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Health Beliefs and Practices Among African American Men Concerning Prostate Cancer Screening

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Abstract
African American men have the highest incidence of prostate cancer in the United States and the world (American Cancer Society [ACS], 1996). Nevertheless, studies have indicated that African American men are the least likely to participate in prostate cancer screening programs (Myers, Wolfe, Balshem, Ross, & Chodak 1994; Underwood, 1991). Many researchers have hypothesized that health beliefs influence health practices. Therefore, this study examines the health beliefs and practices among African American men concerning prostate cancer screening. Becker’s Health Belief Model was used as the conceptual framework for this study. The research questions examined the health beliefs and practices among African American men concerning prostate cancer screening. A self-administered, structured questionnaire examined African American men’s health beliefs and practices concerning prostate cancer. Descriptive statistics were used to analyze the data. A Chi-square revealed the variables of perceived risk of prostate cancer and age were statistically dependent, p = 0.069. The settings for this study were churches in a large urban area in north-central Alabama. The sample was 91 African American men 40 years of age and older. Even though the majority of men had some college
education, had prostate cancer screening tests, and had talked with their doctor about prostate cancer, more than 90% of the men believed their chances of developing prostate cancer were the same or less than the average man. Findings from this study suggest that a need exists for health care providers to educate African American men about prostate cancer risk factors. Further research is recommended to explore African American men’s health beliefs and practices across educational and socioeconomic boundaries.
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Chapter I
The Research Problem

An estimated 334,000 newly diagnosed cases of prostate cancer will occur in the United states in 1997 and an estimated 41,800 men will die of the disease (American Cancer Society [ACS], 1997). For men age 55 through 74, prostate cancer is the third leading cause of death. For men 75 years and older, prostate cancer is the second leading cause of death. Cancer of the prostate is more prevalent in African American men (American Cancer Society, 1996; Boehm, Schlenk, Funnell, Parzuchowski, & Powell, 1995; Demark-Wahnefried, Catoe, Paskett, Robertson, & Rimer, 1995; Million-Underwood, & Sanders, 1990; Myers, Wolf, Mc Kee, McGrory, Burgh, Nelson, & Nelson, 1996). Also, African American men have an 85% greater chance of being diagnosed with prostate cancer and a lower survival rate once prostate cancer has been diagnosed than Caucasian men. The 5-year survival rate for African American men is 39%; whereas, the 5-year survival rate for Caucasian men is 50% (Ragland, Selvin, & Merrill, 1991). Studies have suggested that African American men exhibit more advanced disease at the time of diagnosis than Caucasian men (Demark-Wahnefried et al., 1995; Ragland et al., 1991).
Research has shown that the disparity in cancer mortality and morbidity between African American men and the general population cannot be explained by culture and racial-specific differences alone (Underwood, 1992). Prevailing attitudes imply that health beliefs and health practices determine health promotion behaviors. Through research, progress has been made in understanding why people do or do not engage in certain health promotion practices. Therefore, this study sought to examine health beliefs and practices among African American men concerning prostate cancer screening.

Establishment of the Problem

Studies have documented that African American males have a higher incidence and a higher mortality rate for prostate cancer than Caucasian males. While no conclusive evidence has been found that can account for the drastic differences in cancer mortality found in African American men, health beliefs and health practices are factors suggested that may contribute to this higher incidence of prostate cancer in African American men (Million-Underwood & Sanders, 1990; Myers, Wolf, Balshem, Ross, & Chodak, 1994). Research has indicated that many factors influence African American men's health promotion behaviors, such as fear, underestimation, fatalism, and pessimism (Jennings, 1996; Million-Underwood & Sanders, 1990). Personal factors, such as beliefs in the efficacy of disease prevention,
perceived threats, and perceived susceptibility, also were identified in the literature as factors that impact health promotion activities among African American men (Becker, 1974; Million-Underwood, Sanders, & Davis, 1993). Specifically, health beliefs are said to play an important role, negative or positive, on whether an individual participates in health promotion behaviors (Becker, 1974).

The need to increase prostate cancer screening among African American men has been identified as an important issue in the health care system and may hold substantial benefits in reducing prostate cancer. Despite the fact that early detection through annual prostate cancer screening would hold great benefit in reducing the mortality of African American men with prostate cancer, studies have shown that the participation of African American men in prostate cancer screening programs remains lower than their Caucasian counterparts (Demark-Wahnefried et al., 1995; Million-Underwood et al., 1993; Myers et al., 1994). For the health care providers to design culturally appropriate educational and screening programs for African American men, an understanding of their health beliefs is crucial.

African Americans have many health beliefs unique to their culture. For example, in a study conducted by an African American evaluation organization, EVAXX, Inc., it was discovered that most African Americans reported, "getting cancer is a death sentence" (EVAXX, 1981, p. 213).
In 1992, Underwood conducted a study regarding cancer risk reduction and early detection behavior among African American men. Of 236 men studied, the majority reported that the incidence and mortality would not be significantly reduced even if they followed the American Cancer Society's recommendations of annual physical examinations. Additionally, health beliefs among these men were generally perceived as pessimistic regarding early cancer detection methods and the effectiveness of current cancer treatment. In another study, Demark-Wahnefried et al. (1995) concluded that African American men were significantly less likely than Caucasian men to believe that men with prostate cancer can lead a normal life. A higher percentage of African-American men reported having known someone who died with prostate cancer.

Another factor presumed to play a major role in the health beliefs and culture of African Americans is spirituality (Jones, 1991; Roberson, 1985). Some African Americans feel that failure to live according to God's will results in illness. "Illness may also be characterized as natural or unnatural, influenced by harmony or disharmony with God, and indicative of balance or imbalance in some area of the individual's life" (Jennings, 1996, p. 55). Among African Americans, a common health perception, "God is going to take care of me," implies that, regardless of whether or not the individual participates in
cancer-preventive screening, their fate will ultimately be determined by God's will.

African American men's distrust of the health care system may impact their participation in health promotion programs. From 1932 to 1972, the U.S. Public Health Service conducted a study which involved 399 males with late-stage, untreated syphilis and 201 males free of the disease, which became known as the Tuskegee Study. In the Tuskegee study, the participants did not give informed consent. The researchers observed the natural course of untreated syphilis. When penicillin was developed as a cure for syphilis, measures were taken to keep the diseased participants from receiving it (King, 1992). African Americans viewed this incident as an act of genocide executed against African Americans by Caucasians. The continuing legacy of the Tuskegee Syphilis Study has contributed to the African American belief that genocide is possible and public health authorities cannot be trusted (Jennings, 1996; King, 1992).

Research conducted by Boehm et al. (1995) provided insight into factors that increase African American men's knowledge and self-efficacy about prostate cancer and prostate cancer screening. In a church-based study, 123 African American men participated in an educational and screening program taught by a physician and lay educators who were African American. They found that after completing
the educational program the participants had significantly improved knowledge and self-efficacy scores related to prostate cancer screening. Serving as a support for this conclusion is an earlier experimental study done by Wiist and Flack (1990). The researcher found that a church-based education program taught by African American lay educators on ways to lower blood cholesterol was effective, and the 174 participants demonstrated improved knowledge and positive health behavior changes. The mean serum cholesterol reductions occurring in the African Americans who had participated in this cholesterol screening and educational program exhibited significantly lower cholesterol levels than they had 6 months prior to the study.

Significance of the Study

Examining African American men's health beliefs and practices concerning prostate cancer screening has important implications for family nurse practitioners. This study provided valuable insight which can be used by the nurse practitioner in planning culture-appropriate interventions for prostate cancer screening programs in this high-risk group.

Nursing research. Information about strategies to enhance the knowledge base or alter the attitudes of African American men has been the main focus of the limited research in this area. Findings from this study may add knowledge of perceptual and belief variables that may ultimately increase
participation of African American men in screening for prostate cancer.

**Nursing practice.** Nurse practitioners in primary care have a unique opportunity to provide guidance to men as they contemplate whether or not to be screened for prostate cancer. Recognizing health practices and belief factors that inhibit African American men in the screening process enables health care providers to develop and assess strategies to alleviate or diminish concerns related to the process. Clinicians who facilitate screening of African American men may help to provide the impetus needed to solve the perplexing problems that make African American men at a higher risk for prostate cancer than other groups. Information from this study about African American men's health beliefs and practices concerning prostate cancer screening may expand the knowledge base of nursing practice.

**Nursing education.** The increasing cost of health care mandates that practitioners assist clients in meeting goals of self-care. More health care services will be provided on an outpatient basis. Findings from this study may provide clinical information for planning nursing curriculum that focuses on African American men's health beliefs and practices concerning prostate cancer screening. Educating students on interventions, specifically those related to identifying African American men's health beliefs and practices concerning prostate cancer, is important in
decreasing the morbidity in this target population. Additionally, educators enlightening students on interventions that enhance the participation of African American men in prostate cancer screening may provide students with knowledge and skills necessary to encourage African American men to participate in prostate cancer screening programs.

**Theoretical Framework**

The Becker Health Belief Model was used as the conceptual framework for this study. This model has been applicable to a wide range of nursing situations. Specifically, Becker's Health Belief Model identified the perceived facilitators and barriers that exist in screening for prostate cancer in African American men. The model focused on the individual taking action to prevent an illness. According to the Health Belief Model, the timing and action that the individual takes to prevent an illness or a disease will be influenced by multiple factors. The first factor is perceived susceptibility. Perceived susceptibility is defined as the individual's awareness of vulnerability specific to a disease. The second factor is perceived seriousness. Perceived seriousness is the resulting consequence or difficulties anticipated from contracting a disease. The measure of severity may be determined by two occurrences: the extent of mental anxiety generated by the contemplation of an illness and, secondly,
by the type of difficulty the individual thinks an illness will cause (Becker, 1974).

Perceived benefit is the third factor that influences the individual to take action to prevent an illness. Perceived benefits are the individual's perception of the advantage of taking various alternatives that would be beneficial in preventing an illness rather than choosing other options that might be detrimental. Resulting actions may be resolved by the strongest cognitive factors, negative or positive. The individual's beliefs that the alternative actions taken will be efficacious and available will determine the course of action taken. Positive factors that can be perceived as beneficial are (a) the knowledge of personal susceptibility, (b) the belief in screening procedures and treatment modalities, (c) the knowledge of the disease and interventions, (d) the recommendation from health care providers, and (e) the possession of medical insurance (Becker, 1974).

Perceived barriers is the fourth factor that influences individuals to take action to prevent an illness. Perceived barriers are the actual or perceived obstacles that deter the individual from taking action. The individual may perceive that certain actions taken will decrease the threat of a disease but also perceives that these actions may be inconvenient, painful, expensive, or frightening. Barriers toward participating in health promoting practices may
include (a) lack of money or medical coverage, (b) fear of the unknown, (c) misconceptions, and (d) lack of education about medical care (Becker, 1974).

The final factor is a cue to action. The Health Belief Model emphasized that a cue is necessary for the individual to take appropriate action. Cues to action are suggestions to improve the performance of health promotion practices. Cues include media publicity, guidance from a significant other or group, a notice from a health care provider, and an illness of an acquaintance or family member (Becker, 1974).

One assumption of Becker's Health Belief Model was that "motivation is a necessary condition for action and that motives selectively determine an individual's perceptions of the environment" (Becker, 1974, p. 8). This assumption included the individual's psychological state of readiness to take action when one believes the action will be useful and will reduce the threat of the disease. Kelly, Zyzanski, and Alemagno (1991) also asserted that motivation and the health beliefs of the individual will influence one's action. Motivation was also defined as the individual's preconceived perception or catalyst to take appropriate action when given cues of potential illness. Although motivation may be key to participation in health promotion activities, in a study done by Demark-Wahnefried et al. (1995), 72% of men, both African American and Caucasian, indicated that their health care providers had not educated
them on prostate cancer testing. While motivation is essential to participation in preventive health care, it must be preceded by knowledge of the disease.

Becker’s Health Belief Model was used to provide a framework that supported the understanding of African American men’s health beliefs and practices. With the increased incidence and mortality of prostate cancer in African American men, Becker’s Health Belief Model was instrumental in identifying African American men who believed they could influence the course of their own health. Knowledge of the health beliefs and practices of African American men, concomitant with Becker’s Health Belief Model, can assist the practitioner in planning culture-appropriate strategies for improving prostate cancer screening for African American men. Additionally, Becker’s Health Belief Model was viewed as potentially useful to predict those individuals who would or would not use preventive measures and to suggest interventions that might increase their participation in health promotion behaviors.

Assumptions

This study was based on the following assumptions:

1. African American men’s health beliefs influence their health practices.

2. Health beliefs and practices can be identified and measured.
3. One’s perception of susceptibility to an illness is thought to provide a force leading to action (Becker, 1974).

Statement of the Problem

The problem explored was to determine the health beliefs and practices concerning prostate cancer screening among African American men who are 40 years of age and over.

Purpose of the Study

The purpose of this study was to identify and examine the health beliefs and practices of African American men concerning prostate cancer screening.

Research Questions

In this study, two research questions were answered.

1. What are the health beliefs among African American men concerning prostate cancer screening?

2. What are the health practices among African American men concerning prostate cancer screening?

Definition of Terms

For this study, the following terms were defined:

African American men: Male subjects 40 years and older who indicated their race as Black or African American.

Health beliefs: "The individual perceived susceptibility, perceived seriousness, perceived benefits, motivation, and modifying factors that make up their health beliefs" (Becker, 1974, p. 3). Operationally, health beliefs are African American men’s perceptions and beliefs about
prostate cancer as defined by the Prostate Cancer Screening Questionnaire (Demark-Wahnefried et al., 1995).

**Health practices:** Health actions undertaken by an individual to maintain, attain, or regain good health and to prevent further illness (Manning & Mullins, 1983). Operationally, health practices were health behaviors exhibited by African Americans as defined by the Prostate Cancer Screening Questionnaire (Demark-Wahnefried et al., 1995).

**Prostate cancer screening:** Methods used to facilitate the detection of prostate cancer. Operationally, prostate cancer screening included digital rectal exam (DRE) and prostate-specific antigen (PSA) test.

**Summary**

Chapter I presented the introduction and rationale for the study. In addition, the research questions were introduced: What are the health beliefs among African American men concerning prostate cancer screening? and What are the health practices among African American men concerning prostate cancer screening? Three cultural factors that impact African American men's health beliefs and health practices were delineated. The emphasis in health care is on health promotion and disease prevention. The Health Belief Model provided the nurse practitioner with a framework to manage variables related to African American men's health beliefs and practices.
Chapter II
Review of Literature

The review of literature revealed many studies regarding prostate cancer. However, current research related to African Americans' health beliefs and practices concerning prostate cancer screening was limited. This review of literature reports those references noted in the studies.

In an effort to determine facets of knowledge, beliefs, and prior screening behavior of African American and Caucasian men reporting for prostate cancer screening, Demark-Wahnefried et al. (1995) conducted a study using a sample of 1,504 men. Emphasis was placed on determining whether a difference was found in the response of African American and Caucasian men reporting for prostate cancer screening.

The Prostate Cancer Screening Questionnaire was administered to a sample of men participating in a National Prostate Cancer Awareness screening program at nine southeastern clinics. Of the 1,504 participants, African Americans represented 20% of the population. Participation
was voluntary and the questionnaire was self-administered (Demark-Wahnefried et al., 1995).

To assess the knowledge, beliefs, and prior screening behaviors of the study group, the men were asked to complete a 20-question, multiple-choice questionnaire. The questionnaire was written at a sixth-grade reading level. Information concerning the subject's health care access and demographic and smoking history also was included in the questionnaire. The Cochran-Mantel-Haenszel test was used to differentiate the responses between African American and Caucasian men, and the significance level was set at p < 0.05 (Demark-Wahnefried et al., 1995).

The researchers found that African American men were significantly less likely to indicate that they have a regular doctor, p = 0.03, and to have had a DRE, p < 0.001, or PSA test, p < 0.005. A few men had delayed having a DRE test, 13% of whom were African Americans and 17% of whom were Caucasian. Eighty-two percent of African American compared to 92% of the Caucasian men reported that they had ever had a DRE. Only 28% of African American and Caucasian men reported that their doctors had discussed prostate cancer testing with them (Demark-Wahnefried et al., 1995).

Although more than 64% of men were able to identify the recommended screening timetable for the DRE as indicated by the American Cancer Society, the National Cancer Institute, and the American Urological Association, the men lacked
knowledge in other areas. Only 54% of the African American and 71% of the Caucasian males agreed that prostate cancer could exist without symptoms. African Americans were more apt than Caucasians to disagree that men with prostate cancer can live a normal life, \( p < 0.001 \). More than 91% of African Americans and 95% of Caucasians perceived cancer to be curable with early diagnosis, but 95% of the men indicated the cure would be worse than the disease. African American men rated race as a significant risk factor for prostate cancer over Caucasian men (53% vs. 33%). Caucasians noted heredity as a greater risk indicator (56% vs. 41%). "Peace of mind" was reported by 63% of Caucasians and 50% of the African Americans as the major reason they attended the prostate cancer screening program.

African Americans and Caucasians had similar perceptions about their higher chances of developing prostate cancer, 8% versus 9%, respectively, and 68% of the participants felt they had an equal chance of developing prostate cancer as the average man. Based on the descriptions of the sample, Demark-Wahnefried et al. (1995) concluded that both African American and Caucasian men had comparable knowledge and beliefs concerning prostate cancer. However, disparities existed in access to screening, understanding of the disease, types of treatment, and knowledge of risk factors between African Americans and
Caucasians. The factors cited represent major barriers to early detection among African American men.

Demark-Wahnefried et al. (1995) suggested that additional studies are needed to determine whether screening for prostate cancer is efficacious because resources are limited. The researchers emphasized that men need guidance from health care professionals regarding prostate cancer screening. Educational efforts are also needed to advise men of risk factors for prostate cancer to aid them in making informed decisions about their care.

The study by Demark-Wahnefried et al. (1995) provided the framework for the current study. The Demark-Wahnefried study identified African American men's health beliefs and screening practices for prostate cancer in the southeast. This researcher examined African American men's health beliefs and practices in the south and explored the similarities and differences related to southern African American men's beliefs concerning prostate cancer screening.

In 1990, Million-Underwood and Sanders conducted a descriptive study exploring "cancer-related knowledge, attitudes, and perceptions of African American men to determine their influence on health promotion behaviors" (p. 707). One hundred seventy-seven African American men from a large metropolitan area in Chicago were included in the study. Subjects were solicited through an intramural university athletics program.
A four-part Health Behavior Inventory was used to examine cancer-related knowledge, perceptions, cancer-related attitudes, and cancer prevention activities of the men. Findings of the study revealed that 78% (n = 138) were unable to identify the American Cancer Society acronym of CAUTION. (Change in bowel or bladder habits, A sore that does not heal, Unusual bleeding or discharge, Thickening or lump in the breast or elsewhere, Indigestion or difficult swallowing, Obvious change in a wart or mole, Nagging cough or hoarseness). The majority of the subjects were knowledgeable about the five most common risk factors of cancer, but only 16% of the participants were aware that occupational exposure to materials could result in exposure to carcinogenic agents. Of the men surveyed, 75% were aware that the American Cancer Society recommends annual physical examinations for early detection of cancer for men 40 years and older, yet only 12% identified a sigmoidoscopy, stool for guaiac, and a DRE as regular examinations to be done for prostate cancer detection (Million-Underwood & Sanders, 1990).

Eighty-five percent of the subjects indicated that routine screening for cancers should be part of routine examinations and detailed histories should be an integrated part of the physical. Still, 77% of the African American men reported that cancer testing is too time consuming and
expensive. The majority of men (74%) speculated that cancer mortality can be reduced if recommendation screening procedures were performed. More than 60% of men believed that the American diet, tobacco, and alcohol are related to the number of incidences of cancer. Six percent of the men perceived cancer as insignificant and 47% perceived cancer preventive strategies as beneficial. Fifty-six percent of the study participants paid close attention to their health; 32% avoided unhealthy foods; and 51% avoided alcohol, caffeine, nicotine, and other drugs. Only 12% of the participants had a physical examination during the past 3 years, 4% did routine testicular examination, and 95% did not do routine skin assessment for cancer (Million-Underwood & Sanders, 1990).

Million-Underwood and Sanders (1990) concluded that efficacy of screening was the most predictive of health promoting behaviors. Insignificant correlations were identified between the knowledge and perception variables. The subjects valued health education and promotion geared toward risk reduction and early cancer detection. The researcher suggested that programs designed to educate African American men should emphasize the impact of attitudes and perceptions as well as knowledge.

While the study by Million-Underwood and Sanders (1990) examined the knowledge of African American men about cancer, several key factors were identified in the study that
related to the men's health beliefs about cancer. The majority of African American men in the study reported that health care professionals placed too little emphasis on risk reduction and cancer prevention and that health care professionals have a responsibility to educate their clients about health promotion behaviors. The efficacy of screening in the above study was most predictive of health promotion behaviors and supported the intention of the current study.

In another study, Underwood (1992) attempted to identify the impact that perceptions would have on African American men participating in early cancer preventive practices and risk reduction. A convenience sample of 236 men was recruited from an African American community organization. The participants were from a midwestern portion of the United States, and the mean age of the participants was 37.

A researcher-designed instrument was used to assess the perceptions and cancer health prevention behaviors of African American men. Perceptions of health status, preventive health behaviors, and health beliefs were measured using a Likert-type scale ranging from -2 strongly disagree to 2 strongly agree.

Descriptive statistics were implemented to interpret the items of the instrument. Chi-square and t tests were used to identify powerlessness behaviors of the subjects. To
determine the relationship among the four variables, inferential procedures were employed (Underwood, 1992).

Findings related to the health status of African American men revealed a significant number of pessimistic attitudes, exemplified by 36% saying they had little power over the fate of their health. Findings related to diet revealed 36% of the men limited their intake of fatty food, 35% limited salt-cured foods, 46% consumed high-fat meats, and 64% consumed high-fat foods. To maintain their health, subjects reported avoiding occupational carcinogens, 55% limited their exposure to the sun, and 82% restrained from using tobacco. When queried about early cancer detection, only 11% of the men over the age of 40 years reported having a colorectal and prostate examination, 50% had a physical examination in the past 3 years, 10% did routine examination of their skin, and 22% did routine testicle examination (Underwood, 1992).

In reference to beliefs related to the cause of cancer, 10% of the men believed a relationship existed between diet and the development of cancer, while 85% indicated radiation, smoking, and occupational exposure can cause cancer. The majority of African American men (74%) indicated that cancer prevention is an important part of health maintenance, but 39% reported that no significant data was available to justify routine cancer screening. Furthermore, 75% of the men reported believing that the mortality rate
would not be significantly reduced even with routine screening. Eighty-four percent of the men believed that they would develop cancer in their lifetime, but only 75% indicated that the screening method recommended by the American Cancer Society would reduce the mortality rate (Underwood, 1992).

Underwood (1992) concluded that a strong correlation existed between "perceptual determinants" of cancer risk reduction and early cancer detection behaviors among African American men. African American men who believe they have power to impact their health outcome are most likely to utilize cancer prevention services, while those who perceive themselves to be helpless in regard to their health were less likely to participate in health prevention activities.

Underwood (1992) recommended that cancer prevention programs focus on increasing African American men's knowledge about cancer. One particular aspect of the study that coincided with this study was the subjects' perceptions of learned helplessness. Learned helplessness was a key factor that Underwood noted as a negative contributor to prostate screening in African American men. Learned helplessness was a deterrent in African Americans practicing cancer prevention behaviors. Learned helplessness behaviors can be compared to other patient populations.

Research conducted by Myers et al. (1996) was designed to provided insight into factors affecting African American
receptivity to prostate cancer screening. The research population was 40-70 years old. A random sample of 252 subjects was included in the study. One hundred and fifty-four men completed the survey. The sample was drawn from a population of 2,355 African American men seen by a large primary care practice in Philadelphia. Fifty-seven percent of the participants were 40-49 years of age and 45% were between 50-70 years old. Additionally, the researchers' study sought to determine factors associated with African American men's intentions to undergo prostate cancer screening.

First, Myers et al. (1996) hypothesized that positive factors associated with intention to submit to an annual prostate cancer screening exam would be age, education, marital status, family history of a positive prostate cancer, and previous prostate cancer screening. Secondly, African American men's acceptance of their susceptibility to prostate cancer is thought to provide a positive force leading to prostate cancer screening. Thirdly, African American men were thought to be influenced by beliefs regarding the effectiveness of prostate cancer screening. Just as significant, the subjects' perceived barriers to action were thought to provide a negative force leading to avoidance of prostate cancer screening. These barriers to action, which included high cost, experiencing pain, and having an abnormal examination, would deter the individual
from taking positive action. Finally, the subjects' screening intention would be positively influenced by the social norms, social groups, family members, and advice of health care providers (Becker, 1974; Myers et al., 1996).

The researchers developed a questionnaire to be used in the telephone survey. The factors used in the telephone survey were drawn from the Preventive Health Model (PHM). The data collected included social demographics, health background factors, and psychological factors, such as attitudes, perception related to prostate cancer screening, social support, and influence. Data were collected on subjects' ages, education, martial status, family history of prostate cancer, and past prostate cancer screenings.

Analysis of the data was through a variable clustering procedure, which resulted in five reliable scales. The dependent variable intention to undergo an annual prostate cancer screening examination was assessed by the answer to the statement "I would go through prostate cancer screening every year if free examinations were available"(Myers et al., 1996, p. 473). A Likert-type response scale was used accordingly, high intention versus low intention of undergoing the examination.

Sixty-four percent of the subjects perceived the risk of prostate cancer to be high among African American men, and 30% identified their personal risk as high for prostate cancer. Fifty-eight percent expressed strong belief that
screening was effective. Despite the fact that they identified screening as valuable, 41% of the men were concerned about experiencing embarrassment and discomfort, 63% were concerned about an abnormal result, and 43% were concerned about cost related to screening. Fifty-five percent of the African American men indicated they believed health care professionals were in support of prostate cancer screening. Thirty-four percent indicated they would follow screening advice given by health professionals. A strong intention to have an annual prostate cancer screening examination was expressed by 69% (Myers et al., 1996).

As hypothesized by the researchers, several PHM factors were positively associated with the intention to undergo prostate cancer screening: having had a screening examination in the past year, strong belief in screening salience and coherence, screening efficacy, perceived health care professional support of screening, and the influence of family members and friends on screening. Additionally, concern over physical discomfort and embarrassment was negatively associated with screening intention (Myers et al., 1996).

Myers et al. (1996) concluded that many African American men in this Philadelphia urban primary care clinic accepted that early cancer detection was worthwhile and feasible. The study suggested that trust in health care professionals is a key in effective education and screening
effort. The researchers recommended that more research is needed across the African American population group to assess screening receptivity and adherence to screening. The need to develop prostate cancer screening programs specially designed for African American men was made apparent by this study. Data from the study by Myers et al. (1996) may be utilized in the current study. An important concept that is germane to the current study is that health care providers can provide valuable information to African American men to promote prostate cancer screening.

In a similar study, Myers et al. (1994) conducted a telephone survey of older (50-74 years of age) African American men to determine their receptivity to prostate cancer screening on a regular basis. One hundred and thirty perspective participants were sent a letter notifying them that they would be contacted by telephone regarding completing a telephone survey about prostate cancer and screening. The participants were questioned about their knowledge, attitudes, and beliefs in reference to prostate cancer and screening during the telephone survey. Based on hypotheses taken from other studies, Myers et al. (1994) hypothesized that age, education, and personal and family history of past prostate cancer experiences would be positively related to screening.

The analysis of the data was conducted in three stages. Initially, frequency and mean were used to describe the
characteristics of the study. Next, the relationships between the independent variables and the dependent variables (receptive to annual and semiannual screening) were examined. Then logistic modeling of the data was performed to determine crucial factors that were independently associated with self-reported receptivity to prostate cancer screening. The analysis revealed a statistically significant difference (a ≤ 0.05) (Myers et al., 1994).

African American men who feared having a positive test for prostate cancer was a negatively related to outcome variable and was a statistically significant factor, p = 0.03. Subjects perceived preventive cancer screening as significant, useful, and accessible, p = 0.03, having an enlarged prostate, p = 0.002; perceived population risk, p < 0.000); receptivity to semiannual screening, (p = 0.0001; receptivity to frequent screening, p = 0.0175, and family social influence, p = 0.0082. The researchers concluded that African American’s receptivity to semiannual and annual prostate cancer screening was strongly related to their perceived susceptibility. Additionally, African American men were willing to undergo regular prostate cancer screening if they knew that their population was at a higher risk for developing prostate cancer than Caucasian men (Myers et al., 1994).
Myers et al. (1994) concluded that African American men were receptive to undergoing prostate cancer screening, but they were more receptive to annual screening rather than semiannual testing. African American men's participation in screening may be increased if they are aware that they are more susceptible to developing prostate cancer than Caucasian men and the importance of early detection for cancer is expressed to them.

An awareness of the importance of cancer screening improved compliance in the study group. The current study focused on health beliefs utilizing the Health Belief Model, which included the perception of susceptibility and awareness of vulnerability to diseases. An additional factor was that participation and screening were facilitated by providing health education. Knowledge of a person's beliefs, knowledge, and attitudes about preventive health behaviors was an integral part of the Health Belief Model and one key in increasing the knowledge of men about prostate cancer (Myers et al., 1995).

Boehm et al. (1995) conducted an experimental study to evaluate the effectiveness of a prostate educational cancer screening program offered in African American churches in a major midwestern city. The purpose of the program was to increase the knowledge and self-efficacy in the participants. A convenience subsample of 123 African American men from a larger quasiexperimental study of
educational and screening programs was included in the study. The men were recruited from within the church community using a combination of the following: specially designed posters with a photo of African American men, an announcement in the church newsletter, an announcement by the pastor, and a presentation and announcement done by a role model. The average age of the male participants was 52 years. Approximately 75% of the men reported having a DRE in the past. African American men who had previously been diagnosed and treated for prostate cancer served as the role models of the desired behaviors. The role models were trained lay educators. Participants were required to attend the educational and screening programs presented by an African American urologist and African American prostate cancer survivors. Additionally, the participants were required to complete both pretests and posttests of the Prostate Cancer Screening Knowledge Inventory and Prostate Cancer Screening Self-Efficacy Scale to meet criteria for inclusion in the study. Both tests were administered to the participants before and after the cancer educational and screening programs.

Measures of central tendency and variability were used to analyze the data for the knowledge inventory and self-efficacy scales. Pearson’s correlations were computed between the pretest and posttest knowledge inventory scores and between the pretest and posttest self-efficacy scale.
scores. Paired $t$ tests were used for all of the data analyses. The alpha was set at 05. The mean pretest knowledge inventory score was 8.7, and the mean posttest score was 10.1. The $t$ test showed a significant improvement in the participants’ prostate cancer screening program, $t(122) = -9.73, p < .001$. The mean pretest self-efficacy scale score was 14.6 with the mean posttest self-efficacy scale score increasing to 17.0. After the educational program, the participants showed a significant improvement in self-efficacy (Boehm et al., 1995).

Boehm et al. (1995) concluded that the prostate cancer educational and screening program did increase the African American’s knowledge about prostate cancer and prostate cancer screening procedures. The researchers recommended that future research be done to determine the relationships among self-efficacy, knowledge, and yearly examinations for prostate cancer.

Boehm et al. (1995) also found that education increased knowledge about prostate cancer and prostate cancer screening. Although the study by Boehm et al. used an intervention to determine the effect of education on a particular group’s behavior, both Boehm et al. and the current study explored African American men’s health beliefs and health practices. An educational screening program was the modifying factor in the behavior change of a midwestern group of Africa American males in the study by Boehm et al.
According to the Health Belief Model, an individual must have a belief in screening and knowledge of the disease to make changes in a behavior. African American males must have beliefs in the necessity of prostate cancer screening. The health beliefs of a southern group of African American men were explored in the current study.

Summary

In summary, a review of literature addressing research related to the health beliefs and practices of African American men concerning prostate cancer screening was conducted. Studies indicated that African American men's health beliefs would influence their utilization of prostate cancer prevention services (Demark-Wahnefried et al., 1995; Million-Underwood & Sanders, 1990; Myers et al., 1996; Myers et al., 1994; Underwood, 1992).

Boehm et al. (1995), Million-Underwood and Sanders (1990), Myers et al. (1994), and Myers et al. (1996) noted that African American men tend to accept the idea that early cancer detection is important and beneficial and lay social support could be a key factor in influencing African American men to participate in preventive cancer screening. Myers et al. (1996) and Demark-Wahnefried et al. (1995) proposed that a strong and supportive provider-patient relationship can promote access to vital information that is necessary to make an informed decision about participating in prostate cancer screening and negotiating follow-up care.
Boehm et al. (1995) found that African American males demonstrated increased knowledge and self-efficacy after participating in prostate cancer education and screening programs. Myers et al. (1994) concluded that African American participation in cancer screening programs would increase if the health care providers educated them about the importance and efficacy of early detection. The review of literature revealed that health beliefs and practices of African American men were influenced by many factors. The general consensus of the studies consistently emphasized the importance of education to increase African American men’s participation in prostate cancer screening.
Chapter III

The Method

The purpose of this study was to examine the health beliefs and practices among African American men concerning prostate cancer screening. In Chapter III, the research design, variables, limitation of the study, setting, population, and sample are delineated. Procedures for data collection, methods for data analysis, and steps taken for the protection of human subjects are explained.

Research Design

A descriptive design was chosen for this study to examine the health beliefs and practices among African American men concerning prostate cancer screening. Polit and Hungler (1995) defined a descriptive study as a research design that determines the characteristics of individuals or situations and documents aspects of a situation as it naturally occurs.

Variables

Variables of interest. The variables of interest in this study were the health beliefs and practices among African American men concerning prostate cancer screening.

Control variables. The control variables included age, with all the participants being 40 years and older; race,
with all the participants being African American; sex, which included males only; geographical location in which the study took place; and the ability to complete a questionnaire.

Setting, Population, and Sample

The setting for this study was several churches in the southeastern United States. The churches differed in religious affiliation which included both Baptist and Pentecostal. The population of the metropolitan area was 265,968 in 1990 (World Book, 1997). African Americans consisted of 63% of the total population. The area's largest employers included service organizations, such as the U.S. Government, universities, and medical facilities. The accessible population for this study included African American men 40 years of age and older. The minister of each church provided a selection of target groups for the researcher. In order to access a satisfactory sample of men for the study, the researcher selected larger churches in the area. The sample (N = 91) included all clients who met criteria outlined in the theoretical definition of the term for this study and who agreed to participate in the study. A sample of convenience was used because the population being sampled was readily accessible to the researcher and a limited time frame was allotted for the study.
Methods of Data Collection

**Instrumentation.** Data were collected using the Prostate Cancer Screening Questionnaire. The Prostate Cancer Screening Questionnaire consisted of 20 questions in a multiple choice format. The questionnaire was a self-administered survey used to elicit subjects' prostate cancer knowledge, health beliefs, and practices. Additionally, demographic information was included to identify characteristics of the study group. The Prostate Cancer Screening Questionnaire was written at a sixth-grade reading level. The questionnaire was developed by researchers at Duke University and was derived from a previous instrument used to examine knowledge, beliefs, and prior screening behavior of women regarding mammography and breast cancer. The questionnaire had not been formally validated, but it had been field-tested and refined for more than 3 years (Demark-Wahnefried, 1992).

The first two items of the questionnaire addressed the subjects' health care access. Items 3 through 14 examined the subjects' knowledge, beliefs, and prior screening practices. Item 15 investigated the participants' smoking histories. Questions 16 through 20 provided demographic data about the participants. Each of the 20 questions was given a percentage score.

**Procedures.** This research was first approved by the Mississippi University for Women Committee on the Use of
Human Subjects and Experimentation. Potential churches were selected based on convenience and accessibility. The researcher then called the minister at each of the selected churches to seek initial consent to solicit parishioners for the study. The purpose and nature of the study were explained to each minister during the initial telephone conversation. All ministers who gave the researcher verbal phone consent to proceed with the study at their churches were each sent a letter requesting written permission to conduct the study. The researcher subsequently visited each prospective minister prior to conducting the study to discuss appropriate timing and group selection. Data collection was conducted during the month of April 1997. The researcher visited each church prior to Wednesday bible study meeting and invited men who met the inclusion criteria to participate in the study. The purpose, data collection procedure, and nature of the study were explained collectively to each group. The participants were informed that participation in the study was confidential and voluntary and that they had the right to withdraw from the study at any time prior to data analysis.

African American men who met the age requirement and agreed to participate were given an informed consent form explaining the purpose and nature of the study. After the consent forms were signed, the researcher distributed a prostate cancer screening questionnaire to each participant.
Participants then were given time to ask questions regarding the study. Participants took approximately 20 min to complete the questionnaires. After the questionnaires were completed, the researcher collected them. Appreciation was expressed to the participants and ministers for their time and cooperation.

Methods of Data Analysis

Data were analyzed using descriptive statistics. Descriptive statistics included measures of frequency and percentages to analyze health beliefs, health practices, and demographics of the subjects. The total number of responses to each item was calculated to provide the frequency. Each item was calculated by dividing the total number of responses by the number of subjects to each question, which provided the percentage.
Chapter IV
The Findings

The purpose of this study was to examine health beliefs and practices among African American men concerning prostate cancer screening. A descriptive study was conducted among members from various churches located in an urban area of north-central Alabama. The research sample consisted of 91 African American men. A 20-question, self-administered questionnaire was utilized to collect the data (Demark-Wahnefried, 1992). Data were analyzed using descriptive statistics. Chi-square statistics were applied to the responses comparing variables.

In this chapter the data collected and analyzed for the study are presented. Characteristics of the sample and a summarization of data analysis in relation to the research questions are described.

Description of the Sample

Of the 91 men surveyed, 100% were African American. Table 1 shows that the participants had a variety of educational backgrounds. More than half of the participants had some college education. Only 13% had less than a high school education. The majority of the men (78.4%) were married at the time of the survey, and 11.4% of them were
Table 1

Educational Background of the Study's Sample

<table>
<thead>
<tr>
<th>Education Completed</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th grade or less</td>
<td>7</td>
<td>8.1</td>
</tr>
<tr>
<td>Some high school</td>
<td>4</td>
<td>4.7</td>
</tr>
<tr>
<td>High school graduate</td>
<td>15</td>
<td>17.4</td>
</tr>
<tr>
<td>Technical school</td>
<td>8</td>
<td>9.3</td>
</tr>
<tr>
<td>Some college</td>
<td>18</td>
<td>16.3</td>
</tr>
<tr>
<td>College graduate</td>
<td>20</td>
<td>20.9</td>
</tr>
<tr>
<td>Postgraduate work/degree</td>
<td>20</td>
<td>23.2</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Note. N = 91.

widowed. The remaining respondents were divorced or single. The ages of the men ranged from 40 years to over 80 years with the largest percentage, 30.9%, in the 40 years to 49 years age group. Of the remaining sample, 28.6% were in the 60 years to 69 years age group, 22.6% were in the 50 years to 59 years age group, 16.7% were in the 70 years to 79 years age group, and 1.2% listed their age as greater than 80 years. Annual household income ranged from less than $14,999 (8%) to greater than $45,000 (30.7%). In the other income brackets, 32% had incomes in the range from $15,000 to $24,999; 16% had incomes in the range from $25,000 to
 About half of the men (52.7%) had smoked cigarettes at some time in their lives, and, of those who smoked, they had smoked an average of 10 cigarettes a day for 20 years. The men rated themselves as being in either excellent (15.1%), above average (34.5%), or average (44.2%) health when compared to other men their age. These ratings were consistent for each age group for both smokers and nonsmokers alike.

Results of Data Analysis

In this study, two research questions were answered. Descriptive statistics were utilized to analyze the answers to the questions. The first research question was: What are the health practices among African American men concerning prostate cancer screening? The responses to questions on the health practices are presented in Appendix A and Appendix B.

Of those men surveyed, 91.2% responded that they had a regular doctor that they saw when they are sick. In addition, 86.8% of the men had health insurance.

The questionnaire explained the procedure for a DRE, then asked if the men had ever had such a test. The findings indicated the test had been performed on 78.0% of the respondents, with the majority of the tests performed within the last year (65.7%). An additional 17.8% of the men had had the test within 1 to 2 years. In Table 2 the number of
African American men who had a DRE is identified and listed by income ranges. The men were asked if they had ever "put off" a DRE, and 83.5% of them responded that they had not, with 4% saying that they had, in fact, "put off" a DRE. There was no significant correlation found in the men's income ranges and the incidences of a DRE. Most men in each income range had had a DRE.

Table 2

<table>
<thead>
<tr>
<th>Income</th>
<th>Digital Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Under 14,999</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

The questionnaire also described a PSA test and asked the men if they had ever had such a test. Of the men, 51.6% answered "yes," and 72.3% further stated that they had had the test within the last year, and 19.1% had had the test 1 to 2 years ago; almost as many either had not had the test (27.5%) or were not sure if they had ever had it or not (17.6%). The majority of the men (61.5%) stated that their doctor had talked to them about having a test for prostate cancer.
The second research question was: What are the health beliefs among African American men concerning prostate cancer screening? The responses to questions on the health beliefs are presented in Appendices C, D, E, F, and G. A large majority, 73.9%, of the men stated that a man over the age of 40 years should have a DRE once a year, and 11.4% felt that the test should be performed every 2 years. Most of the men who responded to the survey (60.4%) knew someone who had prostate cancer, but only 30.7% of the men had a direct blood relative such as a grandfather, father, brother, uncle, or son, who has or had prostate cancer.

The men were also asked to rate their own chances of getting prostate cancer someday. The majority, 45%, considered their chances to be the same as the average man, but a close second at 39.6% considered their chances to be less than the average man. Only 7.7% rated their chances as more than the average man. These results were consistent across every category except age. A Chi-square test for independence was performed comparing the variables of perceived risk and age, and the variables were found to be statistically dependent, \( \chi^2 (6, N = 79) = 11.68, p < 0.10 \). This was statistically significant, \( p = 0.069 \). The men in the 50 to 59 years age group were more likely to rate their risks as the same as the average man as opposed to less than the average man. Twenty-one percent of the men in the 50 to 59 age group rated their risk as less than the average man.
compared to 44% of those aged 40 to 49 years. Fifty percent of those older than 59 years rated their risks as less than the average man. Table 3 shows how the African American men rated their own chance of developing prostate cancer.

Table 3

**African American Men’s Opinions Regarding Their Own Risk of Developing Prostate Cancer Expressed by Age Categories and Numbers**

<table>
<thead>
<tr>
<th>Risk</th>
<th>40-49</th>
<th>50-59</th>
<th>60-69</th>
<th>79-79</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than average man</td>
<td>11</td>
<td>4</td>
<td>11</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td>Same as average man</td>
<td>9</td>
<td>14</td>
<td>11</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>More than average man</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>19</td>
<td>23</td>
<td>12</td>
<td>79</td>
</tr>
</tbody>
</table>

The men were unsure what effects heredity had on prostate cancer. Thirty-six percent of the men felt that if a man’s father had had prostate cancer, the risk of the son was increased, but 37.2% answered that they did not know if it had an effect, and 25.6% felt that it did not make any difference. Forty-seven percent indicated that black men were more likely to get prostate cancer, 2.1% said white men were more likely, and 17.6% answered race is not a risk factor, and 29.7% did not know.
The questionnaire included statements concerning prostate cancer, and the men were asked to respond "agree," "disagree," or "didn't know" to the various statements. Statement 1 stated, "Prostate cancer can be cured if caught early enough." The men were in strong agreement with this statement with 90.1% expressing the belief that this statement is true. Statement 2 stated, "A man with prostate cancer can still live a normal life." There was less agreement here, with 62.6% of the sample agreeing with the statement, 13.2% disagreeing with the statement, and 17.6% responding that they did not know. Statement 3 stated, "With prostate cancer, the cure is worse than the disease." Although the majority (46.2%) disagreed with this statement, 35.2% answered that they did not know, and 6.6% agreed. Statement 4 stated, "A man can have prostate cancer without having pain or other symptoms." Agreement with this statement was listed by 39.69% of the respondents, while 18.7% disagreed, and 34.1% indicated they did not know. Statement 5 stated, "It's better to leave well enough alone. If you have prostate cancer, it's better not to know." Eighty-seven percent of the men disagreed with this statement. Statement 6 stated, "I've been pretty healthy all my life. I don't need to have my prostate checked. Eighty-seven percent of the participants also disagreed with this statement."
Chapter V

The Outcomes

Prostate cancer is the leading cancer in American men and is the second leading cause of cancer-related deaths. African American men have the highest incidence of prostate cancer in the world (ACS, 1996). Studies have indicated that African American males are the least likely to participate in prostate cancer screening programs (Demark-Wahnefried, Catoe, Paskett, Robertson, & Rimer, 1993; Myers, Wolfe, Balshem, Ross, & Shodak, 1994; Underwood, 1991). With the increased incidences of cancer in African American males, the need for identification of their health beliefs and practices is imperative in planning prostate cancer screening activities.

Using a descriptive study, the researcher sought to identify health beliefs and practices among African American men concerning prostate cancer screening. The Becker Health Belief Model (Becker, 1974) served as the theoretical framework. This chapter includes a discussion of the findings in relation to the research questions, the conclusions, implications for nursing, and recommendations.
Summary and Discussion of Findings

The sample consisted of 91 African American men, age 40 to more than 80 years, who were recruited from local churches in north-central Alabama. The participants represented an educational level of eighth grade or less to postgraduate, with over half of the sample having completed at least some college. A large percentage of the subjects were members of middle-income families. Approximately 80% of the participants were married at the time of the survey.

The findings of the study sample suggested that the men believed that prostate cancer screening would be efficacy. The men who believe prostate cancer screening tests will prevent prostate cancer are more likely to take action to prevent the threat of this disease. The majority of men in the current study had participated in prostate cancer screening tests within the last year. Fewer than 17% had ever "put off" a DRE. Additionally, 78% of the men had a DRE and 51.6% had a PSA test within the past 2 years. This supports the study by Million-Underwood and Sanders (1990). Most of the men felt that cancer mortality can be reduced if recommendation screening procedures are performed. The researchers concluded that efficacy of screening was the most predictive of health promoting behaviors. However, the current study findings differed from the Million-Underwood and Sanders sample in which only 12% of the participants had a physical examination during the past 3 years. A probable
reason for the current findings is most of the men had higher education and few financial barriers; therefore, they were better informed about prostate cancer and were more likely to have insurance.

Underwood (1991) ascertained that the majority of African American males had pessimistic beliefs concerning early cancer detection methods; whereas, 90.1% of the study sample indicated that prostate cancer could be cured if caught early enough. Men who are optimistic and feel they can impact their health outcome will likely utilize cancer screening tests, while those who believe themselves to be helpless in regard to their health are less likely to utilize cancer screening tests. The men in the current study presumably believe they have control of their health outcome. Therefore, they took action to prevent prostate cancer. This is evident by the high percentage of responses from the sample indicating they had a positive attitude about the efficacy of prostate screening.

Demark-Wahnefried et al. (1995) found that only 28% of men had been educated by their health care providers concerning prostate cancer screening. In this study, however, 61.5% of the men had discussed with their doctors the need for prostate cancer screening. The fact that many of the men responded in this fashion suggests that having a regular doctor may increase prostate cancer screening.
Demark-Wahnefried et al. (1995) found that African American men were less likely than Caucasian men to believe that men with prostate cancer can lead a normal life. However, in this sample a large percentage (67.1%) believed that a normal life was possible. Although 18.8% did not know the answer, only 14.1% of the sample in this study felt that a normal life was not possible. Clearly, to these men, cancer is not seen as a death sentence. Again, the differences in past and current findings may be attributed to the higher educational level, better health care, and the overall socioeconomic status of the current sample.

Another comparative study was the research by Myers et al. (1996) with African American men from urban Philadelphia. In the Myers et al. study, 64% of the men perceived the risk of prostate cancer to be high among African American men; 48.9% of this study sample perceived race as a factor, while 58% felt that screening should be done at least every 2 years for all men over the age of 40 years. As in the Myers et al. study, the sample perceived preventive-cancer screening as significant and useful. Myers et al. recommended that the provision of health education can facilitate participation and screening. Nurse practitioners in primary care may provide an effective channel through which increased awareness of African American men's susceptibility to prostate cancer may be disseminated.
In a study by Boehm et al. (1995), the effects of an educational screening program were considered. As with this sample, the men were selected from within the church community. In the Boehm et al. study, 73% of the men had a DRE. Similarly, 78% of the men in the current study's sample had a DRE. After participation in an educational program, Boehm et al. concluded that their intervention did increase knowledge and change behavior. While the current study did not include an educational program, screening practices were found among this sample as with the Boehm et al. population. Sixty-two percent of the participants in this study stated that their doctors had talked to them about having a test for prostate cancer; such a discussion most likely served as a cue to action for the men in this study to have a prostate exam.

The Becker model described several factors that affect the beliefs and practices of men. The first factor was perceived susceptibility. Those who are not aware of their vulnerability are not as likely to have adequate preventive health practices. Chi-square analysis was found to be statistically significant, $p = 0.069$. Twenty-one percent of men in the 50 to 59 years age group were more likely to rate their risks of prostate cancer as the same as the average man compared to 45% of the other men. In this study's sample, 45% of the men reported that they felt their chances of developing prostate cancer someday was the same as the
average man. Those who felt their chances were less than the average man numbered 40%, which indicated that, even with this sample, some are unaware of their own susceptibility. Even though the majority of men had some college education, had prostate cancer screening, and had discussed prostate cancer tests with their doctor, more than half of the participants were not aware that family history of prostate cancer or African American race increased one's chances of developing prostate cancer.

The second factor described by Becker (1974) was perceived seriousness, which was indicated through mental anxiety concerning the contemplation of an illness and its effects. This sample reflected some ambiguity in terms of seriousness. Forty percent of the sample answered that they did not know if the cure of prostate cancer is worse than the disease. Also, 36.9% of the sample reported that they did not know if a man could have prostate cancer without pain or other symptoms. In spite of some apparent uncertainty concerning the seriousness of prostate cancer, a strong 86.7% of the sample disagreed with the statement, "It is better to leave well enough alone. If you have prostate cancer, it is better not to know." Therefore, it appeared that, although the men of the sample share some of the common barriers described by Becker, they have overcome the barriers to some degree and believed that they must take action instead of letting the disease take its course.
Becker's (1974) third factor was perceived benefit which influenced individuals to take action to prevent an illness. In this sample, 78.0% of the men had a DRE within the past 2 years, and 83.5% of the men responded that they have not "put-off" such an exam. A PSA test had been performed on 51.6% of the men. Also, 100% of the sample rated their own health as either average, above average, or excellent. This indicated that the men were health conscious and saw a personal benefit in preventive testing.

Perceived barrier was Becker's (1974) fourth factor. The sample was different from the population in previous studies of African American males. The men of this sample appeared to have fewer barriers, perceived greater benefits, and had the motivation to take action toward preventative health care. While typical barriers include lack of medical coverage and lack of education concerning medical care, 86.8% of this sample reported having health insurance, and 91.2% reported having a regular doctor. The lack of barriers among the group and the higher instance of preventive tests probably facilitated the overall positive attitudes and health practices of the current sample.

Becker's final factor was a cue to action. This particular sample seemed to value good health as a cue to action. In addition, 30.7% of the men had a direct blood relative who has or had prostate cancer. Forty-three percent of the men felt that race is a risk factor for prostate
cancer and that African American men were at a higher risk than others. Because 100% of the sample was African American, it can be concluded that race was recognized as a cue to action. This information emphasized a need to assure that primary care providers are aware that African American men are at greater risk of prostate cancer and that they are educating their clients about this risk.

Conclusions

The following conclusions were derived from the current study:

1. When financial barriers are removed, a positive relationship exists between African American men’s health beliefs and health practices.

2. When subjects are educated about prostate cancer, they are more inclined to report a more favorable view toward the curability of prostate cancer or the ability of a man with prostate cancer to lead a normal life.

3. When an individual believes he is susceptible to a condition, this belief may provide a force to take action to prevent an illness.

4. Awareness of family history and African American heritage as risk factors for prostate cancer should be increased among the population at risk.

5. Becker’s Health Belief Model is an appropriate theoretical framework for investigation of African American men’s health beliefs and practices.
Limitations

The design of the study dictated certain limitations upon the generalizability of the findings. The study was conducted using a non-randomized sample. Subjects were solicited from a specific geographical area. The sample was biased in that the subjects were probably better educated than the general population of African American men. The instrument contained sensitive questions, and the accuracy of self-reported responses was dependent on the subjects’ willingness to reveal their true health beliefs and practices about the issues.

Implications

These findings have important implications for nurse practitioners in altering erroneous health beliefs and encouraging practices related to early identification and risk-reduction of prostate cancer in African American men. Implications are suggested for theory, nursing research, education, and practice.

Theory. Testable theories provide a knowledge base for the science of nursing. Through research these theories are examined. The Becker’s Health Belief Model has been applied and validated in previous nursing research. This study provides new evidence to support Becker’s Health Belief Model as a conceptual framework for assessing health beliefs and practices among African American men.
Research. Limited research examining African American men's health beliefs and practices concerning prostate cancer screening exists. Findings of this study suggest that more research is needed to examine the effects of health beliefs and health practices that provide a force to take action to prevent an illness.

Education. The increasing cost of health care as well as the focus of health care from "illness and cure" to "wellness and care" mandates that future nurses place emphasis on health promotion and disease prevention activities. The findings from this study reemphasized that nurse practitioner students should be taught the knowledge and skills necessary to implement a plan of care which focuses on health beliefs and practices in the African American high-risk group—a plan which will allow future practitioners to place emphasis on health promotion activities which incorporate health beliefs and practices. Such an emphasis may provide a catalyst to increase African Americans' participation in prostate cancer screening.

Practice. Education efforts are needed to inform African American men about the risk factors of prostate cancer and the necessity of prostate cancer screening. Early detection of prostate cancer would allow for early intervention. As indicated in this study, even though subjects lack the typical barriers encountered by many African Americans, they may not be fully knowledgeable about
their susceptibility or the seriousness of the disease that is known to be more prevalent in their race. Therefore, in providing holistic care, taking into account the needs and strengths of the whole person, the practitioner must acknowledge the clients' health beliefs and practices. Steps should be taken by the practitioner to evaluate and, when possible, integrate the health beliefs and practices of African American men in the clinical plan of care. The practitioner should keep in mind that a plan that is congruent with the clients's own beliefs has a better chance of success.

The findings of this study contribute to existing knowledge on health beliefs and practices among African American men concerning prostate cancer screening. Additional studies directed toward examining health beliefs and practices of African American men concerning prostate cancer screening in the area of nursing research are needed.

Recommendations

Based on the findings of this study, recommendations for further research in nursing involve:

1. Investigation of this study's sample in a longitudinal study to determine if participants' beliefs and practices are reflected in either a lower incidence of prostate cancer or a higher 5-year survival rate.
2. Development of valid and reliable research instruments for measuring health beliefs and practices among African American men concerning prostate cancer screening.

3. Replication of this study with African American subjects from a diverse socioeconomic status.

4. Replication of this study implementing an experimental treatment of teaching/learning strategies.

5. Replication of this study using a random assignment of participants to a control and experimental groups.

Findings from this study mirror the broader research studies on health beliefs and practices among African American men concerning cancer screening. This study did reveal a greater need for educating all African American men about their higher risk for prostate cancer.
References


Appendix A

Figure 1. Responses to Question 3--Have You Ever Had a Digital Rectal Exam?
Figure 1. Responses to Question 3 -- Have You Ever Had a Digital Rectal Exam?
Appendix B

Figure 2. Responses to Question 5—Have You Ever Had a Prostate Antigen Test?
Figure 2. Responses to Question 5—Have You Ever Had a Prostate Antigen Test?
Appendix C

Figure 3. Responses to Question 9—What Do You Think Your Chances Are of Getting Prostate Cancer Someday?
Figure 3. Responses to Question 9—What Do You Think Your Chances Are of Getting Prostate Cancer Someday?
Appendix D

Figure 4. Responses to Question 11--Who Do You Think Is More Likely to Get Prostate Cancer?
Figure 4. Responses to Question 10—Who Do You Think is More Likely to Get Prostate Cancer?
Appendix E

Figure 5. Responses to Statement 14 B—
A Man With Prostate Cancer Can Still Live a Normal Life.
Figure 5. Responses to Statement 14B--A Man With Prostate Cancer Can Still Live a Normal Life.
Appendix F

Figure 6. Responses to Statement 14C--
With Prostate Cancer, the Cure Is Worse
Than the Disease
Figure 6. Responses to Statement 14C--With Prostate Cancer, the Cure is Worse than the Disease.
Appendix G

Figure 7. Responses to Statment 14 D--
A Man Can Have Prostate Cancer Without Having
Other Symptoms
Figure 7. Responses to Statement 14D-- A Man Can Have Prostate Cancer Without Having Other Symptoms.
Appendix H

Approval of Committee on Use of Human Subjects in Experimentation
April 1, 1997

Ms. Beverly A. Howard  
c/o Graduate Program in Nursing  
Campus

Dear Ms. Howard:

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed research upon the condition that you provide the committee with information on how the subjects will be chosen and how and when the questionnaires will be distributed.

I wish you much success in your research.

Sincerely,

Susan Kupisch, Ph.D.  
Vice President for Academic Affairs

SK:wr

cc: Mr. Jim Davidson  
Dr. Mary Pat Curtis
Appendix I

Letter to the Committee on Human Subjects on How Subjects Will Be Chosen and When the Questionnaires Will Be Distributed
April 8, 1997

Members of the Committee on Human Subjects
Office of the Vice President for Academic Affairs
Eudora Welty Hall
P.O. Box W-1603
Columbus, MS 39701

Dear Committee Members:

The subjects for this study on health beliefs and practices among African American men concerning prostate cancer screening will be chosen from selected churches in north central Alabama. The researcher will obtain verbal and written consents from the minister of each church. The researcher will visit each church prior to Wednesday bible study meeting and invited men who met the inclusion criteria to participate in the study. The purpose, data collection procedure, and nature of the study will be explained collectively to each group. Participants confidentiality and voluntary status will be explained to the groups. Each participants will be asked to complete a consent form; the questionnaires will be distributed to each subjects. Data collection will be conducted during the month of April, 1997.

Sincerely,

Beverly A. Howard, FNP Student
Appendix J

Introductory Letter and Informed Consent
Introductory Letter and Informed Consent

Dear Participant:

My name is Beverly Howard. I am a registered nurse, working on my master's degree at Mississippi University for Women. As part of my master’s degree requirements, I am conducting a study on African American men to examine their health beliefs and practices about prostate cancer screening. The outcome of the study may not be of direct benefit to you, but it will be available to assist the medical profession in planning culture-appropriate strategies to meet the need of African American men in prostate cancer screening.

All information from the questionnaires will be confidential and will be reported as a group score. No names will appear in the study. Your participation in this study is completely voluntary; you may withdraw from this study at any time prior to data analysis. Should you decide to participate in this study, you will be asked to complete a questionnaire. The completion of the questionnaire will require approximately 15 minutes. Thank you for taking time to complete the questionnaire.

Sincerely,

Beverly A. Howard, RN, BSN

I have read the above letter and understand its contents, the criteria for my participation, and the purpose of the study. I understand that measures will be taken to ensure confidentiality. I am aware that I may withdraw from this study at any time. I agree to participate in the study.
Appendix K

Permission to Use the Prostate Screening Questionnaire
December 2, 1996

Ms. Beverly Howard  
1744 Winewood Road  
Birmingham, AL 35215

Dear Ms. Howard;

I am honored that you are using our Prostate Cancer Screening Questionnaire in your study. Although the questionnaire has not been formally validated, it was derived from existing instruments used to ascertain similar knowledge, beliefs and prior screening behavior regarding mammography and breast cancer (see publications of Rimer et al). The version in your possession is the product of a field-tested instrument that was continually refined over three years of testing.

Indeed, the area of prostate cancer is under-researched. Please know that I wish you the best of luck as you pursue your investigation. If I can be of further assistance, please don’t hesitate to call.

Sincerely,

Wendy Demark-Wahnefried, Ph.D., R.D., L.D.N.  
Assistant Research Professor of Medicine  
Assistant Director/Stedman Center for Nutritional Studies
Appendix L

Prostate Cancer Screening Questionnaire
"This is a survey to find out what men think about prostate cancer. Please help us gain a better understanding of what we can do to improve screening for this disease by completing this questionnaire. Thank you" (Demark-Wahnefried, 1992, p. 1).
NOTE: The following questionnaire by Demark-Wahnefried, 1992, Duke University Medical Center: Author. Reprinted with permission.
1. Do you have a regular doctor that you see when you are sick?

Yes □ 1
No □ 0

2. Do you have health insurance?

Yes □ 1
No □ 0

3. A Digital Rectal Examination is when the prostate is felt by a health professional by inserting a gloved finger into the rectum and gently pressing on the prostate to feel for lumps. Have you ever had a Digital Rectal Exam?

No □ 0
Yes □ 1
If yes,

How long ago?

Within the last year □ 1
1-2 years ago □ 2
2-3 years ago □ 3
3-4 years ago □ 4
4-5 years ago □ 5
More than 5 years ago □ 6
Don’t remember □ 8
4. Have you ever "put off" a digital rectal exam?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

If yes, why did you put off the exam? (check all that apply)

Didn't feel it was needed □ 01
Cost too much □ 02
I don't have a doctor □ 03
I don't go to doctors unless I have problems □ 04
Doctor didn't tell me to have one □ 05
Too embarrassing □ 06
Too many other health problems □ 07
Had trouble fitting it into my schedule □ 08
The exam is painful □ 09
Other (please tell us) □ 10

5. A Prostate Specific Antigen Test is where blood is drawn and tested for a protein linked to the prostate gland. Have you ever had a Prostate Specific Antigen Test?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>I don't know</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

If yes, how long ago?

Within the last year □ 1
1-2 years ago □ 2
2-3 years ago □ 3
Over 3 years ago □ 4
Don't remember □ 8
6. Has your doctor ever talked to you about having a test for prostate cancer?

No □ 0
Yes □ 1

If yes, ↓

What tests did your doctor mention?
(Check all that apply)

Digital Rectal Examination □ 1
Prostate Specific Antigen Testing □ 2
Ultrasound □ 3
Biopsy □ 4
Don’t remember □ 8

7. Do you know anyone who has had prostate cancer?

No □ 0
Yes □ 1

If yes, ↓

Please check all that apply to that person (those people):

They lead full, normal lives □ 01
They have sexual problems (i.e. unable to have an erection) □ 02
They have trouble with bladder control □ 03
They are very ill with prostate cancer □ 04
They died of prostate cancer □ 05
Although they have (had) prostate cancer, they have (had) other health problems that are (were) worse □ 06
Other (please tell us) ____________________________ □ 07
8. Do you have a direct blood relative who has or had prostate cancer (i.e. grandfather, father, brother, uncle, or son)?
   
   Yes □ 1
   No □ 2

9. One out of 11 American men will develop prostate cancer during his lifetime. What do you think your chances are of getting prostate cancer someday?
   
   Less than average □ 1
   The same as average man □ 2
   More than the average man □ 3

10. Race is a risk factor for some diseases like high blood pressure and diabetes. Who do you think is more like to get prostate cancer?
    
   White men □ 1
   Black men □ 2
   Race is not a risk factor for prostate cancer □ 3
   Don't know □ 8

11. Who do you think is more likely to get prostate cancer?
    
   A man whose father has had prostate cancer □ 1
   A man whose father has not had prostate cancer □ 2
   It doesn't make any difference □ 3
   Don't know □ 8
12. How often do you think a man over the age of 40 should have a digital rectal exam?

- Never □ 1
- Once every 5 years □ 2
- Once every 3 years □ 3
- Once every 2 years □ 4
- Once every year □ 5
- Don’t know □ 8

13. How would describe your health compared to other men your age?

- Excellent □ 5
- Above average □ 4
- Average □ 3
- Below average □ 2
- Poor □ 1

14. Do you agree or disagree with the following statements? Please check the appropriate box.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Disagree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate cancer can be cured if caught early enough.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 8</td>
</tr>
<tr>
<td>A man with prostate cancer can still live a normal life.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 8</td>
</tr>
<tr>
<td>With prostate cancer, the cure is worse than the disease.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 8</td>
</tr>
<tr>
<td>A man can have prostate cancer without having pain or other symptoms.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 8</td>
</tr>
<tr>
<td>It’s better to leave well enough alone.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>If you have prostate cancer, it’s better not to know.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 8</td>
</tr>
<tr>
<td>I’ve been pretty healthy all my life.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>don’t need to have my prostate checked.</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 8</td>
</tr>
</tbody>
</table>
15. Have you ever smoked cigarettes?
   No □ 0
   Yes □ 1
   If yes,
   
   How many years have (did) you smoke(d)?
   ____ ____ years

   On the average, how many cigarettes do (did) you smoke each day?
   ____ ____ ____ cigarettes

16. What is the highest level of education you have completed?

   8th grade or less □ 1
   Some high school □ 2
   High school graduate □ 3
   Technical school □ 4
   Some college □ 5
   College graduate □ 6
   Post-graduate work/degree □ 7

17. What is your race?
   White □ 1
   Black □ 2
   Spanish/Hispanic □ 3
   Oriental/Asian □ 4
   Other__________ □ 5

18. What is your marital status?

   Married □ 1
   Widowed □ 2
   Divorced □ 3
   Single □ 4
19. What is your age?

40 to 49 □ 1
50 to 59 □ 2
60 to 69 □ 3
70 to 79 □ 4
Greater than 80 □ 5

20. What is your family annual household income?

Less than 14,999 □ 1
15,000 to 24,999 □ 2
25,000 to 34,999 □ 3
35,000 to 44,000 □ 4
Greater than 45,000 □ 5