



2003

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Recommended Citation

Welch, Stephanie RNC; Johnson, Laurie BSN; Gore, Holly BSN; Cravey, Katie BSN; and Blick, Susan BSN (2003) "Breast Screening Outreach Education for Rural, Indigent Women," *The Corinthian*: Vol. 5 , Article 9. Available at: <https://kb.gcsu.edu/thecorinthian/vol5/iss1/9>

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Breast Screening Outreach Education for Rural, Indigent Women

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Breast cancer represents the second leading cause of death among women in the United States affecting 182,000 women yearly (Morbidity and Mortality Weekly 2000). Latest statistics indicate that the incidence was 110.7 cases with a case fatality of 24.3 per 100,000 women (MMWR 2000). Despite the best efforts of health care providers to increase breast self-examination and the use of mammography in women between the ages of 40 and 65 years, women in this age group still report that they do not do breast self-examination or seek mammography on a regular basis. African-American women have a higher mortality rate than European-American women in the United States (Eley, Chen, et. al., 1994). Research has shown that not all women appear to have the same access to preventative education and care. Findings of such studies revealed lower rates of mammogram screenings for African-American women when compared with rates of white women of the same age (Tishler, McCarthy, Rind & Hamel, 2000; Barrosos, McMillan, Casey, Gibson & Kaminski, 2000). Factors affecting lower rates of screenings among these women ranged from cultural beliefs regarding breast cancer, to lack of knowledge regarding mammograms, to fear of cancer (Champion, Skinner & Foster, 2000).

The results of several studies indicated that breast cancer screening incorporating both breast self-examination and mammography was effective in reducing mortality in breast cancer patients (Jatoi 1999; Johnson, Taylor, Lessler, Thompson, & Goldberg, 1998; Barrosos, et. al., 2000). These researchers found that women who were educated not only about the techniques but about the advantages of breast self examination as well, continued to perform them and experienced lower rates of mortality from breast cancer. Research findings indicated that comprehensive approaches including both classroom education, use of media, and health fairs for at-risk communities proved effective in increasing

breast screening practices of participants (Tatum, Wilson, Dignan, Paskett & Velez, 1997; Bowen, Hickman & Powers 1997). Other studies found success in one-on-one dialogue between the patient and the health-care provider regarding breast health (Tishler, McCarthy, Rind & Hamel, 2000; Skinner, Arfken & Waermand, 2000; Flam, Michel, Laskey, Maher, Sylvester & Senenr, 1997) Thus, education, especially one-on-one education, may be the key to heightening women's awareness of breast cancer risk and the benefits of screenings while decreasing their perceived barriers to doing breast self-examination and seeking mammography.

Recently a study was published that indicated breast self-examination may not make a significant difference in women's mortality rates from breast cancer (Thomas, Gao, Ray, Wang, Allison, Chen, Porter, Hu, Zhao, Pan, Li, Wu, Coriaty, Evans, Lin, Stalsberg, & Self, 2002). But for the woman who finds a breast mass herself, these statistics are less meaningful.

Few research articles are available in the literature regarding the outcomes of interventions involving education about breast health in a health fair environment coupled with one-on-one teaching of the Mammacare, method of breast examination. If women's compliance with breast self-examination could be increased and their perception about breast screening could be changed by such an intervention, health care providers could have a valuable tool for reducing the incidence of breast cancer mortality in at-risk populations.

Conceptual Model

Rosenstock's (1974) Health Belief Model (HBM) was developed in an attempt to explain and predict health behaviors in relation to individual decision-making. The six elements included in the HBM are as follows: susceptibility, seriousness, benefits of action, barriers to taking action, cues to action, and motivation. According to Rosenstock (1974) susceptibility refers to the subjective risks of contracting a condition. This element may vary according to the exposure an individual has had with the condition. For instance, with a family or personal history of breast cancer, a woman may be more likely to perform monthly breast self-examinations. Seriousness of a health problem may be perceived according to the amount of emotional distress created by the thought of the disorder or by the difficulties one perceives the problem may create. The woman

must perceive the health problem to be a personal threat to her before she takes action. For example, she must perceive that this condition would be serious, impacting her employment, personal pleasures, family, or length of life before she will take preventive action.

Rosenstock (1974) suggested that one's actions are also governed by the benefits perceived to be gained by acting to seek healthcare or perform preventive health activities. The individual's perception of the availability and effectiveness of actions are thought to have more influence on her actions than objective facts. However, even if health behaviors such as breast self-examination and screening are deemed by the woman to be desirable, issues of convenience, expense, pain, and unpleasantness of such behaviors may be perceived by her as significant barriers.

Cues to action are described as instigating events which set the process of health prevention in action (Rosenstock 1974). In other words, these events are triggers that influence one to perform certain health behaviors such as breast self-examinations or breast screenings. These cues may be internal or external. Internal cues may be one's perception of personal health. External cues include information obtained through the media, educational sessions, or interpersonal interactions, or through appointment reminders. Motivation refers to individual desire to maintain health and avoid illness, such as breast cancer (Mikhail, 1981).

The usefulness of the HBM theory lies in whether changing health beliefs can lead to change in behavior. This conceptual model was chosen for this research because the researchers wanted to know if changing indigent women's beliefs about breast cancer could lead to a change in the subjects' health promotion and prevention behavior. In this study, the researchers were trying to explain and predict health behaviors of rural indigent women in relation to breast health. In 1997, Champion and Menon developed a tool for examining health behaviors.

Purpose

The purpose of this intervention study was to determine if breast health education in a community health fair environment with one-on-one teaching about breast self-examination would make a difference in the subjects' perceptions about the barriers to and benefits from breast screening.

Grant Funding

This project was partially funded by a Center for Disease Control grant titled "Breast Test and More." This grant was available in Georgia and promoted cancer screening through a program that focuses on indigent women in mid-life. The grant funded the project through one county health department for women within that county only.

Design

This was an intervention study using a one group pre-test post-test design. The subjects served as their own controls with comparison of scores on the pre-test and post-test for each subject. Paired t-tests were used to statistically analyze the results for each scale of the questionnaire and for the total questionnaire. Hypotheses included: 1) Rural indigent women who attend an educational outreach session on breast health will experience a change in their beliefs about their susceptibility to breast cancer and perceive benefits to seeking breast screening; 2) Rural indigent women perceive fewer barriers to seeking breast screening following an outreach education session; and 3) Rural indigent women who receive one-on-one education in the Mammacare, method increase their practice of monthly breast self-examination.

Instrument

The instrument, developed by Champion, was the "Health Belief Model Scales for Measuring Beliefs Related to Breast Cancer" (1999). The instrument was organized into 6 scales : 1) Susceptibility, 2) Seriousness, 3) Benefits, 4) Barriers, 5) Confidence, and 6) Health Motivation. One question was asked about the subjects' practice of breast self-examination at the end of the questionnaire as well.

Research Subjects

The final sample consisted of 23 subjects who were women between the ages of 40 and 65 years residing in a government-subsidized housing project in a small town in central Georgia. Twenty African-American, two European-American, and one Hispanic subject comprised the final sample. One woman declined participation. Two women were developmentally delayed, and although they were

allowed to participate in the educational session and answer questionnaires, the data from these two subjects was discarded. The sample subjects all spoke and read English and could answer simple questions on a questionnaire.

Participation in the research was strictly voluntary. Flyers were placed around the public health clinic and at strategic sites around the housing project and immediate vicinity, informing women of the up-coming health fair. Small tokens were offered at the health fair including a t-shirt bearing a pink ribbon for the women to keep and wear while learning to perform breast self-examination, a pocket calendar on which to keep the dates of breast self-examinations and mammograms, mugs, and pens. Snack foods and soft drinks were provided.

Procedures

One of the researchers approached each of the women attending at the beginning of the health fair to determine her eligibility for participation in the study and to seek her consent to participate. Prior to the educational session, each subject completed the "Benefits and Barriers Scale for Breast Self-Examination and Mammography Screening" (Champion, 1999) and answered a question about her practice of breast self-examination. This instrument has been psychometrically tested and has high validity and reliability (Champion, 1999). Each subject was offered the opportunity to read the questions or have the questions read to her. The educational session included information about the risk of breast cancer, the practice and importance of breast screenings, and the relationship of early detection of breast cancer and increased survival rates. A question and answer session followed the information session. The researchers had been trained in the Mammacare, method of breast self-examination, and each subject was paired one-on-one with a researcher in a private, screened area to learn and practice this method of examination. Subjects wore t-shirts for this portion of the health fair. Approximately eight weeks after the health fair, the subjects were contacted and completed the questionnaire again.

Results

Significance at the .05 level was found in the barriers scale for breast self examination, indicating that on post-test the subjects

reported a decrease in their perception of barriers to performing breast self-examination. Significance was not demonstrated in the other seven scales. For the total instrument, significance at the .05 level was found as well indicating overall subjects reported fewer barriers, a change in their beliefs about breast self-examination and mammography and a change in their perceptions of benefits concerning breast self-examination and mammography. This finding may be due to the small sample size used for analysis in each scale as compared to the size of the sample for the entire instrument using all scales. Four of the 23 subjects reported not doing monthly BSE at pre-test. At post-test, two of these subjects reported doing monthly breast self-examinations.

Implications for Practice

One-on-one education and demonstration of breast self-examination can be an effective method of teaching breast exam. Privacy is important when providing an opportunity to learn and practice breast self-examination. The Mammacare, method of breast self-examination allowed the women to feel more confident about being able to detect masses when they performed the exam. Privacy allowed them to feel comfortable asking questions as well. A breast lump was identified on one subject who was referred for no-cost mammogram and follow-up. Thus, health professionals need to design ways to teach women the importance of breast screening and effective methods for breast self-examination in privacy at a location that is convenient for the women themselves.

Implications for Further Research

Further investigation into the area of breast health education and breast screening will provide insight into effective health-care interventions for women. Implications for further research were identified. Replication of this study using a larger sample could prove useful in detecting significance in more areas for the Champion (1999) scale than were identified using the small sample in the present study. Replicating this study using an inner-city rather than a rural population may give insight into whether the intervention would work with other samples. Since the sample in this study consisted mostly of African-American women, using a sample that is representative of a different ethnic group may provide

information about cultural implications of breast health education and the practice of breast health.

Conclusions

Taking time to explain to women that they are susceptible to breast cancer, and success of early intervention may encourage women to do breast self-examination and seek mammography. There are women who still need to be reached with breast health education. This is especially true for rural indigent women who may have little access to transportation and a telephone. No longer can we just rely on remaining in the clinic if we want to reach women with health education. Nurses and the health education they can provide must be accessible in the community setting. One-on-one education and practice in performing breast self-examination may prove beneficial for women in detecting masses while the masses are still small. Reaching women where they live may prove effective. By knowing whether this type of intervention can be successful in increasing women's awareness of breast cancer risk and the benefits of breast screening and decreasing the barriers to such screening, health care providers can arrive at more effective methods of educating indigent mid-life women about breast health. If more women perform breast self-examinations and seek mammograms, it is possible that the mortality from breast cancer can be reduced.

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