present focus in today's health care environment is prevention and primary health care and because of that the role of the Nurse Practitioner continues to emerge. The costs associated with hypertension and its co-morbidities are extensive. This is especially important with African American women since they are at higher risk for hypertension at any age and are more likely to develop an end organ disorder. The mortality rate from CHD has been

declining in recent years, however the death rate for African American women remains four to five times higher than their white counterparts (Gillum, 1996). This has many important implications for the APN practice. APNs have never been in such a unique position to be able to impact health care through primary prevention. By screening this population extensively, the APN can intervene early with the goal being to prevent the onset of hypertension. In primary prevention the practice of the APN encompasses many roles. The roles include but are not limited to assessor, change agent, client advocate, practitioner, and educator. APNs utilize all of these roles when working with this unique population. By using the screening protocol and educational pamphlet APNs not only advance their practice but they will also have a positive impact on the client, her family, and the health care system.

The American Nurses Association (ANA) (1992) defined the APNs role in clinical practice. "They conduct comprehensive health assessment. Demonstrate a high level of autonomy and possess expert skill in diagnosis and treatment of complex responses of individual, families, and communities to actual or potential health problems. They formulate clinical decisions to manage acute and chronic illness and promote wellness." The APN as a practitioner/clinician is educated and trained to diagnose and treat a full range of human responses to actual and potential health concerns. APNs provide rationale for the

chosen treatment process. APNs have specialized knowledge and skills to deal with the human responses to the actual or potential health problems (Calking, 1984). When APNs use the screening protocol they are identifying with the clients their actual or potential risk factors for developing hypertension. The screening protocol changes the individuals' perception and susceptibility to the disease by making clients aware of the perceived seriousness of hypertension and their own risk factors for it. Based on the modifiable factors the APN will use this screening protocol and educational pamphlet for 40-50 year old African American females to educate them on their positive risk factors and thus impact on their perceived threat for hypertension.

The role of assessor is defined as one who uses a database to identify health care, community, or system needs and from that formulates impressions, interprets and makes judgments. Through a literature review the peri-menopausal African American females were identified as a group in need of additional screening and education in relation to the prevention of hypertension. Peri-menopausal African American women are identified as at risk because their health care needs are often neglected secondary to their other life roles and responsibilities. The screening tool BP HELPED was designed using the demographic and sociopyschologic variables identified in the Health Belief Model. The tool takes into account the risk factors,

cultural beliefs and health care practices specific to this population.

The role of change agent comes from a social interaction and problem-solving process where the change agent provides new ideas that may guide and encourage individual clients to change by influencing their norms, values, and skills. The success of the change agent depends largely on their communication style and ability to take the clients' cultural beliefs into account in order to build a open and trusting relationship (Strunk, 1995). The APN who uses this screening protocol is not only assessing each clients' risk for hypertension but is also building on the strengths the client already possesses in order to facilitate change that further promotes the clients' health and prevents disease. The APN as a change agent is incorporated in the HBM by educating the client about their specific risk factors; the goal is that clients will want to take action to decrease their modifiable risk factors. By decreasing the modifiable risk factors in the peri-menopausal African American female, the APN may also impact the overall health of the client's family.

Being a client advocate is an essential component of the APNs practice in order to bring about positive change. The ANA's "Code" for nurses with interpretive statements (1985) defines client advocacy as viewing the clients as the primary decision makers in matters concerning their own health, treatment, and wellbeing. The goal of nursing

actions is to support and enhance the client's responsibility and self-determination to the greatest extent. Truth telling and the process of reaching informed choice underlie the exercise of self-determination, which is basic to respect for persons. The idea of client advocacy is one of the major premises of the HBM. By using the HBM to prevent hypertension in African American females, the APNs goal is to give the clients the necessary information and motivation to increase her self-efficacy.

The role of educator is the basis for this project. The idea is not only to educate the peri-menopausal African American female but also the APN and make other APNs aware of the increased risk of hypertension in this population and the need for prevention. The African American population tends to lack knowledge or believe in the value of health promotion and disease prevention. They are frustrated by the lack of appropriate and relevant health information (Wieck, 1997). The screening protocol and educational pamphlet were designed to meet this need. The screening protocol provides the APN and the African American female with the individuals' own risk factors which are necessary in order to initiate change. The educational pamphlet has information that is generalizable to African American females. It is intended to be used as a guide for the individual client.

The ability to change one's health attitudes and make significant lifestyle changes is much more difficult than

"taking a pill." The need for personal responsibility for one's own primary prevention continues to affect both economic and quality of life issues. Primary prevention in hypertension is an important issue because if hypertension develops and goes untreated the likelihood of comorbid conditions significantly increases. With appropriate information African American women can have a great impact on their families concepts and household priorities for prevention. The APN must respond to these needs by focusing on primary prevention and educating the patient and the family at every opportunity. Combining the APN roles of assessor, change agent, practitioner, client advocate, and educator are necessary to be successful when promoting primary hypertension prevention.

Implications for Research

The literature review identified that in any decade of life African American women are at increased risk for developing hypertension. However research related to this population is quite limited. It was not until the 1970's with the NHANES study that African American women were identified as a population at risk for hypertension and heart disease. In subsequent studies this population continued to be found at higher risk for developing hypertension and its comorbities. However no studies have been done to clarify what specific interventions would impact the prevention of the development of hypertension in African American women. Based on this information the APN

would be the appropriate practitioner to initiate research based protocols. Research based interventions are necessary if the nursing profession is to be recognized for its role in primary prevention.

The mortality from CHD is over 50% in the United States. The approximate annual cost of CHD is 50-100 billion dollars in lost wages and medical interventions (Haan, 1996). Hypertension related morbidity and mortality rates in African Americans are 3 to 5 times more frequent than their white counterparts (Saunders, 1991). In today's health care environment the focus is cost containment through primary prevention. This offers the APN the avenue to impact the health care system through cost containment by screening and educating an identified at risk population with research based interventions.

Healthy People 2000, a federal government health care initiative, has three broad goals: increase the span of healthy life for all Americans, reduce health inequalities among Americans, and achieve access for all Americans to preventative services (McGinnis, Richmond, Brandt, Windon, & Mason, 1992). One of the Preventative Service Objectives not met was the reduction of the prevalence of people who are overweight, an important risk factor for high blood pressure (McGinnis, Richmond, Brandt, Windon, & Mason, 1992). One of the groups identified as at risk are African Americans. Coupled with the fact that this population has

been identified as at risk and is under researched the need for APN based research is apparent.

Based on the work of Jennie Hahn (1996) with dietary teaching of diabetics the APN can clearly initiate research base education to peri-menopausal African American women. In her community based Outreach Diabetic Education Program Ms. Hahn was able to make her teaching specific to the population based on trial and error of interventions. She was able to interview a small representative group and determine the best way to reach them for teaching. The 20 representative people told the dieticians where to hold the meetings and how the people would learn so they could repeat the dietary cooking demonstrations. Before this the attendance to the meetings were less than three people. The outcome was that the group went from 31 participants three years ago to 200 now. Although this was based on dietician interventions the same could be done by the APN in a collaborative group to teach primary prevention. The research needs to be sensitive to the specific cultural needs of this minority population.

Another area of research is the influence of the church on the prevention of hypertension in African American females. Previous research has found that health promotion activities that are supported by the church have had positive outcomes in this population. However the research is limited and some of the outcomes are difficult to measure. In a study on church based asthma education, it

was hoped that the participants would learn to manage their asthma better and have more knowledge about the disease process, however there were no reported outcomes that were measurable (Ford, Edwards, Rodriguez, Gibson, & Tilley, 1996). Further research is needed in this area to see if the church is an appropriate site for health promotion activities in this population.

The influence of the family is also an area that needs further study. There are few studies that have looked at the influence of family and compliance with a certain health regimen. In studies that looked at the African American family, where a positive family relationship was reported, there was more compliance with a certain regimen and less forgetting. Further research may focus on the role of the family on the prevention of hypertension.

Probably one of the most important areas of study in relation to hypertension is to find what is the most likely mechanism for hypertension in African American females. If this was better understood, then more effective interventions could be determined through research studies. Some examples of the possible mechanisms are: obesity, central obesity, and insulin resistance, to name a few. Once more is known determining all of the risk factors for the development of hypertension in this population would be easier. The research tells repeatedly that African American women are more likely to develop hypertension, but what is difficult to find is a reason for this as well as research

relating to preventing hypertension in this particular population.

There are so many opportunities for research for the prevention of hypertension in the peri-menopausal African American female. There are limited studies done on women and CHD in general let alone on African American women. This group has been seen to get this disease at such an earlier age and with greater co-morbidity but the research needed to justify interventions is greatly lacking. Much of the interventions that is used today is proven to be effective in white males because that is where the greatest majority of the research related to hypertension and CHD has been done. It can only be assumed that this treatment can be generalized to other populations. Only through valid research can it be assured that the interventions will be effective for other unique populations.

The APN has many available opportunities to improve the overall health of the peri-menopausal African American woman. At this point it is unclear how the screening protocol and educational pamphlet will impact this population. When using these tools it is the responsibility of the APN to develop a mutually agreed upon plan of care with the client and to document the goals and outcomes. However in order to test the effectiveness of the tools a research project should be done, that could test different variables with the overall goal being that the client would remain normotensive and make positive lifestyle choices.

CHAPTER SIX

CONCLUSION

Peri-Menopausal African American females are clearly identified as a population at risk for developing hypertension that can lead to co-morbid diseases. The disease develops earlier in this population and is more severe (American Heart Association, 1990). Research shows that primary prevention and early diagnosis greatly reduces morbidity and mortality (Schumann & Emerson, 1998). This disease has very few symptoms and this population has a history of limited access to primary care providers. These two factors put this population at risk because they do not receive enough early, routine, and preventive health care (Weick, 1997). African and white Americans differ in their experiences and management of hypertension. The information given to African American women fails to teach them health prevention in a way that is relevant and appropriate. They also do not believe in health promotion and disease prevention or lack of knowledge to incorporate it in their daily lives (Weick, 1996).

The purpose of this project is to develop a screening protocol and an educational pamphlet that targets the peri-menopausal African American female in the primary prevention

of hypertension. The use of the genogram in determining familial tendencies towards hypertension and related co-morbid conditions provides important visual cues for both the APN and client. The teaching and screening of risk factors is important to this project because it can make women aware of their vulnerability for the disease. The BPHELPED screening tool uses the risk factors found in the research as specific to this population. The acronym reminds the APN to cover all the areas of screening and prevention. The pamphlet is to be used by clients as a tool not only to monitor their own progress by recording the blood pressures throughout the year but also to share the information with their families.

It is understood that much more needs to be done with health promotion and disease prevention in this unique population. This scholarly project is designed to identify the needs of peri-menopausal African American females in regards to hypertension. Knowledge is a very important aspect in promoting self-efficacy. Increasing the clients' knowledge base about hypertension is an attempt to promote their self-efficacy. The Health Belief Model provides the foundation for understanding and teaching of health care and promotion. The APN is an appropriate practitioner to be at the forefront of these endeavors.

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APPENDICES

Appendix A

BP HELPED

B: is for Blood Pressure
Do you know what your blood pressure is?
Do you keep a diary of your pressures?
Have you ever been told you have high blood pressure?

P: is for Perceived knowledge of disease
Do you feel threatened by high blood pressure?
Do you know what high blood pressure can do to you?
Do you think you have any control over the outcome of high blood pressure?

H: is for History
Personal history
Family history (Genogram)

E: is for Efficacy
Do you believe you can take the actions necessary to prevent high blood pressure?

L: is for Lifestyles
Do you drink alcohol? How much?
Do you smoke cigarettes? How much?
Do you think you have stress in your life?
If you have said yes to any of these questions are you willing to take the steps necessary to make positive life style choices?

P: is for People you know with high blood pressure
How do they manage their high blood pressure?
Are they successful?
What can you learn form them?

E: is for Exercise
How much exercise do you get?
What kind of exercise is it?
Do you live in a safe neighborhood to walk?
Any changes in weight in the last 5 years?

D: is for Diet and Drugs
Diet history (24 hour recall)
Use of salt during cooking or eating
Are you taking any medication for your high blood pressure?
Have you ever been prescribed medication for high blood pressure?
What do you know about blood pressure medication?
Have you ever used home remedies to treat high blood pressure? (Example Garlic cloves or capsules, aloe vera juice, multivitamin)

Appendix B

Directions for the Genogram

The circle represents a female and the square represents female.

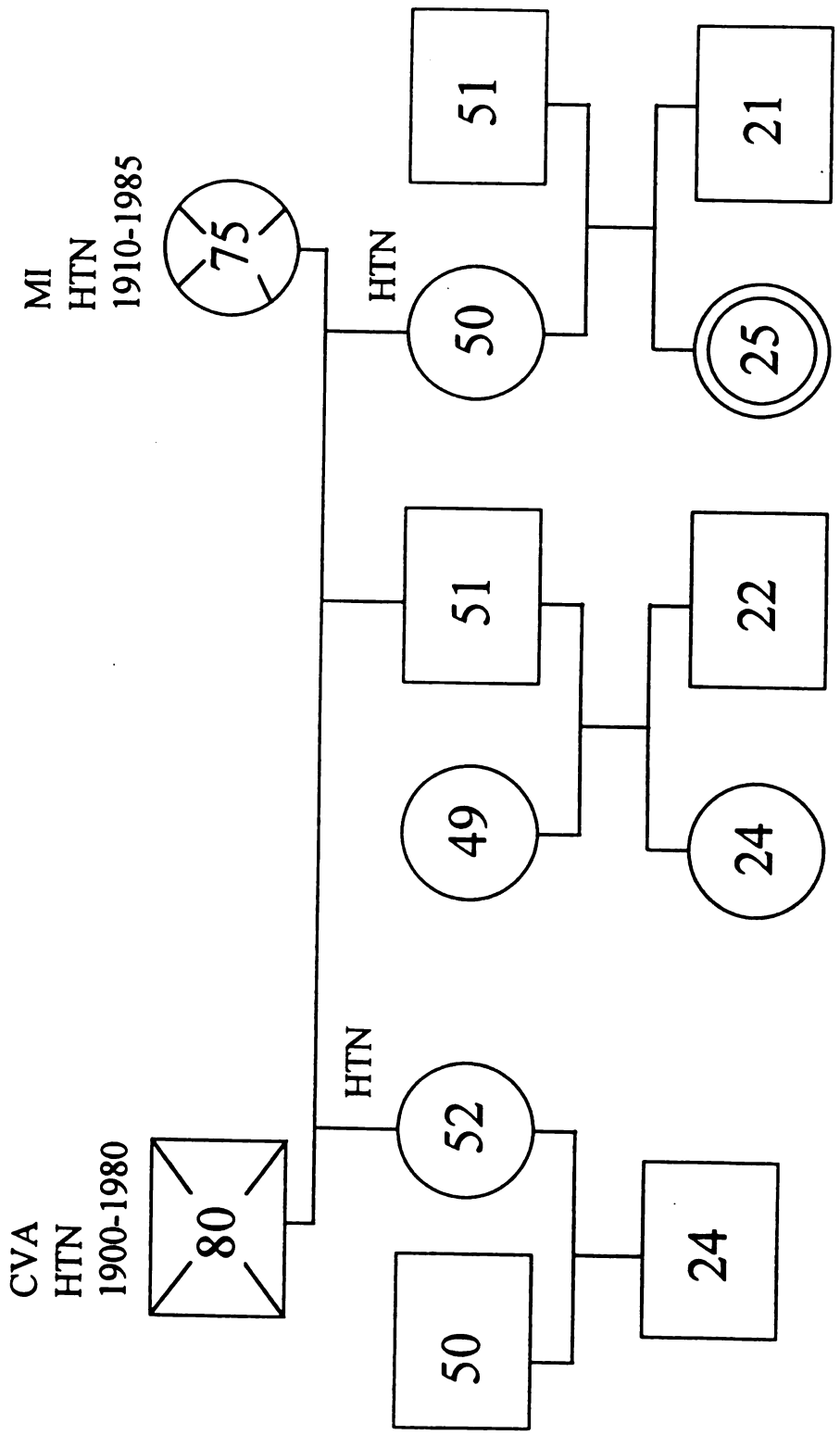
1. The index person or the client is represented by the double circle.
2. For deceased persons the circle or square is x-ed out with the age of death.
3. Two people who are married are connected by lines that go down and across.
4. If a couple has children then each child's figure hangs down from the line that connects the couple.
5. Children are drawn left to right starting with the eldest.
6. The ages of the individuals are marked inside the symbols.
7. Place medical history underneath each members symbol.
8. The goal is to include a three generational genogram with the client's generation being the most recent.
9. Sign and date the genogram as it is done and updated (McGoldrick & Gerson, 1985).

Appendix D

Pamphlet

Appendix C

Example of the Genogram



Your Blood Pressure is:

_____/_____

High blood pressure:

Is when the top number is higher than 140 or the bottom number is higher than 90.

* The only way to find out if your Blood Pressure is high is to have it measured.

*You should have your Blood Pressure checked at least once a year.

*You need to have your Blood Pressure measured once a month if the top number is greater than 140 or the bottom number is greater than 90.

or

*If you are on medication that lowers your Blood Pressure.

* If your local store has an automatic cuff or Blood Pressure monitor you can have it taken there. Just keep a diary of the numbers.

Jan	_____	July	_____
Feb	_____	Aug	_____
March	_____	Sept	_____
April	_____	Oct	_____
May	_____	Nov	_____
June	_____	Dec	_____

YOUR BLOOD PRESSURE

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African American Women And High Blood Pressure

African American Women and risk factors for high blood pressure.

- If someone in your family has high blood pressure, then there is a good chance you will have it also.
- African American Women get high blood pressure at an earlier age.
- Having high blood pressure puts you at risk for other diseases, such as stroke, kidney disease and heart attack.

Other risk factors:

* Being overweight
* Lack of exercise
* Drinking alcohol
* High salt diets
* Smoking
* Stress

What You Can Do:

Things you can't change:

a. Race (ethnicity)
b. Family history
c. Age

Things you can change:

A. Stop smoking
B. Keep your weight down
C. Exercise
D. Eat a healthy diet
E. Reduce salt in diet
F. Limit amount of alcohol
G. Use of multivitamin which has:
   Folic acid
   Vitamin E
   Beta Carotene

See your health care provider for any further questions.

How You Can Do It:

Exercise

* Add extra steps to your day
* Take stairs instead of the elevator
* Don't use the remote control
* Get off at the bus stop one stop earlier and walk the rest of the way
* Exercise 20 min, 3 times a week
* Get a friend to walk with
* Use an exercise video at home
* Join an exercise class.

Healthy Eating:

- *Eat less red meat and more chicken and fish*
- *Use vegetable oil instead of lard or butter when frying food*
- *Bake or boil instead of fry food*
- *Trim fat from meat and remove skin of chicken before cooking*
- *Use seasonings to flavor food*
- *Use salt to taste at the table*
- *Ask your health care provider for salt guidelines*
- *Use salt substitute (just a little)*
- *Canned processed foods have more salt*
- *Eat 3 to 5 vegetables & fruits a day*
- *Eat smaller portions of food*
- *Eat whole grain cereals, rice and breads*
- *Use low fat skim or dairy products*
- *Read food labels to tell you how*