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BREAST SELF-EXAMINATION TEACHING

FOR WOMEN IN CHEMICAL DEPENDENCY PROGRAMS

by

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Abstract

Fifty-two women from 5 chemical dependency programs participated in a 1 hour health education program teaching breast self-examination using breast models. Tactile skills and general information about breast cancer and breast self-examination were presented. The program was evaluated for its ability to teach this high risk population. Nine true/false questions and lump detection skills were evaluated using a pretest/posttest non-experimental design. A level of significance for the true/false questions was set at .01, and for lump detection skills it was set at .05. Dependent t tests was used to statistically analyze the data. Participants improved their general knowledge about breast cancer and self-examination as a result of this program (p <.01). Lump detection skills also improved (p <.05). This study indicates health education programs are of value and can potentially decrease the survival discrepancy for breast cancer for a specific high risk population.

Breast cancer is the most common type of cancer found in women, accounting for more than 30% of all cancers. Nationwide, more than 184,000 women were diagnosed with breast cancer in 1996 and approximately 44,000 died. Moreover, one in eight women will develop breast cancer at some point in their lifetime (Breast Cancer Facts and Figures, 1996).

Certain locations in the United States have a particularly high incidence of breast cancer. A National Cancer Institute (1995) report startled the San Francisco Bay Area when data collected from 1973 to 1992 indicated Caucasian women in that region had the highest frequency of breast cancer in the world. This group had 104 breast cancers diagnosed per year out of every 100,000 women. African-American women in the Bay Area were close behind with 82 per 100,000 women. These rates are 50% higher than most European countries and five times higher than Japan.

Bailey and Fink (1996) summarized the breast cancer problem when they wrote "since 1960, more than 996,000 U.S. women have died of breast cancer--more than two times the number of all Americans who died in World War I and II, Korea, Vietnam and the Persian Gulf wars combined"(p.15).

Literature Review

Population

Not all women have equal access to screening and health education programs. An extensive review of the literature on breast cancer revealed lower rates of screening for certain groups of women. Older women, poor women, uninsured/underinsured women, and women of color constitute underserved groups (Champion, 1994; Eng, 1993; Farley & Flannery, 1993; Rimer, 1993; Zapka, Stoddard, Constanza, & Green, 1989).

Eley et al. (1994) measured racial differences in breast cancer survival. They found the risk of dying was 2.2 times greater for African-American women than for Caucasian women. African-

American women diagnosed with breast cancer experienced a 5 year survival rate of only 62% compared with 79% for Caucasian women. They also found women without health care insurance had a 2.3 times greater risk of death from cancer than insured women. The researchers recommended community education to reduce the survival disadvantage for African-American women.

Moormeier (1996) found breast tumors in African-American women were consistently at a more advanced stage of disease than those found in other women. She suggests the discrepancy in survival between African-American women and Caucasian women likely exists because African-American women have more advanced tumors at the time of diagnosis. Like Eley et al. (1994), Moormeier recommends community education as the means to improve breast cancer survival rates for African-American women.

Women in chemical dependency programs have special problems and constitute another high risk group. Grinspoon (1987) notes this population has a higher rate of depression and fewer resources. Most women in this group have small children and live on public assistance. Many have neglected their health needs because of chemical dependency. Brindis, Clayson, and Berkowitz (1994) in an evaluation report for one Bay Area recovery program noted women enrolled in the program usually have several children and were often at risk of losing their children to county Child Protective Services (CPS). They were polydrug users with an extensive history of addiction. Prior drug/alcohol treatment programs were unsuccessful. The economic and social conditions they faced were extreme. However, they were clearly survivors.

Alcohol users also have a higher risk of breast cancer than the general population. Longnecker et al. (1995) investigated the risk of breast cancer in relation to past alcohol consumption. From 1988 to 1991, 6888 breast cancer clients were contacted and questioned on alcohol use at various ages. There was a twofold increase in breast cancer risk with high

consumption of alcohol. Furthermore, a lifetime average intake of just one drink per day appears to be associated with an increased risk for breast cancer. These findings also suggested relatively recent alcohol consumption substantially contributed to an increased risk of breast cancer.

Chen, Nunnerley, Dawson, Dobbs, and Fahy (1995) queried whether adverse life events affected breast cancer by looking at 119 women who were referred for biopsy to determine if life stress caused breast cancer. A total of 19 out of 41 clients with breast cancer experienced at least one great life threatening event in the 5 years before diagnosis. However, only 15 out of 78 with a benign biopsy had at least one great life threatening event in the 5 years before diagnosis. The researchers concluded women with at least one severe life event in the 5 years before diagnosis were more likely to have breast cancer. Women in chemical dependency programs frequently have great life threatening events simply by the nature of their addiction.

Furthermore, Jacob, Peen, and Giebink (1994) note the leading site of cancer incidence and mortality for women between the ages of 15 and 54 is breast cancer. Unfortunately, women under the age of 35 with breast cancer have the lowest survival rates from the disease.

Breast Self-Examination

The American Cancer Society and the National Cancer Institute first introduced breast self-examination over 40 years ago. Yet, studies have shown that only 29-46% of women practice monthly breast self-examination (Somkin, 1993). Dardick (1991) reports that 9 out of 10 breast lumps are found by women or their partners.

Huguley, Brown, Greenberg, and Clark (1988) evaluated 2093 women with newly diagnosed breast cancer. Five years after diagnosis, the cumulative survival rate was 76.7 % among those who regularly practiced breast self-examination. However, only 60.9% of the non examiners survived.

A group of researchers have developed through a series of experiments a breast model to teach women the skill of palpation. This model is called MammaCare (Pennypacker & Iwata 1991; Saunders, Pilgrim, & Pennypacker, 1986; Pennypacker, Goldstein, & Stein, 1983). The average tumor found by accident averages 3.6 cm; however, breast models have enabled both health care professionals and women themselves to find lumps in the 3 to 5 mm size (Foster et al., 1978; Huguley & Brown, 1981). It should be noted that tumors found in the 3 to 5 mm size are 80-90% smaller than those found by accident.

Researchers have concluded the breast model enables women to increase their lump detection skills. Furthermore, teaching breast self-examination using the breast model is a critical component to competently teach breast self-examination (Pennypacker, Goldstein, & Stein, 1983; Assaf, Cummings, Graham, Mettlin, & Marshall, 1985; Fletcher et al.,1990; Dorsay, Cuneo, Somkin, & Tekawa, 1988).

Fletcher et al. (1990) compared three methods of teaching breast self-examination. Three hundred women were randomly assigned to receive nurse instruction stressing tactile skills (breast model group), traditional nurse instruction emphasizing technique, and no nurse instruction. All received physician encouragement. One year later, the group using the breast models manufactured by the Mammatech Corporation found more lumps in the manufactured breast models than those in the traditional or control groups. The researchers concluded the breast models improved lump detection and examination technique better than traditional nurse instruction or no instruction. Therefore, the researchers concluded breast self-examination instruction should include the use of breast models as a lump detection teaching tool.

When determining participants' competence at breast self-examination, self-reporting is not an adequate indicator and should not be used by itself to evaluate effectiveness (Dorsay, Cueno, Somkin, & Tekawa, 1988). Passive methods of breast self-examination such as pamphlets or

films are of little value in helping women develop skills necessary for proficient breast self-examination. Classes using breast models both provide women with the opportunity to practice with feedback and significantly increase women's ability to find lumps. Additionally, the researchers noted breast self-examination can be learned from a one session class (Assaf, Cummings, Graham, Mettlin, & Marshall, 1985).

Not all researchers have found breast self-examination to be worthwhile. The U.K. Trial of Early Detection (1988) found there was no difference in breast cancer mortality between women that were given breast self-examination instruction and those who were not. Newcomb et al. (1991) found the risk of advanced stages of breast cancer were not different when comparing women who did breast self-examination to those who did not practice monthly self-examination.

It is estimated that nearly $2 billion could be saved annually in the United States alone if all breast cancers were discovered at the earliest detectable stage (Pennypacker, Personal Communication, Jan. 23, 1997). Furthermore, breast cancer is curable when detected early (Somkin, 1993).

Methodology

Purpose

The purpose of this study was to implement a community education class teaching breast self-examination for women enrolled in chemical dependency programs. This study attempted to test recommendations of Eley et al. (1994) and Moormeir (1996) regarding community education efforts in an identified high risk population.

Conceptual Framework

Gagne's (1985) theory of instruction served as the framework for organizing the content for this program. This theory is a teaching-learning theory that specifies a sequence of instructional events or activities, beginning with gaining the attention of the learners and informing them of

the objectives. Next, stimulation of prior recall is important to connect the learner to what is already known. The participant receives ongoing learning guidelines while the educator elicits performance. Finally, the instructor provides feedback while assessing performance and enhancing retention and transfer of learning.

Human Subjects Protection

Consent was obtained from the Institutional Review Board at San Jose State University prior to implementation to assure the protection of the participants in this study.

Research Questions

This study attempted to answer three research questions. First, would teaching breast self-examination using the MammaCare Breast Models improve participants' ability to detect breast lumps as measured by a pretest/posttest? Next, would teaching breast self-examination improve participants' knowledge about breast cancer and breast self-examination as measured by nine true/false questions on a pretest/posttest? Lastly, would a breast self-examination class motivate participants to seek a medical exam and schedule an appointment as measured by two self-reported questions on the posttest?

Sample

Fifty-two women from five chemical dependency programs in a northern California city participated in a 1 hour health education program. They were instructed on breast self-examination skills using the MammaCare breast models. A demographic background survey was completed by participants prior to the presentation. The participants were 75% African-American, 10% Caucasian, 6% Hispanic, and 9% other ethnicity. Ages ranged from 18 to 46 years (mean = 33, median = 35). One-half reported having a regular primary health care provider; 62% had seen their provider in the past year, 2% 1 to 2 years ago, 6% 2-3 years ago, and 30% had not seen their health care provider in many years. About one fifth (21%) reported

practicing monthly breast self-examination; 77% reported previous breast self-examination education; 67% felt they knew how to check their breast for lumps, and 57% reported they were at risk for breast cancer. All participants felt their health was important.

Data Collection

A pretest/posttest non-experimental design was used in this research study. All participants answered nine true/false questions about breast cancer and breast self-examination technique (Figure 1). Then each participant examined a silicone breast model developed by the Mammatech Corporation. The model contained five lumps of varying sizes, hardness, and depth of placement. lumps represented both fibroadenomatous tissue and cancerous tumors. The model was placed flat on the table. The women palpated the model and answered how many lumps they felt.

The participants received 1 hour of instruction on breast self-examination according to guidelines established by the American Cancer Society's Special Touch Training. The women practiced with MammaCare Breast Models and received feedback on their technique to improve their lump detection skills. General information about breast cancer, incidence rates, demographics, and facts about competently checking for breast lumps was also discussed. A posttest was administered after the class. The pretest and posttest questions were the same.

Results

The nine true/false pretest questions had a mean score of 73%, with a median of 78% (Table 1). Lump detection scores, with a total of 5 possible lumps, were as follows: 12% were unable to palpate any lumps; 14% palpated 1 lump; 15% palpated 2 lumps; 21% palpated 3 lumps; 21% palpated 4 lumps, and 17% palpated all 5 lumps (Table 2).

Posttest scores for the nine true/false questions improved dramatically, with a mean score of 93% and a median score of 89% (Table 1). Lump detection results also improved. The scores

were as follows: 0 palpated no lumps; 7% palpated 1 lump; 12% palpated 2 lumps; 25%

palpated 3 lumps; 33% palpated 4 lumps, and 23% palpated all 5 lumps (Table 2). Two self-

report items queried whether the class encouraged participants to seek a medical exam, and if

they would schedule an appointment. The results were as follows: 92% of the participants

reported the class encouraged them to seek an exam, and 98% reported they would schedule an

appointment with a medical provider.

Data Analysis

A dependent t test was used to evaluate pretest/posttest scores for true/false questions and

lump detection. The level of significance for true/false questions was set at the .01 level (p <

.01). A directional t test was used to evaluate the results. The null hypothesis was rejected at the

.01 level. Participants in this particular class significantly increased their knowledge about

breast cancer and breast self-examination.

Lump detection skills were analyzed using a dependent t test. Initially, the researcher set the

level of significance at the .01 level. The increase in lump detection skills was not significant.

The researcher then tested the research question that this class improved participants' ability to

detect suspicious breast lumps in the manufactured breast models at the .05 level. A directional t

test was used, and the null hypothesis was rejected at the .05 level. Thus, at this level,

participants did significantly improve their lump detection skills as a result of this class.

Discussion

One of the most rewarding experiences of a nursing educator is to teach a class to a receptive

audience. The women in each of the recovery programs were receptive and inquisitive. All five

groups had many risk factors and were considered to be a very high risk group overall. This study

is only a beginning test of what several researchers have recommended as "community education

efforts," and the findings cannot be generalized to the larger population.

The same test was used before and after the teaching. Participants may have improved on the posttest as a result of sensitization to the questions. However, using the same test prevented any variance in difficulty between the two tests. All nine of the true/false questions were true. The test was designed this way, because the researcher did not want any inaccurate information to be seen or heard by the participants. Only a small percentage of what is learned is retained long-term; therefore, the researcher wanted all communicated information to be correct.

Motivation to seek an exam and encouragement were both self-reported items. This study did not follow-up on whether appointments were actually scheduled and kept with health care providers.

This study is only a beginning exploration of how nurse educators can reach populations that are underserved and how to evaluate teaching interventions. As the dollars spent on underserved populations continue to decline, educators will be increasingly faced with evaluation of their interventions and the outcome of those interventions. Bringing programs to the community is the first step in narrowing the discrepancy of survival of breast cancer for the disadvantaged. This study shows community education efforts are worthwhile. Future studies need to focus on their value and their long term benefits if health care dollars are to be allocated for their existence. If such programs are not shown to be effective, funding for their implementation could be lost.

Figure 1

True/False Questions

1. Any woman can get breast cancer.

2. One out of 8 women will get breast cancer during their lifetime.

3. I should check my breasts once a month for breast lumps.

4. I should see a doctor once a year to have my breasts examined.

5. Usually, breast cancer lumps do not hurt.

6. Usually, the first person to find a breast cancer lump is the woman herself.

7. The best way to survive breast cancer is to find the lump early.

8. A breast self-exam takes about 10 minutes to check each breast.

9. African-American women find breast lumps later than all other ethnicities.

Table 1

Pretest/Posttest Scores: True/False Questions

Sample n = 52

Pretest Score: Mean = 73%   Median = 78%

Posttest Score: Mean = 93% Median = 89%

N	Pretest	N	Posttest
1	44%	0	44%
9	56%	0	56%
13	67%	3	67%
18	78%	2	78%
10	89%	22	89%
1	100%	25	100%

Table 2
Pretest/Posttest Lump Detection
n = 52

Number of lumps	N	Pretest Score	N	Posttest Score
0	5	0%	0	0%
1	8	20%	4	20%
2	8	40%	6	40%
3	11	60%	13	60%
4	11	80%	17	80%
5	9	100%	12	100%

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