

A Study to Assess the Effectiveness of Planned Teaching on Knowledge and Practice of Breast Self-Examination among Women of Reproductive Age for the Early Detection of Breast Abnormalities

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Abstract

Introduction: Breast cancer is the most common cancer among women, with about 2 million new cases and around 600,000 deaths reported in 2021. Breast self-examination (BSE) is a simple, cost-effective, and non-invasive method that enables women to detect breast abnormalities at an early stage. Improving women's knowledge and practice of BSE can contribute to the early detection of breast diseases and improve health outcomes.

Objectives: (1) To assess the knowledge and practice regarding BSE among women of reproductive age for the early detection of breast abnormalities. (2) To evaluate the effectiveness of a planned teaching program on knowledge and practice regarding BSE among women of reproductive age.

Materials and Methods: One-group pre-test and post-test research design was adopted. The structured teaching program was administered on BSE. The group was assessed with the questionnaire and checklist before and after. The sample size was 30 class IV female workers working in Trust Hospital. The duration of the study was 4 months.

Results: The calculated t-value for overall knowledge was 12.75, which was greater than the table value of 2.045 at the 0.05 level of significance ($df = 29$). The findings demonstrated a statistically significant improvement in the participants' knowledge and practice following the planned teaching program.

Conclusion: The study concluded that women of reproductive age had inadequate knowledge and practice regarding BSE before the intervention. The planned teaching program was effective in significantly improving their knowledge and practice, highlighting the importance of health education in promoting early detection of breast abnormalities.

Keywords: Breast self-examination, early detection of breast abnormalities, knowledge, planned teaching program, practice, women of reproductive age

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INTRODUCTION

“Knowing it exists is not enough. Get informed, Pass it on.” Globally, breast cancer is the most common cancer among women, with about 2 million new cases and around 600,000 deaths reported in 2021. It accounts for nearly 23.8% of all female cancer diagnoses and is also the leading contributor to cancer-related disability-adjusted life years (DALYs) among

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women. Cervical cancer ranks fourth, with approximately 600,000–700,000 new cases and about 200,000 deaths in 2021, making up 6.8% of female cancer cases. Uterine (endometrial) cancer follows, with around 400,000 new cases and 90,000 deaths, contributing 4.3% of cases, while ovarian cancer accounts for about 200,000 new cases and 100,000 deaths, or 3.4% of female cancer cases worldwide. Together, these four cancers represent nearly 40% of all cancers affecting women. Among women of reproductive age, breast cancer alone makes up over half of new cancer cases and cancer-related DALYs, followed by cervical cancer, ovarian cancer, and uterine cancer. Alarming, early-onset cancers (diagnosed before age 50) have risen by nearly 80% since 1990, with breast, uterine, colorectal, leukemia, and kidney cancers showing the fastest increases, and projections suggest a further rise in the coming years. Breast self-examination (BSE) is a cost-effective method of early detection of breast cancer, especially in resource-developing countries. More than 90% of breast cancer cases can be detected by women themselves, stressing the importance of BSE as the key breast cancer detection mechanism.

BSE benefits women in two ways: Women become familiar with both the appearance and the feel of their breasts and detect any change in their breasts as early as possible. BSE is best performed after (day 5 to day 7 counting the 1st day of menses as a day 1) because women themselves detect many breast cancers; priority is given to teaching all women how and when to examine their breasts. Women who do BSE make a significant contribution to the early identification of breast cancer and reduce cancer fatalities. Knowledge of BSE involves having information on signs of breast cancer, BSE procedures, and performing BSE. Knowledge of BSE may also influence the attitude and practice of BSE. Attitude is a settled way of thinking about BSE, which includes acceptance that BSE is necessary, all women should perform it, ready to encourage other people to get information, practice it, and seek early medical care with any abnormality. BSE practice makes the individual become familiar with the structure of her breast and be responsible for her health. This will also help individuals seek timely medical attention and avoid delays in diagnosis and treatment. Breast development begins in puberty as epithelial proliferation and increased adipose deposition result in hormonally mediated breast enlargement. During pregnancy, the breast prepares for lactation with tissue growth, venous dilation, and darkening of the nipple areolar complex. After weaning of the infant, involution of breast tissue occurs as glandular and stromal proliferations regress, and the breasts return to approximate pre-gestational size.^[1,10]

MATERIALS AND METHODS

Thirty reproductive age group women who were fulfilling the inclusion criteria were selected through convenient sampling technique. A one-group pre-post-test design was used. The women were included who were available at the time of collection and were willing to participate in the study. The Class IV female employees working in Bombay Hospital were selected by non-probability convenient sampling technique.

Study tool

The study tool used for data collection was a structured questionnaire that consisted of two sections. Section I contained demographic variables of the subjects. The demographic variables included were age, educational status, and breastfeeding status. Section II contained the multiple-choice questions regarding the BSE.^[11,12]

Data collection procedure

Before starting the study, researcher obtained written permission from the Human Resources Department. The procedure was explained to the participants. Consent was obtained and data collected using structure questionnaire. After this procedure, the participants were subjected to structure teaching program. Post-test was done on the 7th day after the intervention. The same tool was used to assess the effectiveness of Structured Teaching Program. The total duration spent with each participant for conducting the pre-test, Structured Teaching Program, and post-test was 1 h. The score obtained was calculated and considered as pre and post-test scores.^[13-18]

Statistical analysis

Data were analyzed using IBM Statistical Package for the Social Sciences Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the data. A paired *t*-test was used to compare the pre-test and post-test mean scores within the group. The Chi-square test was used to determine the association between demographic variables and knowledge and practice scores. A *P* < 0.05 was considered statistically significant.^[19,20]

RESULTS

Demographic variables

Table 1 shows the distribution of the samples according to age. Among the selected samples, the majority, 13 (43.33%), belonged to the 35–45-year age group, while 6 (20%) belonged to the <25-year age group. Ten (33.33%) participants belonged to the 25–35-year age group, and 1 (3.33%) participant belonged to the >45-year age group.

Table 2 shows the distribution of the samples according to educational status. Among the selected samples, the majority, 11 (36.66%), had completed 10th to 12th standard education. Eight (26.67%) participants had studied from 8th to 10th standard, 5 (16.67%) had education below 7th standard, 5 (16.67%) were graduates, and 1 (3.33%) was a postgraduate.

Table 3 shows the distribution of the samples according to breastfeeding status. Among the selected samples, the majority, 13 (43.33%), had been adequately breastfed, 9 (30%) had been moderately breastfed, and 8 (26.67%) participants were not applicable for breastfeeding.

Effect of planned teaching on knowledge of practice of BSE

Table 4 depicts the comparison of pre and post-mean scores of overall knowledge and practice. The two-tailed “*t*” value

Table 1: Distribution of sample according to age $n=30$

Variable	Frequency	Percentage
<25 years	6	20
25–35 years	10	33.33
35–45 years	13	43.33
Above 45 years	1	3.33

Table 2: Distribution of sample in relation to education $n=30$

Variables	Frequency	Percentage
<7 th standard	5	16.67
8–10 standard	8	26.67
10–12 th standard	11	36.66
Graduate	5	16.67
Post graduate	1	3.33

Table 3: Distribution of sample in relation to breastfeeding $n=30$

Variable	Frequency	Percentage
Yes, adequately	13	43.33
Yes, moderately	9	30
Not applicable	8	26.67

Table 4: Comparison of the mean pre-test and post-test overall knowledge scores ($n=30$)

Score	Mean	n	Standard deviation	t-value	Df	Significance
Pre-test Score	4.3	30	3.01	12.74	29	0.05 level
Post-test Score	11	30	1.20			

for 0.05 level of significance was 2.045 for which degree of freedom is 29. The calculated “t” value was count to be 12.74845466 for overall knowledge. As the calculated “t” value is greater than the table “t” value of 2.045 at the 0.05 level of significance in the degree of freedom being 29, null hypothesis is rejected. This indicates a statistically significant difference between the mean pre-test and post-test knowledge scores of the participants at the 0.05 level of significance.

DISCUSSION

Over the past decade, research findings and epidemiological data have indicated an increasing burden of breast carcinoma in terms of its incidence, morbidity, and mortality. Breast cancer is the most common cancer among women worldwide. Lack of awareness, inadequate knowledge, and delayed diagnosis contribute significantly to breast cancer-related morbidity and mortality. Globally, breast cancer was responsible for approximately 425,000 deaths in 2010, and in 2018, there were an estimated 18.1 million new cancer cases and 9.6 million cancer-related deaths. BSE should be performed monthly, preferably between the 5th and 7th day after the onset of menstruation, when hormonal fluctuations are minimal.

Performing BSE during this period helps reduce the likelihood of false findings. To perform BSE correctly, women should possess adequate knowledge and practical skills. The primary purpose of BSE is the early detection of breast abnormalities, thereby facilitating timely diagnosis and preventing the progression of breast cancer to advanced stages. The objectives of the present study were to assess the knowledge and practice regarding BSE among women of reproductive age for the early detection of breast abnormalities and to evaluate the effectiveness of a planned teaching program in improving their knowledge and practice.

The findings of the study revealed that the participants had inadequate knowledge regarding BSE, indicating the need for educational interventions. These findings are consistent with the study conducted by Oginni Monisola Omoyeni at Obafemi Awolowo University, Nigeria, in 1997, which assessed the knowledge, attitude, and practice of BSE and reported a significant gap between women’s knowledge and their actual practice. The present study also demonstrated a statistically significant difference between the mean pre-test and post-test knowledge scores of the participants. These findings indicate that the planned teaching program was effective in improving the knowledge and practice of BSE among women of reproductive age, thereby promoting the early detection of breast abnormalities.^[21-23]

CONCLUSION

The study concluded that women had inadequate knowledge regarding BSE and that the planned teaching program significantly improved their knowledge and practice.

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CONFLICTS OF INTEREST

All authors declared that they have no conflicts of interest.

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