1993

African-American women's health beliefs about breast cancer and breast self-examination

Sharon Goldsby Barnett
San Jose State University

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**African-American women's health beliefs about breast cancer
and breast self-examination**

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San Jose State University, 1993

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AFRICAN-AMERICAN WOMEN'S HEALTH BELIEFS ABOUT BREAST
CANCER AND BREAST SELF-EXAMINATION

A Thesis

Presented to

The Faculty of the Department of Nursing
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

By

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August, 1993

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ABSTRACT

AFRICAN-AMERICAN WOMEN'S HEALTH BELIEFS ABOUT BREAST CANCER AND BREAST SELF-EXAMINATION

by Sharon Goldsby Barnett

This descriptive exploratory study investigated African-American women's beliefs about perceived susceptibility to breast cancer and perceived benefits of breast self-examination (BSE) practice. The relationship of age and frequency of BSE practice was also analyzed. The Health Belief Model developed by Rosenstock (1966) served as the conceptual framework. A questionnaire developed by Stillman (1977) was distributed to a convenience sample of 90 women. Study results indicated the majority of women held strong beliefs about perceived susceptibility to breast cancer and the perceived benefits of BSE practice. No statistically significant relationship between mean susceptibility and benefit scores and age was determined. Despite high beliefs of breast cancer susceptibility and benefits of BSE practice, only 33% of the sample practiced monthly BSE. No statistically significant relationship was determined between frequency of BSE practice and age.

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Chapter 1

INTRODUCTION

Breast cancer is the leading cause of death among American women. Approximately one out of nine women will be diagnosed with breast cancer in their lifetime (American Cancer Society, 1993). The American Cancer Society (ACS) predicts that in 1993, 183,000 women in the United States will be diagnosed with breast cancer, and 46,000 will die from the disease (ACS, 1993).

Breast cancer is the leading cause of cancer death among African-American women. Freeman and Wasfie (1989) report that although African-American women have a slightly lower incidence of breast cancer than Caucasian women, Surveillance, Epidemiology, and End Results (SEER) data demonstrate that African-American women have the highest incidence rates of breast cancer in women younger than age 40. According to SEER data from 1981 to 1987, the 5-year relative survival rate for Caucasian women with breast cancer is 78% versus 63% for African-American women (Boring, Squires, & Tong, 1992). This difference is considered to be very significant because breast cancer metastasis, lymph node involvement, and tumor invasion to adjacent tissue is diagnosed more frequently in African-American women than in Caucasian women (U.S. Department of Health and Human Services, 1986).

Risk factors for developing breast cancer regardless of race are:

(a) personal/family history of breast cancer, (b) advanced age, (c) first child born after age 30, and (d) nulliparity. Early menarche, late menopause, obesity, and dietary habits are other factors believed to be linked to developing breast cancer (Kelsey & Gammon, 1991). Despite risk factors that are believed to cause breast cancer, 75% of women diagnosed with breast cancer have no identified risk factors (Freeman & Wasfie, 1989).

A favorable survival rate when diagnosed with breast cancer is associated with the stage of the disease at the time of diagnosis. Indicators for a more favorable prognosis are: (a) tumor size less than 2 cm, (b) postmenopausal status, (c) no metastasis to axillary lymph nodes, (d) no metastasis to distant lymph nodes, and (e) estrogen receptor positive tumor tissue (Knobf, 1984; Scanlon, 1991, p. 190). When discovered at an early, localized stage, the 5-year survival rate for breast cancer is 91%; however, if regional metastasis occurs, the survival rate decreases to 71% (ACS, 1993).

Screening methods for detection of breast cancer include yearly clinical breast exam (CBE) by a health care professional, monthly breast self-examination (BSE), and mammography (ACS, 1987). Screening mammography, in conjunction with CBE, contributes to the early detection of breast cancer, thereby reducing morbidity and mortality (Hamwi, 1990).

It is recommended that women between the ages of 35 and 39 receive a baseline mammogram. Mammograms are indicated for women aged 40 to 49 every 1 to 2 years, depending upon risk factors. Yearly mammography is recommended for women age 50 and older (Hamwi, 1990). The cost of periodic screening mammography may be prohibitive for many women, particularly for poor women, and for those who are without health insurance (Doogan, 1991). Monthly BSE, complemented by annual CBE, has been shown to aid in the early detection of breast cancer (Foster et al., 1978; Greenwald et al., 1978).

Problem

Despite the fact that BSE is a simple, noninvasive, inexpensive technique utilized for the purpose of early detection of breast cancer, many women do not practice BSE on a regular basis. An ACS survey (Gallup Organization, 1974) reported while 77% of the women surveyed had heard of BSE, only 18% reported monthly BSE. Stillman (1977), in a study of 122 women, reported only 48% of the sample examined their breasts monthly. The National Cancer Institute (NCI) (1980) reported only 29% of the women surveyed practiced BSE monthly. Huguley and Brown (1981) reported that in a study of 2092 subjects, a higher percentage of Caucasian women (73%) practiced monthly BSE compared to African-American women (51%). Nemeck (1989) reported that of 95 African-American women subjects, 67% failed to examine their breasts

monthly. African-American women are in great need of education regarding breast cancer incidence, risk factors, prevention, and available life-saving screening methods such as BSE, in order to reduce their mortality rates from this most feared disease.

Purpose and Need

The purpose of this study was to examine and explore African-American women's health beliefs regarding breast cancer and breast self-examination. The Health Belief Model (HBM) developed by Rosenstock and others (Rosenstock, 1966) was the conceptual framework for this study. The HBM was developed to explain health-related behavior at the level of individual decision making, in order to prevent disease or to detect disease in early, asymptomatic stages.

A thorough review of the literature revealed several studies pertaining to the health beliefs of women regarding breast cancer and breast self-examination (Champion, 1985; Gray, 1990; Massey, 1986; Rutledge, 1987; Schlueter, 1982; Stillman, 1977; Trotta, 1980). However, these studies focused primarily on the health care beliefs of Caucasian women regarding breast cancer and BSE. Few studies have examined the health care beliefs of African-American women exclusively. There are several factors that may have impacted greatly upon cancer education and early cancer detection among this population of women. The NCI (1980) reported African-American women were less aware of breast

cancer symptoms, were more pessimistic about breast cancer cure, and were less knowledgeable about available screening methods.

Research Questions

The research questions investigated during this study were:

1. What are African-American women's beliefs about perceived susceptibility to breast cancer?
2. What are African-American women's beliefs about the perceived benefits of breast self-examination?
3. What is the relationship between an African-American woman's age and the frequency of BSE practice?

Definition of Terms

For this study, the following definitions were utilized:

1. Health beliefs are "a set of perceptions an individual holds about her susceptibility to a disease (breast cancer), the seriousness that disease has on her life, and the benefits of taking an action (BSE) to reduce the threat of the disease" (Stillman, 1977, p. 122).
2. Perceived susceptibility is a variable of the Health Belief Model (HBM) which indicates the "subjective risk of contracting a condition" (Rosenstock, 1966, p. 99).

3. Perceived benefits is a variable of the HBM which indicates the "relative subjective effectiveness of BSE in reducing the threat of breast cancer" (Stillman, 1977, p. 122).

4. Breast self-examination is the examination of one or both breasts by a woman using a methodical manner for the purpose of detecting an abnormality.

5. Breast health knowledge is information known by the respondent regarding breast cancer incidence, prevalence, and the practice of BSE.

Health care providers must avoid the potential for stereotyping and generalization when analyzing knowledge, beliefs, and health care practices regarding breast cancer and BSE among African-American women. Many factors must be taken into consideration, such as: (a) social class, (b) education, (c) individual psychosocial development, (d) income, (e) occupation, and (f) religious beliefs. African-American women have poorer survival and higher mortality rates when diagnosed with breast cancer. More information is greatly needed about their beliefs and attitudes about this important health care behavior.

Chapter 2

CONCEPTUAL FRAMEWORK AND REVIEW OF RELATED LITERATURE

Conceptual Framework

The conceptual framework for this study was based upon the Health Belief Model (HBM) developed by Rosenstock (1966) and other researchers. These researchers identified several variables believed to influence an individual's motivation toward preventative health behaviors. These investigators were influenced by the social-psychological theories of Kurt Lewin. They adapted Lewin's concept that an individual exists in a life space composed of positively and negatively valued regions (Lewin, 1935, chap. 13). A person's approach to health care decision making is a member of the value-expectancy family, whereby behavioral decisions are made to avoid negatively valued outcomes (Maiman & Becker, 1974, pp. 336-353). Diseases would be conceived to be regions of negative valence, which could be expected to exert a force moving an individual away from that region (Rosenstock, 1974, pp. 329-330).

The HBM proposes that for individuals to avoid a disease, they must believe:

1. They are susceptible to the particular disease.

2. The occurrence of the disease will have serious impact upon their lives.
3. Taking a particular action would be beneficial in reducing the threat and/or severity of the disease.
4. The benefits of taking a health action are greater than perceived/actual barriers (Rosenstock, 1966) (see Figure 1).

An additional variable of the HBM, cues to action, is believed to be necessary to stimulate health behaviors. The cue may be internal, such as awareness of symptoms, or external, such as television advertisements. The intensity of the cue may vary depending upon the perceived seriousness of the disease or the level of readiness to take action (Rosenstock, 1974, pp. 332-393).

According to Kasl and Cobb (1966), health behavior is "any activity undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage" (p. 266). Secondary prevention involves interventions directed towards early disease detection before symptoms are developed (Vallbona, 1989, p. 273). BSE can be considered a secondary preventive behavior utilized to promote the early detection of breast cancer.

Figure 1. The "Health Belief Model" as predictor of preventive health behavior. From "A New Approach to Explaining Sick-Role Behavior in Low-Income Populations" by M. H. Becker, R. H. Drachman, and J. P. Kirscht, *American Journal of Public Health*, 1974, 64, 205-216. Copyright 1974 by the American Public Health Association. Adapted by permission.

The practice of breast self-examination can be adapted to several variables of the HBM. For a woman to perform monthly BSE, the following beliefs must be held:

1. She must believe that she is personally susceptible to breast cancer.
2. She must believe that breast cancer will have a serious impact upon her life.
3. She must believe that BSE will be beneficial in detecting early breast disease and reduce the threat of serious consequences, should breast cancer occur (Rosenstock, 1966; Rosenstock, 1974, p. 330).

A review of the literature revealed that very few articles have investigated BSE among African-American women. Several studies will be presented which have examined the relationship of BSE and health beliefs, along with discussion of cultural factors that influence BSE practice among African-American women.

Review of Related Literature

Several researchers have studied BSE and the relationship between HBM variables. Stillman (1977) conducted a descriptive investigation of suburban women's health beliefs about breast cancer and BSE, utilizing a convenience sample of 122 women. Stillman developed her own BSE questionnaire, and questions assessed perceived susceptibility beliefs about breast cancer and perceived benefits of BSE. Stillman established content validity through review by five graduate nursing students. The instrument was pretested by 20 women;

however, no reliability scores were reported. She found that 97% scored high in perceived benefits of BSE in reducing the threat of breast cancer; 87% scored high in perceived susceptibility to breast cancer. Forty percent practiced BSE monthly, but over 20% of the women had high beliefs and never practiced BSE. Stillman concluded that it could not be determined if health beliefs caused behavior.

Schlueter (1982), using a descriptive survey design, found similar correlations between health beliefs and BSE. Schlueter evaluated the health beliefs and the frequency of BSE between a sample of athletic and nonathletic women. Physical exercise was used as an indicator of belief in preventative health care practices. A self-report questionnaire was adapted from Stillman (1977) and administered to a convenience sample of 204 women. Study subjects were divided into high, moderate, and nonexercisers. Nearly three quarters of the total sample had high beliefs of perceived susceptibility, but only 40% performed BSE on a regular basis. Ninety-eight percent had high beliefs of perceived benefits; however, only 37% practiced BSE regularly. No significant relationship was found between levels of exercise and frequency of BSE. Schlueter concurred with Stillman and concluded that beliefs about perceived susceptibility to breast cancer and perceived benefits of BSE had no effect upon the practice of BSE.

Both samples in these two studies had several characteristics in common. The average age of subjects ranged from 20 to 40 years of age. Subjects were of higher income, the majority were married, and college educated. No mention of race was mentioned by either researcher. Stillman (1977) acknowledged the limitation that study participants had similar socioeconomic characteristics which may have differed had the sample been randomly selected. Schlueter (1982) acknowledged "situational features caused some probable degree of error by administering a questionnaire to several groups in varying settings" (p. 350). Schlueter also administered the questionnaire before a running event, and believed that some error may have occurred due to high levels of anxiety displayed by the runners, thereby possibly influencing their responses. The variable of exercise as a predictor of preventative health was touched upon as a limitation, but not discussed.

Hallal (1982) conducted a descriptive correlational study to investigate the differences in health beliefs between practitioners and nonpractitioners of BSE. Health beliefs were measured using the self-report questionnaire developed by Stillman (1977). The convenience sample of 207 women was divided into practitioners and nonpractitioners of BSE; 80% of the sample were within the practitioner category. Hallal found high beliefs in susceptibility and benefits among practitioners of BSE, thereby differing with the conclusions of the two

previous studies. Hallal's sample were women 18 years and older; no other demographic information was discussed.

Trotta (1980) conducted a factor-relating study to investigate the frequency and thoroughness of BSE, how women learn BSE, and what influences compliance to practice BSE. A questionnaire was distributed to a convenience sample of 446 women; the average age was 36 years of age. Twelve percent of the respondents practiced BSE at least 6 times within the past 6 months; however, 48% had practiced BSE at least 3 times within the past year. When frequency of BSE was analyzed, barriers to BSE had the most significant influence upon explaining the variance of frequency of practice. Seventy-nine percent of the sample reported difficulty remembering to do BSE as being the most frequent barrier to monthly BSE. According to the HBM (Rosenstock, 1966), when perceived barriers to a health action supersede the perceived benefits of taking a particular health action, avoidance of performing the action can occur. Perceived susceptibility and perceived seriousness had no correlation with BSE compliance.

Hirshfield-Bartek (1982) conducted an exploratory study of 25 women with a history of breast cancer. A questionnaire adapted from Stillman (1977) and Trotta (1980) was distributed to participants prior to follow-up radiation appointments. Hirshfield-Bartek found a significant relationship between perceived susceptibility to the recurrence of breast cancer and frequency of

BSE practice. The study also found a strong relationship between high perceived benefits and the frequency of monthly BSE. A limitation of the study is that higher beliefs of susceptibility to breast cancer in this population could be expected, being that the respondents were all breast cancer survivors. More vigilance could be expected of a breast cancer survivor in examining her remaining breast or chest wall for signs of breast cancer recurrence; hence, the high perceived benefits of monthly BSE in this sample.

Mleczek (1984), in an unpublished descriptive study, investigated older women's beliefs about susceptibility to breast cancer and perceived benefits of BSE. A convenience sample of 73 women aged 60 to 90 was surveyed utilizing a self-report questionnaire developed by Stillman (1977). Thirty-six percent of the sample practiced BSE monthly or more than once a month. Sixty-two percent of the sample respondents scored in the moderate range of perceived susceptibility beliefs. Though 41% of respondents scoring in the moderate range practiced BSE monthly or more often, 43% of the respondents within the same range never practiced BSE. The results indicated no statistically significant association between beliefs of perceived susceptibility to breast cancer and frequency of BSE practice. These results concur with the conclusions of previous research (Schlueter, 1982; Stillman, 1977; Trotta, 1980) in which study samples were not restricted to older women.

Mleczek (1984) reported a statistically significant relationship between perceived benefits and BSE practice. Seventy-nine percent of the respondents scoring in the moderate benefits range never practiced BSE, or did so less than once a year. Sixty-four of the respondents scoring in the high benefits range practiced BSE monthly or more often. None of the respondents who practiced BSE scored in the low range of benefit beliefs. The results indicated that the majority of respondents had strong beliefs about the benefits of BSE. Mleczek concluded that the positive correlation between perceived benefits of BSE and frequency of BSE practice was in accordance with the Health Belief Model (Rosenstock, 1966) and two previous studies (Hallal, 1982; Hirshfield-Bartek, 1982).

The HBM was supported in a descriptive correlational study conducted by Massey (1986) to investigate women's beliefs of perceived susceptibility to breast cancer and the practice of BSE. A convenience sample of 225 rural women were surveyed utilizing a self-report questionnaire adapted from Stillman (1977). Women were divided into two groups, those who reported practicing BSE more than six times a year, and those practicing less than six times a year. Forty percent of the sample reported practicing BSE six or more times the preceding year; 60% practiced BSE less than six times a year.

Massey (1986) reported that women who practiced BSE six or more times per year had higher perceived susceptibility scores than women who

practiced BSE less than six times a year. Women, regardless of age, who practiced BSE six or more times had significantly higher mean perceived susceptibility scores than nonwhite women who practiced BSE less than six times a year or more than six times a year. No mention was indicated by Massey as to what racial group(s) constituted nonwhite women. The study subjects all lived in a rural community, the majority were under age 50 and were predominantly Caucasian. Champion (1985) conducted a descriptive correlational study to identify the relationships of attitudes about BSE and breast cancer to the frequency of BSE practice. A questionnaire developed by Champion (1984) was distributed to a convenience sample of 301 women. Champion reported that women perceiving fewer barriers to BSE, and perceiving greater benefits of BSE, were more likely to report increased frequency of BSE.

A descriptive correlational study was conducted by Rutledge (1987), whereby the relationships of several variables to frequency of BSE practice were investigated. A questionnaire developed by Champion (1984) was administered to a convenience sample of 93 women. Rutledge reported that low barriers to BSE, and high perceived benefits of BSE, were positively correlated with the frequency of BSE practice. Perceived susceptibility and perceived seriousness were not correlated with the frequency of BSE practice.

Gray (1990) conducted a descriptive correlational study to identify relationships between the variables of perceived susceptibility to breast cancer, and the perceived benefits of BSE. A questionnaire developed by Champion (1984) was distributed to a convenience sample of 347 rural women; the average age of respondents was 52 years. Forty-three percent reported practicing BSE monthly. Women 51 to 60 years of age practiced BSE more frequently, with nearly 60% reporting monthly BSE. Women 41 to 50 years of age had the lowest rate of performing monthly BSE; this age group had the highest rate (14%) of nonpracticers of BSE.

When health beliefs were analyzed, perceived benefits of BSE accounted for most of the variance in relationship to the frequency of BSE practice. Gray (1990) established that women who perceived greater benefits of BSE, and fewer perceived barriers to BSE, reported more frequent BSE practice. Perceived susceptibility was not a significant predictor of frequent BSE.

African-American Women and Breast Cancer

Breast cancer is the leading cause of cancer death among African-American women. The incidence of breast cancer among African-American women is less than for Caucasian women; however, mortality rates of breast cancer in African-American women have increased approximately 20% over the past 25 to 30 years, compared to Caucasian women (Cope & Hall, 1987, p. 47).

Breast cancer incidence among African-American women has been attributed to several factors: (a) lower socioeconomic status (SES), (b) lifestyle, (c) occupational hazard exposure, (d) histologic types of tumors, (e) immune factors, and (f) late stage of disease at diagnosis (Freeman & Wasfie, 1989). Biologic differences have been shown to exist between malignant tumors in African-American and Caucasian women. The presence of estrogen receptor positive tumors is associated with improved response to endocrine therapy, decreased tumor growth, and differentiated tumors that may improve the prognosis when diagnosed with breast cancer. African-American women have higher rates of estrogen receptor negative tumors; thus, the development of more aggressive tumors (Jacob & Penn, 1988).

Freeman (1989) cites African-American and Caucasian cancer survival differences are related to socioeconomic differences, rather than to genetic or biologic differences. African-Americans can be found among all socioeconomic classes; however, many are disproportionately poor in comparison to the majority population of the United States. Impoverished Americans, regardless of race, have a 10% to 15% lower cancer survival rate, compared to the middle-class and affluent. Poor Americans typically are poorly educated, are undernourished, have greater high-risk behavior lifestyles, and have less access to medical care. Limited finances and lack of medical insurance may severely hamper a woman's access to preventive and episodic health care. For many

poor women, survival needs such as obtaining food, housing, caring for children and family have greater priority than taking care of one's own health (Esparza, 1989, pp. 279-283; Freeman, 1989).

Certain nutritional factors are believed to be related to the development of cancer. Greenwald and Sondik (1986) reported that particular dietary habits are believed to be related to 35% of cancer deaths (p. 4). Women who are 40% above their normal weight may be at higher risk for developing breast cancer (ACS, 1987). African-American women aged 20 to 40 on the average weigh more than Caucasian women. Sixty-one percent of African-American women over age 45 are overweight compared to 32% of Caucasian women. Consuming foods high in saturated fats may be linked to developing breast cancer. Traditional culinary practices among some African-Americans include high consumption of smoked and fried foods and eating nitrate-containing foods, such as sausage (Baquet, Clayton, & Robinson, 1989, p. 7).

Clinical breast examination, BSE, and screening mammography at periodic intervals are considered to be the keys to early breast cancer detection (ACS, 1987). Insufficient information about breast cancer and available screening methods can contribute to inadequate breast cancer screening for African-American women (Cardwell & Collier, 1981). According to the National Health Interview Survey (NHIS), twice as many African-American women compared to Caucasian women had never heard of BSE or mammography

(United States Department of Health and Human Services, 1988). Another study reported utilization of mammography was higher among Caucasian women than African-American women (United States Department of Health and Human Services, 1990).

McCusker and Morrow (1980) reported lack of physician interest and concern regarding instruction of BSE, and the effect upon monthly BSE practice. Several studies have reported access to breast cancer screening varied according to race. Physicians with predominantly African-American and Hispanic patients were less likely to make referrals for screening mammograms, compared to physicians whose patients were predominantly Caucasian (Gemson, Elinson, & Messeri, 1988; Vernon et al., 1992).

African-American Women and Breast Self-Examination

Nemcek (1989) in a descriptive correlational study reported that of 95 African-American women subjects, 67% failed to examine their breasts monthly. Forty-five percent reported BSE practice less than every 6 months. Frequency of monthly BSE practice was found to be age related, with older women practicing BSE more frequently than younger women. Women without previous exposure to breast cancer, that is, those women with no personal/family history of breast cancer, practiced BSE less frequently. This sample of African-American women were working-class hospital service employees. Most were high school graduates; yearly income was on the lower end of the

economic scale. Cultural factors may provide several barriers to regular BSE practice among African-American women. African-American women may not perform monthly BSE for the following reasons:

1. Fear and misunderstanding about breast cancer and BSE.
2. Pessimism about early detection of cancer and available treatment of breast cancer. Many African-Americans believe a diagnosis of cancer is an automatic death sentence.
3. Lack of knowledge about breast cancer prevalence among African-American women, and limited awareness of breast cancer warning signs (Cardwell & Collier, 1981; Esparza, 1989, pp. 279-283; Evaxx, 1981; Guillory, 1987).

Summary

The Health Belief Model (HBM) was evaluated in reference to the practice of BSE in women. Ten studies regarding women's health beliefs about BSE were analyzed; results of two studies were not in accordance with the HBM while in eight there were areas of agreement. The majority of the respondents were demographically similar in regards to ethnicity, education, and socioeconomic status. These study findings cannot be generalized to African-American women. Caucasian women have a higher incidence of breast cancer than African-American women. However, African-American women have poorer survival and higher mortality rates when diagnosed with breast cancer.

Few studies have focused exclusively upon BSE practice among African-American women. Certain cultural factors may impact upon the practice of BSE among this segment of the population.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

This research was designed as a descriptive exploratory study, utilizing survey methods to collect the data. The study was a replication of the Stillman (1977) study. Stillman reported nearly one-fourth of the subjects had high belief of the benefits of BSE, but never practiced BSE. Stillman could not conclude that health beliefs caused behavior. Replication is an important method in order to refute or verify conclusions generated from previous research (Burns & Grove, 1987, p. 112). The specific objectives for this study were to analyze knowledge and beliefs about breast cancer susceptibility, and benefits of BSE practice among a convenience sample of African-American women. Little research has focused exclusively upon BSE practice among African-American women. Replication studies can provide the impetus for additional research, in order to increase the level of knowledge about an important segment of the population.

Sample and Setting

Six African-American organizations located in a large urban area served as location sites to recruit participants for this study. These organizations included: (a) three churches, (b) one professional women's group, (c) one health care professional group, and (d) one hair salon. Respective church

ministers, group presidents, and the hair salon proprietor were contacted by mail with a personal letter from the researcher (Appendix C). The letter introduced the researcher, and explained the purpose of the study. Follow-up telephone calls were made to establish interest in participation, and to determine if permission would be granted to conduct the study within each particular organization.

Each respective organization responded affirmatively during a telephone conversation with the researcher regarding participation in the study. Each group sent confirmation letters outlining times and dates for the researcher to present the study in order to recruit participants (Appendix D).

The sample for this study was obtained from a convenience sample of 90 African-American women who were members of a respective group that met on a monthly basis, and those who were patrons of the hair salon. Eligibility criteria for the study included:

1. Participants were 18 years of age and older.
2. Participants were able to speak, read, and write English.
3. Participants were willing to voluntarily participate in the study.

Permission to conduct the study was obtained from the San Jose State University Human Subjects-Institutional Review Board (Appendix F).

Participants received a cover letter explaining the purpose of the study. A consent form was distributed and signed by each participant who expressed

interest, and the questionnaire was distributed at that time. Written assurance was provided regarding anonymity of all the data collected.

Data Collection

Data collection occurred during a 4-week period in the Fall of 1992. Stillman's (1977) BSE questionnaire was utilized to obtain the data. The researcher attended specific meetings. Times were determined by each church group and professional organization's monthly schedule. The researcher attended the hair salon over a 3-day period, during the day and evening hours, due to sporadic scheduling of salon customers' prearranged appointments.

During attendance at all group meetings and the hair salon, the researcher verbally explained to all in attendance the purpose of the study. A cover letter explaining the purpose of the study was provided (Appendix E). Participants who expressed interest received the study consent form (Appendix G). In order to ensure anonymity, consent forms were kept separate from questionnaires in designated manila envelopes for each group. The researcher was present during the data collection, in order to provide assistance or greater clarification if needed. This method was deemed more desirable, in order to obtain a greater response rate from participants, versus utilization of a mail-in survey method.

The approximate amount of time taken for participants to complete the questionnaire was 10 to 15 minutes. A total of 90 women completed the

questionnaire. After completing the questionnaire, all participants were provided an article about breast cancer and African-American women. This article was written by the researcher for a local African-American community newspaper (Appendix H).

Stillman Breast Self-Examination Questionnaire

Breast cancer garnered extensive media scrutiny during the early 1970s, when Betty Ford, wife of former President Gerald Ford, was diagnosed with the disease and had a mastectomy. Many American women began learning more about BSE because of this, and as a result, Margot Stillman was the first nurse researcher to develop a questionnaire to investigate women's health beliefs about breast cancer and breast self-examination (M. Stillman, personal communication, March 14, 1992).

The self-report questionnaire developed by Stillman (1977) was utilized to obtain the data (Appendix A). Written permission was granted by Stillman for use of her BSE questionnaire (Appendix B). Questions regarding the prevalence of breast cancer were modified for greater clarity, and to reflect the current statistic regarding breast cancer prevalence among women. Demographic data were also modified by the researcher, in order to obtain expanded information about age, income, education, and family history of breast cancer (Appendix A).

Stillman (1977) established content validity through review by five graduate nursing students. The instrument was pretested by 20 women, and was administered to a convenience sample of 122 women. Although Stillman pretested the tool, no reliability scores were reported.

The questionnaire consisted of five sections. Section I included multiple choice questions that evaluated the participants' factual knowledge about breast cancer in the following areas: (a) prevalence of breast cancer among American women, (b) whether most breast lumps are cancerous, (c) average age when chance of breast cancer begins, and (d) possible causes of developing breast cancer. Each correct answer received a score of 1, with a total score of 0 to 7 possible.

Section II measured the participants' beliefs about perceived susceptibility of breast cancer and the perceived benefits of BSE in reducing the threat of breast cancer. Within this section, a Likert-type scale was utilized in which the respondents were asked to respond to nine statements on an agree-disagree continuum, and to one statement in terms of a comparison with other women. The even numbered items were indicative of the respondents' perceived susceptibility to breast cancer. The odd numbered items reflected the perceived benefits of BSE in reducing the threat of breast cancer. In all instances, the lowest belief received a score of 1 and the highest belief received a score of 4. The exception was question 10, where a response of "above

average" received a score of 3 and "below average" scored 1. Items 1, 4, 5, and 8 were rated 4 if "agree strongly" was chosen; items 2, 3, 6, 7, and 9 were rated 4 if "disagree strongly" was chosen. A total score of 5 to 19 was possible for perceived susceptibility, and a score of 5 to 20 was possible for perceived benefits. In both instances, a score of 15 or more represented a high degree of belief, a score of 9 to 14 a moderate degree of belief, and below 9, a low belief.

Section III was answered only by those women who practiced BSE. Five multiple choice questions required practicers to indicate: (a) the frequency of BSE, (b) where they learned how to do BSE, (c) when they examined themselves, (d) what their confidence in practicing BSE correctly was, and (e) whether they could detect breast abnormalities or not. One open-ended question asked respondents to describe what they looked for during their self-exam.

Section IV was answered by nonpracticers of BSE. Multiple choice questions evaluated: (a) if nonpracticers had heard of BSE, (b) from whom BSE was learned, (c) why they did not practice BSE, and (d) whether the respondent would do BSE if given the proper instruction.

Section V dealt with demographic data that may have relevance to BSE practice, such as: (a) age, (b) income, (c) occupation, (d) marital status, (e) religion, and (f) education. Questions regarding previous experience with: (a) cancer surgery, (b) lumpectomy, (c) mastectomy, and (d) family history of

breast cancer were included also. Women who indicated a history of breast cancer were not excluded from the study.

Assumptions

The assumptions upon which this study was based were:

1. Study participants answered the questionnaire to the best of their ability.
2. The questionnaire utilized to obtain the data was valid, accurate, and yielded reliable information.
3. Study participants would consider breast cancer to have a serious impact upon their lives and well-being.

This study was limited by use of the instrument, a self-report questionnaire, which may have collected incorrect or false data due to interpretation or participant misunderstanding (Burns & Grove, 1987, pp. 312-314).

Data Analysis

Each questionnaire was coded for computer analysis. The Statistical Package for Social Sciences was utilized to process the data. The data were analyzed by utilization of frequency counts, percentage of responses, measures of central tendency, and one-way Analysis of Variance (ANOVA). The questionnaire was coded to ensure anonymity of the participants.

Stillman (1977) utilized frequency distributions of high, moderate, and low perceived susceptibility and benefit belief scores. Chi-square analysis was used to analyze the data. Chi-square was not utilized to analyze the data for this study, because the majority of the sample scored high in perceived susceptibility and benefit beliefs. Most of the cells within prospective contingency tables for Chi-square analysis would have yielded frequencies of zero. One-way ANOVA was utilized to analyze the data. According to Burns and Grove (1987), more researchers are using parametric techniques. Parametric statistics are considered to be robust, and "will yield accurate results even if some of the assumptions are violated by the data used for analysis" (pp. 475-476). The data are discussed in both narrative and tabular form in Chapter 4.

Chapter 4

ANALYSIS AND INTERPRETATION OF DATA

The research questions investigated in this study were:

1. What are African-American women's health beliefs about perceived susceptibility to breast cancer?
2. What are African-American women's beliefs about the perceived benefits of BSE?
3. What is the relationship between an African-American woman's age and the frequency of BSE practice?

Data from 90 questionnaires were analyzed to evaluate each research question. Descriptive statistics and one-way Analysis of Variance (ANOVA) were used to answer the research questions. Demographic data about the sample will be discussed first. Salient findings from the remainder of the questionnaire will follow.

Demographic Data

Age, Income, Marital Status, Religion, Education

Table 1 presents the frequency distribution and percentages related to: (a) age, (b) income, (c) marital status, (d) religion, and (e) education. The final study sample consisted of 90 African-American women. Their ages ranged from 18 to 74 years, with a mean age of 41.5 years. Over one-third (37%)

Table 1

Demographic Characteristics of the Sample (N=90)^a

Category	Number	Percentage
Age		
18-35	28	33
36-46	31	37
47-74	25	30
Income		
Under \$10,000	6	7
\$10,000-\$20,000	2	2
\$20,000-\$30,000	31	37
Over \$40,000	45	54
Marital Status		
Single	20	23
Married	41	47
Divorced	19	22
Separated	3	3
Widowed	4	5
Religion		
Protestant	66	76
Catholic	5	6
Other	16	18
Level of Education		
High School Graduate	9	11
2-Year College Graduate	31	36
4-Year College Graduate	19	22
Graduate School	27	31

Note: Percentages are rounded off to the next whole number.

^aSome of the categories do not add up to 100% due to missing data.

of the sample were between the ages of 36 and 46 years. The second most frequently identified age group was 18 to 35 years, with 28 (33%) responses. The 47 to 74 years category had 25 (30%) responses.

Thirty-seven percent of the sample reported an annual income of \$20,000 to \$30,000, and 54% reported earning over \$40,000. A category of \$30,000 to \$40,000 was deleted by the researcher; therefore, participants who answered that they earned over \$40,000 may have very well earned less than this.

Forty-seven percent of the sample were married and 23% were single. The majority of the participants (76%) reported being Protestant, and 6% indicated they were Catholic. Eighteen percent of the sample answered "other." As a group, the women were well educated. Thirty-six percent of the sample reported being graduates of 2-year community colleges. Twenty-two percent were 4-year college graduates, and 31% reported obtaining graduate level education.

Previous Experience with Breast Cancer

Additional demographic information was obtained from respondents regarding previous history of: (a) lumpectomy, (b) mastectomy, (c) operations for cancer, and (d) family history of cancer. Eighty-three percent of the sample indicated no previous history of lumpectomy, and 17% responded affirmatively. The majority of the sample (98%) reported no previous history of mastectomy. Only two participants (2%) reported having a mastectomy. The majority (94%)

indicated having no previous surgery for cancer. Seventy-one percent of the sample reported no family history of breast cancer, and 22% reported a positive family history. Seven percent stated they were not aware of a family history of breast cancer.

BSE Knowledge

Section I evaluated the participants' factual knowledge of breast cancer. Knowledge scores had a possible total score range of 0 to 7 correct responses. The scores for this sample ranged from 1 to 7 with a mean score of 3.67 ($SD = 1.35$). One of the knowledge questions asked about the chances of a woman contracting breast cancer during her lifetime. Thirty-four percent of the sample indicated the correct answer which was one in nine women. Another 34% of the sample incorrectly chose one out of four women. Eighty percent of the sample correctly answered that the risk of breast cancer increases after the ages of 30 and 40 (both answers were correct). Only 40% of the sample believed being postmenopausal was a risk factor for developing breast cancer. Nearly half of the sample (51%) incorrectly believed that taking birth control pills were linked with causing breast cancer.

Most of the respondents (86%) incorrectly chose being single as not being a risk factor for developing breast cancer. Nulliparity is considered to be a risk factor for developing breast cancer. However, there possibly may have been misinterpretation about this question because of the wording. A woman

may very well be single, that is, not married, but may have children from a previous relationship within or without the context of marriage. Seventy-eight percent of the sample incorrectly believed being married without children had no link with developing breast cancer, while 22% answered affirmatively. The possibility of misunderstanding this question must be considered also, for the issue again is nulliparity, not marital status.

Question five in Section II (Appendix A) was open-ended and asked respondents to write what they looked for when examining their breasts. The most frequently correct written responses included: (a) "lumps," (b) "nipple discharge," (c) "changes in breast size," (d) "dimpling," and (e) "change in skin texture."

BSE Practice

Participants were asked how often breast self-examination was practiced. Of the total sample ($N=90$) 84 (97%) indicated they practiced BSE; 3 respondents (3%) never practiced BSE. The frequency of BSE practice ranged from more than once a month to less than once a year. Thirteen respondents (15%) practiced more than once a month, and 28 (33%) practiced BSE once a month. Fourteen respondents (16%) reported BSE practice 6 to 11 times a year, and 20 individuals (23%) performed BSE 1 to 5 times a year. Eleven respondents (13%) never practiced BSE, or did so less than once a year. Four

respondents who practiced BSE did not answer the question pertaining to frequency.

In response to a question asking the time of month BSE is done, 48% of BSE practicers reported performing BSE whenever they thought of it. Only 27% of the BSE practicers chose the correct answer of examining the breasts after the menstrual period. Although thoroughness of BSE practice was not evaluated, 44 (51%) practicers indicated confidence in their ability to perform BSE correctly. Twenty practicers (23%) indicated feeling not too sure of their ability to perform BSE correctly.

Health Beliefs

Assessment of the study respondents' health beliefs regarding perceived susceptibility to breast cancer, and the perceived benefits of BSE, were obtained from scores in Section II of the questionnaire (Appendix A). Participants answered questions on an agree-disagree continuum. Descriptive statistics and measures of central tendency were utilized to analyze health beliefs, along with one-way Analysis of Variance (ANOVA) to determine any significant relationships between health beliefs, age, and frequency of BSE practice. Several participants either failed to indicate frequency of BSE practice or they failed to answer certain perceived benefits and susceptibility questions. Although missing data are presented within several categories, the researcher utilized as much of the data as possible.

Perceived Susceptibility

The majority of the sample (83%) scored in the higher range of susceptibility to breast cancer. Sixteen percent had moderate beliefs, while only one individual (1%) held low beliefs. Susceptibility scores ranged from 8 to 19. A one-way ANOVA was utilized to measure significant differences between susceptibility means of three age groups within the sample. Table 2 presents the mean perceived susceptibility scores by age level. The total mean susceptibility score for the entire sample was 16.29 (within the high range) with an SD of 2.36. Thirty-nine percent of respondents aged 36 to 46 had a mean score of 16.58; women aged 47 to 74 (28%) scored slightly lower with a mean score of 16.13. Respondents aged 18 to 35 (33%) had a mean score of 16.11. Although all three age groups had mean scores falling within the high range of perceived susceptibility to breast cancer, no significant relationship between mean susceptibility scores and age were found by one-way ANOVA, $F(2, 78) = .3564, p > .05$.

Perceived Benefit

Strong beliefs in the benefits of BSE were held by 99% of the sample. Only one individual (1%) had moderate beliefs, and none responded in the low range of perceived benefit. Benefit scores ranged from 12 to 20. A one-way

Table 2

Perceived Susceptibility of Breast Cancer Scores^a

Age	<u>n</u>	% of Total	<u>M</u>	<u>SD</u>
18-35	27	33	16.11	2.19
36-46	31	39	16.58	2.20
47-74	23	28	16.13	2.82

Note: ^aNine respondents did not answer at least one of these questions.

ANOVA was utilized to measure for any significant differences in benefit means between three age groups within the sample. The total mean benefit score for the entire sample was 18.55 (within the high range) with an SD of 1.76. Table 3 presents the total perceived benefit of BSE mean scores by age level.

Twenty-eight percent of respondents aged 47 to 74 had a mean score of 18.82; women aged 36 to 46 (37%) scored practically the same, with a mean score of 18.80. Younger respondents (35%) 18 to 35 years of age scored slightly lower with a mean score of 18.07. Although all three groups had mean scores within the high range of perceived benefits of BSE, one-way ANOVA found no significant relationship between mean benefit scores and age, $F(2, 78) = 1.63$, $p > .05$.

Table 3

Perceived Benefit of BSE Scores (N=81)^a

Age	<u>n</u>	% of Total	<u>M</u>	<u>SD</u>
18-35	28	35	18.07	2.09
36-46	30	37	18.80	1.56
47-74	23	28	18.82	1.53

Note: ^aNine respondents did not answer at least one of these questions.

Perceived Susceptibility and Frequency of BSE Practice

Table 4 highlights the relationship between perceived susceptibility of breast cancer mean scores and frequency of BSE practice. Only 49% of those women with high beliefs of susceptibility to breast cancer practiced BSE on a monthly basis. All mean scores were within the high ranges of belief. However, high and low practicers of BSE had slightly higher beliefs of susceptibility than moderate and nonpracticers. Even though most of the respondents believed they were susceptible to breast cancer, many did not practice BSE. No significant differences between susceptibility means and BSE frequency were determined by one-way ANOVA, $F(3, 78) = .65$, $p > .05$.

Table 4

Perceived Susceptibility of Breast Cancer Scores and Frequency of BSEPractice (N=82)^a

Frequency of BSE Practice Per Year	<u>n</u>	% of Total	<u>M</u>	<u>SD</u>
High (12+)	40	49	16.45	2.55
Moderate (6-11)	13	16	15.76	2.48
Low (1-5)	19	23	16.68	2.00
Never ^b	10	12	15.70	2.00

Note: ^aEight respondents did not answer at least one of these questions.

^bLess than once a year or not at all.

Perceived Benefit and Frequency of BSE Practice

Table 5 presents the relationship between the perceived benefits of BSE beliefs and the frequency of BSE practice. All mean perceived benefit scores fell within the high range of beliefs. Only 47% of the sample with high benefit beliefs practiced BSE every month. However, low BSE practitioners (24%), and those who never practiced at all (12%), had benefit scores slightly lower than those who practiced more frequently. One-way ANOVA determined no

significant difference between perceived benefit means and frequency of BSE practice, $F(3, 79) = 1.89$, $p > .05$.

Table 5

Perceived Benefit of BSE Scores and Frequency of BSE Practice (N=83)^a

Frequency of BSE Practice Per Year	<u>n</u>	% of Total	<u>M</u>	<u>SD</u>
High (12+)	39	47	18.94	1.43
Moderate (6-11)	14	17	18.92	1.43
Low (1-5)	20	24	18.40	2.16
Never ^b	10	12	17.60	2.11

Note: ^aSeven respondents did not answer at least one of these questions.

^bLess than once a year or not at all.

Age and Frequency of BSE Practice

Previous studies of women diagnosed with breast cancer reported decreased frequency of BSE practice in older women (Foster et al., 1978; Huguley & Brown, 1981). In contrast, other studies reported higher BSE practice among older African-American women, and less practice among younger women (Jacob, Penn & Brown, 1989; Nemcek, 1989). Forty-nine percent of the sample with a mean age of 42.84 years practiced BSE every

month. Seventeen respondents (21%) with a mean age of 36.94 years practiced BSE 1 to 5 times a year. Older women with mean age of 47.10 years (13%) never practiced BSE (Table 6). These results indicated a decrease in BSE practice in both young and older women. When the relationship between frequency of BSE practice and age means were analyzed, no significant relationships were found, $F(3, 76)=2.02, p>.05$.

Table 6

Age Level and Frequency of BSE Practice (N=80)^a

Frequency of BSE Practice Per Year	<u>n</u>	% of Total	<u>M</u>	<u>SD</u>
High (12+)	39	49	42.84	10.63
Moderate (6-11)	14	17	42.57	10.89
Low (1-5)	17	21	36.94	10.07
Never ^b	10	13	47.10	13.42

Note: ^aTen respondents did not answer at least one of these questions.

^bLess than once a year or not at all.

Summary

In summary, the results of this study indicated that the majority of African-American women held strong beliefs about their perceived susceptibility to breast cancer and the perceived benefits of BSE practice. No statistically significant relationship between mean susceptibility and benefit scores and age were determined. Despite high beliefs of breast cancer susceptibility and high benefits of BSE practice, only 33% of the sample practiced monthly BSE. No statistically significant relationship was determined between frequency of BSE practice and age; however, older and younger women were infrequent practitioners of monthly BSE.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to analyze African-American women's health beliefs about breast cancer and breast self-examination. The relationship of age and frequency of BSE practice was also analyzed. This study replicated Stillman's (1977) research, and was descriptive exploratory in design, utilizing survey methods. A questionnaire developed by Stillman was distributed to a total of 90 women aged 18 to 74 years of age.

Conclusions

The conceptual framework for this study was based upon the Health Belief Model (HBM) developed by Rosenstock (1966). The variables of the HBM analyzed for this study were perceived susceptibility and perceived benefits beliefs. The HBM proposes that for an individual to avoid a disease, they must believe: (a) they are susceptible to the particular disease, (b) the occurrence of the disease would have serious impact upon their life, (c) taking a particular action would be beneficial in reducing the threat and/or severity of the disease, and (d) the benefits of taking a health action are greater than perceived/actual barriers (Rosenstock, 1974, pp. 332-393).

Overall, the study respondents were aware of certain breast cancer facts, but were less cognizant of others. Almost one-third of the sample

over-estimated the prevalence of breast cancer. Those respondents practicing BSE indicated examining their breasts whenever they thought of it.

Misunderstandings of other risk factors such as nulliparity, postmenopausal status, and incorrect information surrounding oral contraceptive use may be indicative of inadequate education by health care providers.

Most of the sample had strong beliefs about their perceived susceptibility to breast cancer and the perceived benefits of BSE practice. No significant differences were found between susceptibility means of three age groups within the sample. However, younger and older women had minimally low susceptibility scores compared to women aged 36 to 46 years. No significant differences in total benefit mean scores between age groups were found. However, younger women aged 18 to 35 years had slightly lower benefit scores than women aged 36 to 46 years and women 47 to 74 years. It can be concluded, therefore, the total mean susceptibility and benefit scores were not significantly affected by age.

Even though most of the respondents held high susceptibility and high benefit of BSE beliefs, many did not apply these beliefs to actual BSE practice. Only 33% of the total sample practiced monthly BSE. These results are not in accordance with the HBM and substantiate findings from previous studies (Schlueter, 1982; Stillman, 1977; Trotta, 1980). Though no significant

relationships were determined between frequency of BSE practice and age, older and younger women were infrequent practitioners of BSE.

Perhaps lack of confidence in proper BSE techniques influenced the respondents' desire not to examine their breasts. Fear of discovering an abnormality may inhibit the impetus to practice BSE. Younger women with no family or personal history of breast cancer may believe being at risk for breast cancer is of no concern, and therefore, may feel monthly BSE practice is not necessary. Older women may incorrectly believe that BSE practice is reserved only for younger women. Possible barriers with older women may range from fear, embarrassment, and religious taboos against BSE, to subtle discouragement from health care providers.

Misconceptions regarding who is at risk for developing breast cancer may possibly influence African-American women's practice of BSE. Caucasian women are usually depicted in the media as being the most typical group of women at risk for developing breast cancer. Some African-American women, regardless of age, may incorrectly believe breast cancer is a disease that affects "other women." Educational materials rarely depict African-American women performing BSE, nor do they discuss the higher mortality rates of breast cancer among African-American women. According to the HBM (Rosenstock, 1966), when perceived barriers to a health action supersede the perceived benefits of taking a particular health action, avoidance of performing the action can occur.

Scope and Limitations

This study was based upon a convenience sample of 90 African-American women. The results of a convenience sample cannot be generalized to other African-American women as a whole. The data obtained from descriptive research offer information about the sample, not the larger population (Burns & Grove, 1987, p. 38). This study may have been limited by the instrument, a self-report questionnaire, which may have collected incorrect or false data due to interpretation or participant misunderstanding (Burns & Grove, 1987, pp. 312-314).

Recommendations

Breast cancer is an equal opportunity disease that impacts upon the lives and well being of American women regardless of race or ethnicity. Breast cancer is the leading cause of cancer death among African-American women. African-American women have poorer survival rates when diagnosed with breast cancer compared to Caucasian women. Registered nurses in all levels of practice can be effective change agents in providing breast health education as part of nursing intervention strategies.

African-American women need information regarding the incidence of breast cancer among all women, but particularly the higher mortality rates suffered among African-American women. Registered nurses should provide education in BSE instruction, breast cancer risk factors, signs and symptoms of

breast abnormalities, and how to correctly and thoroughly perform BSE. It is very important that nurses be culturally sensitive in presenting BSE information to African-American women. Nurses must provide education in order to allay fears, anxiety, and possible misconceptions African-American women may have about breast cancer and BSE. Nurses can network with African-American health care professionals, religious, social, and community organizations, to provide breast health education. Nurses must emphasize that regular clinical breast exams, monthly BSE, and mammography at indicated intervals are the keys to early detection, and hence, greater survival if diagnosed with breast cancer.

It is important that this study be replicated and expanded.

Recommendations for future studies are as follows:

1. The sample size should increase geographical, religious, educational, and socioeconomic representation of African-American women, in order to generate greater findings applicable to health beliefs and BSE practice.
2. The study should be replicated comparing women of various racial/ethnic groups for similarities or differences between health beliefs and BSE practice.
3. A study could evaluate how perceived barriers such as fear, lack of confidence in BSE technique, and lack of knowledge about breast cancer, may influence BSE practice among African-American women.

4. A study could be conducted to evaluate internal or external cues which may influence African-American women's motivation to perform BSE.
5. Administer the questionnaire before and after a breast health program that includes breast cancer facts and instruction of BSE.
6. The study could be repeated controlling for age as a variable, since more African-American women under age 40 are diagnosed with breast cancer at twice the rate of Caucasian women.

Summary

The morbidity and mortality rates for African-American women diagnosed with breast cancer are grim. Breast health educational strategies must be culturally relevant and specific. The majority of nursing research has focused upon the health beliefs and BSE practice of Caucasian women. Nurse researchers are in a powerful position to conduct additional studies, in order to impart breast cancer and BSE knowledge to African-American women from all socioeconomic levels, so that they may lead healthier and more productive lives.

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APPENDIXES

APPENDIX A
Data Collection Instrument

SECTION I - Please read the following questions and circle the letter of the statement which you think is currently true about breast cancer.

1. The chances of a woman in this country getting breast cancer sometime during her lifetime are:
 - a. 1 out of 9 women will someday have it.
 - b. 1 out of 15 women will someday have it.
 - c. 1 out of 12 women will someday have it.
 - d. 1 out of 4 women will someday have it.
 - e. Have no idea.
2. Most lumps discovered in the breast turn out to be cancer.
 - a. Yes
 - b. No
 - c. Have no idea
3. On the average, the chances of a woman developing breast cancer begin to increase after she passes which birthday?
 - a. 20th
 - b. 30th
 - c. 40th
 - d. 50th
 - e. 60th
 - f. Have no idea
4. A woman is more likely to develop breast cancer if she: (Circle as many as your feel are correct)
 - a. is single
 - b. has been married, but has no children
 - c. has been married, and has had children
 - d. has breast-fed her children
 - e. has had a hysterectomy
 - f. has relatives who have had breast cancer
 - g. is past menopause (change of life)
 - h. takes birth control pills
 - i. has been hit in the breast
 - j. have no idea.

=====

SECTION II - Please read the following statements and check whether you agree strongly, agree a little, disagree a little, or disagree strongly with what each statement says.

	Agree Strongly	Agree A Little	Disagree A Little	Disagree Strongly
1. If more women examined their breasts regularly, there would be fewer deaths from breast cancer.	☐	☐	☐	☐
2. My health is too good at present to even consider thinking that I might get breast cancer.	☐	☐	☐	☐
3. Whether I find a lump in my breast myself doesn't really matter because by then it's too late anyway.	☐	☐	☐	☐

4. Whenever I hear of a friend or relative (or public figure) getting breast cancer, it makes me realize that I could get it too.

5. If I examined my own breasts regularly, I might find a lump sooner than if I just went to the doctor for a checkup.

6. There are so many things that could happen to me that it's pointless to think about any one thing like breast cancer.

7. Even though it's a good idea, I find examining/having to examine my breasts an embarrassing thing to do.

8. The older I get, the more I think about the possibility of getting breast cancer someday.

9. Examining my breasts often makes/would make me worry unnecessarily about breast cancer.

Agree Strongly	Agree A Little	Disagree A Little	Disagree Strongly

10. If I had to think about the possibility that I might someday get breast cancer, I would rate my chances as compared with other women as (circle one answer):

- a. average
- b. above average (more likely I would get it)
- c. below average (less likely I would get it)

=====

SECTION III - Have you ever done breast self-examination in the past?

- a. Yes (if yes continue to question 1 below)
- b. No (if no, skip to Section IV)

1. How often do you do breast self-examination? (Circle one answer)

- a. More than once a month
- b. Once a month
- c. 6 to 11 months out of the year
- d. 1 to 5 months out of the year
- e. Less than once a year

2. Where did you learn how to do breast self-examination? (You may circle more than one answer)

- a. Friend or relative
- b. Doctor
- c. Nurse
- d. TV program
- e. Magazine
- f. American Cancer Society booklet
- g. Advertisement
- h. Never been taught - do it my way

3. At what time of the month do you usually examine your breasts?

- a. Whenever I think of it
- b. Before my period
- c. After my period
- d. During my period
- e. First of every month

Are you still having periods?

Yes No

4. How confident are you that you are doing your self-examination correctly? (Circle one answer)

- a. Very confident
- b. Confident
- c. Not too sure
- d. Not at all confident

5. What do you look for when you examine your breasts? (Write in your answer) _____

6. If there was something wrong, do you think that you would find it in your examination?

- a. Yes b. No c. Not sure

If you have just filled out this section, you may skip Section IV and proceed to Section V. If you have not filled out this section because you do not do breast self-examination, then please fill out Section IV.

=====

SECTION IV -

1. Have you ever heard about breast self-examination?

- a. Yes (Continue to question 2 below)
- b. No (Skip to question 5)

2. Where have you heard about breast self-examination? (You may circle more than one answer)

- a. Friend or relative
- b. Doctor
- c. Nurse
- d. TV program
- e. Magazine
- f. Advertisement
- g. American Cancer Society
- h. Can't remember

3. Has anyone ever shown you how to examine your breasts?
 - a. Yes (If yes, go back to question 2 and place a check mark next to that person)
 - b. No
4. Why would you say that you don't do breast self-examination? (You may circle more than one answer)
 - a. Too busy - just forget
 - b. Too embarrassing - don't like the idea of touching my breasts
 - c. Rather not think about breast cancer at all
 - d. Never been shown how - wouldn't know what to look for
 - e. Feel it wouldn't help
5. If you were shown the proper way to do breast self-examination and were given information about it, do you think you would do it on a regular basis?
 - a. Yes
 - b. No - If no, why not? (Write in reason) _____

=====

SECTION V - Now there are some personal questions which I would like to ask you in order to help me draw some conclusions from these questions. These answers will be kept in strictest confidence, however, I will respect your decision not to make certain information available.

1. What is your age? _____
2. Family/Personal income
 - a. Under \$10,000
 - b. \$10,000 - \$20,000
 - c. \$20,000 - \$30,000
 - d. Over \$40,000
3. Occupation _____
4. Marital Status
 - a. Single
 - b. Married
 - c. Divorced
 - d. Separated
 - e. Widowed
5. Religion
 - a. Protestant
 - b. Catholic
 - c. Muslim
 - d. Other

6. Highest level of education
- a. Eighth grade or less
 - b. High School graduate
 - c. 2-year Community College graduate
 - d. 4-year College graduate
 - e. Graduate or Professional school
7. Have you ever had a lump removed from your breast?
- Yes No
8. Have you ever had a breast removed for cancer?
- Yes No
9. Have you ever had any operation that you were told was for cancer?
- Yes No
10. Do you have a family history of breast cancer?
- Yes No I don't know

Scoring Guide to Instrument

Section I

1. a
2. b
3. b or c
4. a, b, f, and g

Section II - A score of 1 is always indicative of low belief

	Agree Strongly	Agree A Little	Disagree A Little	Disagree Strongly
1.	4	3	2	1
2.	1	2	3	4
3.	1	2	3	4
4.	4	3	2	1
5.	4	3	2	1
6.	1	2	3	4
7.	1	2	3	4
8.	4	3	2	1
9.	1	2	3	4
10.	a-2	b-3	c-1	

APPENDIX B

Permission Letter for Use of Instrument

The School of Nursing
 U-59, Room 100
 175 Auditorium Road
 Storrs, CT 06269-2026
 Telephone: (203) 486-3713

March 13, 1992

Ms. Sharon Barnett
 2444 Demarest Lane
 San Jose, CA 95138

Dear Ms. Barnett:

Enclosed is a copy of the tool which I used in my research study on breast cancer beliefs and BSE. I hope that it is helpful to you. You may use any portion of the tool so long as you give credit to me (as so stated in your letter). I also hope you will share results with me in an abstract so that I may add to my files. *(I would also modify it next year)*

I do not get as many requests, most likely because of the number of years which have passed, the difficulty people have in tracking me down, and the number of similar studies which have now been published. However, occasionally someone will write and I can put them in touch with someone who used a similar sample group but did not publish. I do have in my records the following request which may or may not be helpful (assuming the address is current):

(2/91)

Decatur, IL 62522 (Grad - U. of Illinois)
 (black women as sample)

I wish you luck in your research and let me know if I can be of further help (203-644-0279).

Sincerely,

Margot Stillman

Margot Stillman
 80 Rosemary Ln.
 So. Windsor, CT 06074

APPENDIX C
Letter to Organizations

A campus of The California State University

College of Applied Sciences and Arts • Department of Nursing
One Washington Square • San José, California 95192-0057 • 408/924-3130 • FAX 408/924-3135

August 22, 1992

Dear :

I am a Master of Science Candidate in the Department of Nursing at San Jose State University. The focus of my Master's research is African-American women's health beliefs regarding breast cancer and breast self-examination.

Breast cancer is the number one cause of cancer deaths among African-American women. Black women statistically are at lower risk of developing breast cancer; however, when diagnosed their survival rate does not compare favorably with white women. More black women under age 40 are being diagnosed with breast cancer.

So little research has focused exclusively upon what black women know about breast cancer and breast self-examination. I plan to survey local African-American women's organizations in Santa Clara Valley about their health beliefs about breast cancer and breast self-examination. This process involves completing a questionnaire that takes 10-15 minutes to complete. The questionnaire is designed to ensure anonymity of the respondent. I would appreciate an opportunity to personally discuss with you, how your organization can participate in my research study, in order to provide education to the African-American community about such an important health care issue.

Sincerely,

Sharon Goldsby Barnett, R.N., FNP
Graduate Nursing Student

APPENDIX D

Permission Letters from Organizations

Sunnyvale, CA 94086

August 28, 1992

Sharon Goldsby Barnett

San Jose, CA 95138

Dear Ms. Barnett:

As per our discussion on August 27, 1992: I would be more than happy to participate and contribute to your research study on the African-American woman and breast cancer.

I would like to extend the use of my salon on any day you feel is convenient for you to conduct your survey. You need only to give me a few days' prior notice so that I can prepare whatever is necessary for you.

I am most pleased to see your interest in this area. I have lost several clients to breast cancer; one only a few months ago, so I feel it of utmost importance that we begin to educate our black women on earlier detection and the options available to them.

It is always an extreme pleasure dealing with you Sharon, and I look forward to our "education" day on breast self-examination with great enthusiasm!

Sincerely,

Owner

408/

B BLACK
N NURSES
ASSOCIATION, INC.

• SAN JOSE, CA 95158-8412

August 31, 1992

Mrs. Sharon Goldsby Barnett

San Jose, CA 95138

Dear Sharon:

Per our discussion on August 9, 1992, Black Nursing Association have granted you permission to present your research study, regarding Breast Cancer and Breast Self-Examination among African American Women .

Our group meet the Second Friday of every month from 7:30p-m 9:00p.m. at the Afro-American Center at 304 N.6th St., San Jose, Ca. What ever month is convenient for you to attend, please notify me in advance.

The Black Nursing Association is looking forward to meeting you.

Sincerely,

_____, RN
President

SEVENTH-DAY ADVENTIST CHURCH

CA 94303

September 17, 1992

Sharon Goldsby Barnett, R.N., FNP

San Jose, California 95138

Dear Ms Barnett:

I am sorry about the delay in getting back to you. However, all is not lost. The Seventh-Day Adventist Church will be most happy to have you attend our Health Department Program night and present your questionnaire.

I am sure that the audience will be pleased to participate in this survey.

We have approved the fourth Wednesday at 7:00 p.m. for you to do your survey; as soon as your school has approved your appearance.

Thank you for thinking of this church and this community for your research.

Sincerely,

Church Administrator

Methodist Episcopal Church

San Jose, California 95116

*Presiding Bishop**Pastor**Presiding Elder*

September 18, 1992

Sharon Goldsby Barnett, R.N, FNP

San Jose, CA 95138

Dear Ms. Barnett:

Please accept my apologies for the delay in getting this letter out to you. I am my own secretary and that is not a particularly efficient way to do correspondence!

Our Women's Missionary Society, with whom I met on Monday, September 14, will be delighted to have you come to do your research. Their next meeting will be on Monday, October 5, at 7:30 p.m.

They also expressed interest in including other women in the congregation who are not a part of the Missionary Society, which would probably involve a Sunday following an 11:00 a.m. service. Guyonna McCullough, whom I think you know from the American Cancer Society, has ideas of how that might be done.

We look forward to getting together with you on the phone or otherwise to tighten up the details. The new president of the Missionary Society will be elected this Sunday and she will then be your contact person.

Please call if you need more information. Again, apologies to you and to your committee for the delay in getting this letter to you.

May God bless you and your work.

Sincerely,

1

Pastor

SANTA CLARA COUNTY SECTION

September 21, 1992

Ms. Sharon Goldsby Barnett

San Jose, Ca. 95138

Dear Ms. Barnett:

In accordance with our discussion on August 19, 1992, as president of the Santa Clara County Section, I welcome the opportunity for members of the Section to participate in your research study. As such, you are granted permission to attend our October 25, 1992 meeting to present your study and obtain participation from those in attendance. I understand that the title of your study is "African-American Women's Health Beliefs About Breast Cancer and Breast Self-Examination" and further understand that the members of the Section will be asked to complete a short questionnaire on a voluntary basis. Since we understand the value to the African-American community of studies like these that focus on important health and survival issues, I'm sure that you will get very positive interest and participation during the meeting.

Therefore, we look forward to seeing you on October 25, 1992 and wish you ongoing success and our continued support as you progress through your study.

Sincerely,

President

Church of

CALIFORNIA 95112

September 23, 1992

Sharon Goldsby Barnett

San Jose, CA 95138

Dear Ms. Barnett,

It is with much joy that I take this opportunity to encourage you in your Masters research study in African-American Women's Health Beliefs About Breast Cancer and Breast Self-Examination. I am pleased to inform you that our ladies group has enthusiastically embraced the idea and would welcome your coming.

Therefore, on behalf of myself, the Elders and the women of our congregation, I am pleased to grant you our permission to come and meet with our ladies group, for the purpose of your Masters research study, on such a vital and important subject.

Our ladies group meets regularly on the third Sunday of each month following our morning worship (at approximately 11:45 a.m.). This group is complimented by 25 to 30 women ranging in age from early 20's to late 80's. If this is a good time for you, please let us know and we will confirm the date with our ladies.

Thank you, Ms. Barnett, for selecting our ladies to help with your research and to advance your studies, I am...

Respectfully,

APPENDIX E
Study Cover Letter

A campus of The California State University

College of Applied Sciences and Arts • Department of Nursing
One Washington Square • San Jose, California 95192-0057 • 408/924-3130 • FAX 408/924-3135

Hello:

My name is Sharon Goldsby Barnett, and I am a Master of Science Candidate in the Department of Nursing at San Jose State University. The focus of my thesis is African-American women's health beliefs about breast cancer and breast self-examination. I would greatly appreciate a moment of your time, by completing a questionnaire that relates to what you know about breast cancer and breast self-examination. The questionnaire takes about 10 to 15 minutes to complete. The questionnaire is designed to be anonymous, and information you give is considered confidential. The answers you give will not be attached to your name, so that your identity will not be revealed in any way during the study or when the study is published.

Your participation is strictly voluntary. If you decide to participate, please read and sign the consent form provided. **DO NOT SIGN YOUR NAME ANYWHERE ON THE QUESTIONNAIRE.** I will be present to provide help with the questionnaire should you need it.

Thank you for your assistance.

Sharon Goldsby Barnett, R.N., FNP
Master of Science Candidate
Department of Nursing
San Jose State University

APPENDIX F

Human Subjects-Institutional Review Board Letter

A campus of The California State University

Office of the Academic Vice President • Associate Academic Vice President • Graduate Studies and Research
One Washington Square • San Jose, California 95192-0025 • 408/924-2480

To: Sharon Goldsby Barnett

San Jose, Ca 95138

From: Serena W. Stanford
AAVP, Graduate Studies and Research

Date: October 16, 1992

The Human Subjects-Institutional Review Board has reviewed and approved your request for exemption from Human Subjects Review for the proposed study entitled:

"African-American Women's Health Beliefs about
Breast Cancer and Breast Self-Examination

Provided that there are no changes in the procedure proposed, you may proceed with this study without further review by the Human Subjects-Institutional Review Board. You must notify the Human Subjects-Institutional Review Board of any changes in the subject population or procedure for this study

I do caution you, however, that Federal and State statutes and University policy require investigators conducting research under exempt categories to be knowledgeable of and comply with Federal and State regulations for the protection of human subjects in research. This includes providing necessary information to enable people to make an informed decision regarding participation in your study. Further, whenever people participate in your research as human subjects, they should be appropriately protected from risk. This includes the protection of the confidentiality of all data that may be collected from the subjects. If at any time a subject becomes injured or complains of injury, you must notify Dr. Serena Stanford immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised when people participate in your research as human subjects, each subject needs to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted.

If you have questions, please contact me at 408-924-2480.

APPENDIX G
Consent Form

A campus of The California State University

College of Applied Sciences and Arts • Department of Nursing
One Washington Square • San José, California 95192-0057 • 408/924-3130 • FAX 408/924-3135

**AGREEMENT TO PARTICIPATE IN RESEARCH
AT SAN JOSE STATE UNIVERSITY**

**Investigator: Sharon Goldsby Barnett, RN, FNP
Master of Science Candidate, Department of Nursing**

**African-American Women's Health Beliefs About Breast Cancer and Breast
Self-Examination**

I have been asked to participate in a research study that is investigating
African-American women's health beliefs about breast cancer and breast
self-examination.

I understand that:

1. I will be asked to complete a questionnaire about health beliefs about
breast cancer and breast self-examination, which will take 10 to 15 minutes to
complete.
2. The possible risk of this study is that the questionnaire may elicit negative
feelings about sensitive health issues.
3. The benefit of my participation in this study can increase knowledge about
black women's health beliefs about breast cancer and breast self-examination.
4. The results from this study may be published, but any information from this
study that can be identified with me will remain anonymous and will be
disclosed only with my permission or as required by law.
5. Any questions about my participation in this study will be answered by
Sharon Goldsby Barnett at (408) . Complaints about the procedures
may be presented to Bobbye Gorenberg, graduate coordinator, at (408) 924-
3134. If there are questions about research-related rights of volunteers, direct
them to Dr. Serena Stanford, Associate Vice-President of Graduate Studies and
Research, at (408) 924-2480.

Initials: _____

6. My consent is given voluntarily without being coerced; I may refuse to participate in this study or in any part of this study, and I may withdraw my consent at any time, without prejudice.

7. I have received a copy of this consent form for my personal file.

I HAVE MADE A DECISION WHETHER OR NOT TO PARTICIPATE. MY SIGNATURE INDICATES THAT I HAVE READ THE INFORMATION PROVIDED ABOVE AND THAT I HAVE DECIDED TO PARTICIPATE.

DATE

PARTICIPANT'S SIGNATURE

DATE

INVESTIGATOR'S SIGNATURE

APPENDIX H
Breast Self-Examination Article

In the late 1970's, many people in the Black community were saddened by the death of singer Minnie Riperton. Ms. Riperton was in her early thirties when she tragically died of breast cancer. Breast cancer is the most common type of cancer affecting American women. One in nine women will develop breast cancer in her lifetime. The American Cancer Society estimated that 175,000 women were diagnosed with breast cancer in 1991. Last year, nearly 45,000 women died of breast cancer. Many health experts consider these rates to be of epidemic proportion.

Breast cancer is the number one cancer cause of death among Black women, and more Black women under age 40 are being diagnosed with breast cancer. The rate of breast cancer for Black women is nearly twice that of white women. Though Black women are statistically at lower risk of developing breast cancer than white women, when diagnosed with breast cancer, their survival rate does not compare favorably with that of white women. It is possible that genetic and lifestyle differences may increase the risk for some black women to develop breast cancer more than other women.

Early detection is the key to survival when diagnosed with breast cancer. In other words, if a cancerous breast lump is found when very small, the odds for survival are greater. Unfortunately, many black women don't live long after being diagnosed with breast cancer because when large size cancerous breast lumps are found, the cancer eventually spreads to other parts of the body.

Several factors that contribute to poor survival in Black women when diagnosed with breast cancer are:

- *Lack of health insurance preventing yearly breast exams and regular mammograms*
- *Fear and misunderstandings about breast cancer and breast self-examination*
- *Pessimism about early detection of breast cancer and available treatment of breast cancer. Many African Americans believe a diagnosis of cancer is an automatic death sentence*
- *Lack of knowledge about the prevalence of breast cancer among Black women, and the importance of knowing how to recognize early warning signs of cancer.*

All women are at risk of developing breast cancer, some more than others. Conditions which increase a woman's risk for breast cancer are as follows:

1. Having a family history of breast cancer in close relatives such as your mother, grandmother, sister or aunt, or either your mother or father's side of the family
2. Older age
3. Previous history of breast cancer
4. Having first child after age 30
5. Being 40% above your normal weight

This is not to imply that a woman will develop breast cancer because she "fits" one or all of the above risk factors. It's important to note that 85-90% of women diagnosed with breast cancer had none of the above risk factors. Therefore, it's very important that women, especially African American women, learn how to examine their breasts every month. All women should perform breast self-examinations every month. Monthly breast

self-examination can help you become more familiar with your breasts, in order to notice anything different or unusual. The majority of breast lumps are found by women themselves. Yearly breast exams by your health care provider are very important also.

Mammograms play an important role in the early detection of breast cancer. A mammogram is a special type of x-ray used to detect breast tumors too small to be felt by the most experienced examiner, or by you. The American Cancer Society recommends that women have their first mammogram between the ages 35-40. Women aged 40-49 should have a mammogram every one to two years depending on their risk factors. Women aged 50 and older should have a mammogram every year.

Certain diets are believed to contribute to 35% of all cancer deaths. Women who are 40% above their normal weight may be at a higher risk for developing breast cancer. Black women aged 20-40 on the average weigh more than white women. Sixty-one percent of Black women over age 45 are overweight compared to 32% of white women. Eating foods high in saturated fat is linked to developing breast cancer. Traditional habits among some Black women include frying foods rather than baking, eating a lot of smoked foods, and sausages, and overcooking vegetables prepared with fat.

Positive dietary changes should include decreasing the amount of fat and smoked foods in your diet and eating more fresh fruits and vegetables, which are high in fiber. For overweight women, discuss with your health care provider, healthy, safe, and sensible ways to lose weight.

African American women owe it to themselves to learn more about breast cancer and breast self-examination. Early detection is the key to survival. Make your health care and well being a priority. Another column will discuss how and when to do monthly breast self-examination.