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Influence of breast cancer awareness programs and breast self-examination habits among female students

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ABSTRACT

Early detection is crucial for effective cancer management in women, potentially reducing both mortality and morbidity rates. In India, breast cancer affects approximately 19% to 34% of women. Breast Self-Examination (BSE) serves as an efficient screening technique that empowers women to monitor their breast health, become familiar with their breast tissue, and promptly identify any abnormalities.

In this study, female students' knowledge of Breast Self-Examination (BSE) was assessed. Total 180 female students from a selected institution in Patia, Bhubaneswar, Odisha, participated in our study. A quasi-experimental design was employed, utilizing a self-structured questionnaire to gather data on the participants' knowledge of BSE.

The statistical analysis demonstrated a notable improvement in knowledge after the intervention. The mean pre-test score was 8.5, while the mean post-test scores significantly increased to 18.6. There was no statistically significant correlation between pre-test scores and socio-demographic variables ($p>0.05$). Initially, the female students had a limited understanding of Breast Self-Examination (BSE). However, post-test scores, which ranged from 11 to 23, showed a substantial increase compared to the pre-test scores that ranged from 1 to 17. The increase in the mean post-test score from 8.5 to 18.6 highlights the effectiveness of the educational intervention.

In conclusion, BSE has been demonstrated to be a cost-effective, non-pharmacological method that significantly enhances breast cancer awareness among female college students.

Keywords: breast cancer, Breast Self-Examination (BSE), effectiveness, female students, self-structured program, awareness

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INTRODUCTION

Cancer is one of the leading causes of mortality worldwide [1]. Among the various types of cancer, breast cancer stands out as a significant global health issue, being one of the primary causes of death among women [2]. Each year, approximately 2.1 million women are diagnosed with breast cancer globally, with projections indicating that this number could exceed 3.2 million by 2050 [3]. Although breast cancer incidence has been relatively moderate in the past, there is a noticeable increase in cases, particularly in low-income countries, where mortality rates can exceed 75% [4].

In India, cancer is expected to affect 2.25 million people, accounting for 8.3% of all deaths in the country. Between 1990 and 2016, India experienced a significant rise in cancer-related deaths and Disability-Adjusted Life Years (DALYs), largely due to a more than twofold increase in cancer incidence and mortality [5].

The unchecked proliferation of unfavourable cells in the milk-producing glands of the breast or milk ducts, which eventually lead to the nipples, is known as breast cancer [6]. Some of the most crucial methods for early breast cancer detection are clinical breast examinations, Breast Self-Examinations (BSE), and physical examinations of the breasts by medical professionals with the appropriate license. One of the most crucial instruments for this is mammography. Women are advised by the American College of Obstetricians and Gynaecologists (ACOG) to self-examine their breasts, report any changes, and educate themselves about the benefits and limitations of doing so (BSE). Additionally, women were counselled to be conscious of their breasts [7].

The BSE is a screening tool that women can use at home. This process is easy to use, inexpensive, and straightforward. BSE gives women a simple, quick, and inexpensive way to assess their breast tissue, which increases the likelihood that they will receive therapy and survive any visible or physical abnormalities. It's probable that hands-on seminars and educational materials gave women health information on BSE's causes, prevention, and appropriate treatments [8]. Breast cancer-associated mortality is noteworthy since it is the 5th-highest cancer-related death toll and the primary cause of cancer-related death in women [9].

Better outcomes can be achieved with early detection of breast cancer, which can also be prevented and cured if caught and treated early [10]. Every woman gains awareness of her breasts' sensation and control over her health through the breast self-

examination. BSE benefits women in two ways: It assists patients in getting used to the way their breasts feel and look, and it makes it easier for them to notice any changes in their breasts right away.

According to a questionnaire, 90% of individuals learn they have breast cancer. According to numerous studies, raising and using breast cancer awareness can help people overcome barriers to detection and treatment [11].

Recent years have been a focus on teaching teenage girls to self-palpate their breasts once a month. If every young girl took the time to properly check her own breasts on a regular basis, many benign and deadly tumours could be immediately and easily discovered. This could be the result of the illness not being discovered early enough. There is a correlation between early detection of breast cancer and lower rates of morbidity, death, and medical expenses associated with the disease [12].

Nurses must educate themselves on breast self-examination before they may counsel clients, family members, close friends, and teenage girls on the subject. The objective of the current study conducted at Raja Madhusudan Dev Degree College was to gather information regarding female students' awareness of the symptoms, risk factors, and early detection methods of breast cancer. Additionally, the study aimed to assess their familiarity with and practice of Breast Self-Examination (BSE).

METHODS AND MATERIALS

A study that was quasi-experimental in nature, comprising 180 female students from a particular educational institution in Patia, Bhubaneswar, Odisha, had one group undergo pre and post-testing. Convenience sampling procedures were employed to gather data from Raj Madhusudan Dev Degree College in Patia, Bhubaneswar, the study site. Data gathering tool: Data was collected using two different methods: a verified, self-formatted demographic questionnaire and an organized knowledge questionnaire. Section A: (Self-structured demographic proforma): Age group, marital status, course of study, family member education, family type, information source, family history of breast tumour, daily activities, along with food preference. Structured knowledge questionnaire (Section B). To determine one's level of BSE knowledge, 23 multiple-choice questions were devised. For every right response, a point was assigned. The knowledge ratings ranged from poor (≤ 11) to average (12-17) to good (18-22), with a total score of 23. The study inclusion criteria are female students who belonged to the 18+ age can understand Hindi, English and Odia with desire to engage in the study, who are mentally unstable was excluded from the study. The principal college of nursing, KINS, granted permission. Thereafter, permission was obtained from the Principal of Raja Madhusudan Dev degree college, Patia, Bhubaneswar, Odisha. The objective of the study was explained to the participants, and their privacy was protected. Before data collection, every participant submitted written informed consent. We gathered all of the female students at the institute in their college auditorium on the first day, and we examined their knowledge and competence in breast self-examination utilizing a pre-test using a self-structured demographic perform and a structured knowledge questionnaire. On the same day, after the pre-test, a 60-minute educational program including lectures, audio-visual aids (LCD, charts, and boards) and demonstrations on BSE was conducted among the female students. Following the scheduled educational program, a question-and-answer session was held to address any remaining concerns for each participant. Following ten days of instruction, a post-test was given.

RESULTS

There have been significant changes from individual awareness and knowledge regarding cancer of the breast and BSE practice (Tables 1-3).

Tab. 1. Shows data showing that the post-test knowledge score was higher than the pre-test knowledge score, which was (17-1). The post-test knowledge score ranged from (23-11)

Area	Range	Mean	Standard Deviation	Maximum Score
Pre-Test	(17-1)	8.5	2.976	23
Post-Test	(23-11)	18.6	2.016	

Tab. 2. Knowledge scores before and after the test

Knowledge	Pre-Test		Post-Test	
	F	%	F	%
Good ≥ 75% score (18-23)	0	0	167	93
Average= (51%-75%) score (12-17)	31	17	9	5
Poor ≤ 50% score ≤ 11	149	83	4	2

The average knowledge level after the post-test (18.6) is higher than the average knowledge level before the test 8.5 (Figure 1). Data presented in table 3 shown that α (tabulated t value) -39.03 at 358 df for the 0.05 level of significance. Here, calculated t value is less than tabulated t value, in this case we accept the null hypothesis ($p>0.05$).

To correlate female students' pre-test BSE knowledge with their chosen demographic characteristic at a chosen educational institution. The pretest knowledge of female students did not significantly correlate with certain socio demographic variables associated with BSE at the $p<0.05$ level of significance.

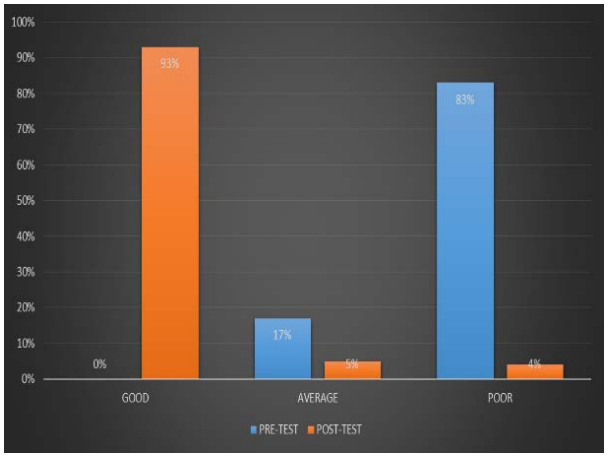

Fig. 1. Pre and post-test knowledge score were compared

Tab. 3. Pre-test and post-test mean knowledge scores differ significantly

Area	Means Core	SD	SE	't' Test
Pre-Test	8.5	2	0.26	t-TEST=-39.03 df= 358 α (tabulated t value =1.9671) level of significance=0.05 p value >0.05 (except null hypothesis)
Post-Test	18.6	2.9		

Section-I

Based to the data, 11% of understudies were age within 16 years and 18 years old, and 20% were between 22 years to 24 years old. 50% of the students was between the ages of 19 years and 21 years, while 14% was between the ages of 25 years and 27 years. The majority of those individuals are widowed (0.5%), married (9%), single (94%), and divorced (0.5%). 84% of respondents preferred irregular activity, while only 16% favoured regular exercise. 96% of the study's participants were non-consumers, as opposed to 96% of the minority. 75% of non-vegetarians and 25% of vegetarians the majority of students 45% in the arts group, 35% in the sciences group, and 20% in the commerce group. The majority of education, based to the survey, is received in primary school (60%) followed by illiteracy (20%) and 15% in the illiterate and 5% in post-graduate students. A significant number of families with nuclear members (82%) and joint families (18%) were studied. 64% of people had no idea, followed by school or college (24%), medical professionals (8%), and social media (4%). 15% of respondents said yes, while the majority (85%) said no. Sister/cousin (45%), aunt (30%), mother (20%), and grandma (5%), make up the majority.

Section-II

Assessment Knowledge among female students at selected educational institute regarding breast self-examination:

In the pretest, the female students' understanding of breast self-examination is lacking. Their post-test knowledge score, which goes from 23 to 11, is higher than their pretest knowledge score, which goes from 17-1. Compared to the mean pre-test knowledge score of 8.5, the mean post-test knowledge score is 18.6.

Segment III

Adequacy of arranged showing program based on BSE in conditions of gain information score Information introduced in table 1 shows that α (classified t esteem) 39.03 at 358 level of opportunity for the 0.05 degree of importance. Here, determined t esteem is not exactly organized t esteem, for this situation we acknowledge the invalid speculation (p>0.05).

DISCUSSION

The current study showed that female college students at Raja Madhusudan Dev Degree College had a considerably better understanding of breast cancer and breast self-examination practices as a result of an educational intervention. All participants of the educational intervention were reassessed with a post-test survey conducted 10 days later. The findings indicated that the participants gained valuable information about breast cancer. Recognizing risk factors is crucial, as it enables individuals to manage their risk by identifying their risk category, which can facilitate early detection and improve survival rates.

At Jahangirnagar University in Bangladesh, a study quasi-experimental study was pre-post study was carried out with 400 female students who were given educational materials on breast cancer and Breast Self-Examination (BSE), as well as a demonstration of the BSE method and leaflets. Step-by-step methods for performing BSE were illustrated with images. Assessments were conducted before the intervention and 15 days later to assess alterations in awareness regarding BSE practices and breast cancer. McNemar's tests and paired sample t-tests were utilized to investigate the variations between the pre and post-test stages [13].

We evaluated the respondents' level of knowledge 10 days after the educational session. For every question in the post-test period, the majority of responders provided accurate responses. According to Nde et al., 73.5% of research subjects in Cameroon were aware of BSE, with 37.3% knowing that it is carried out on a monthly basis, 9% understanding how to do it, and 88.6% understanding its significance for breast cancer early detection [14]. According to Idris et al., 86% of participants in Sudan were aware of the BSE [15].

According to a 2008 study conducted in Kenya by Kimani and Muthumbi, 94.4% of female medical students were aware of BSE [16]. It was also found by Sarfo et al. that 95% of female nursing students knew BSE, with 60% of them knowing BSE as a screen-

ing tool for BC identification [17]. According to Fondjo et al.'s evaluation of senior high school and tertiary students in Ghana, 90.9% of participants knew BSE, of which 45.8% understood it was done monthly, 21.1% knew it was done after menstruation, 91.6% knew it could be used as a tool for early BC detection, and the majority (63%) knew the right posture to adopt when performing BSE [18]. Sixty-four percent of the pupils in the current study had heard of BSE. Only 8.8% of the students in this survey knew when BSE should be performed, indicating that female university students might not know enough about the subject [19].

The studies mentioned above have shown the potential of educational interventions to bring about positive changes in the understanding, perception, and behaviour surrounding breast cancer and BSE. The number of teaching sessions and the amount of time that passes between the educational intervention and the post-test interview are two further variables that may affect the outcome.

CONCLUSION

Based on the perception, we can conclude that here was a truly non-significant improvement in the mean of the pretest information score with selected socio-segment characteristics concerning the Bosom self-assessment of female understudies enrolled in a selected educational institution. Subsequently mediation was profoundly huge in further developing the information score of the bosom self-assessment among young females.

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