

A study on awareness about breast carcinoma and practice of breast self-examination among basic sciences' college students, Bengaluru

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ABSTRACT

Background: In India, the number of new breast cancer cases is about 115,000 per year and this is expected to rise to 250,000 new cases per year by 2015. It needs to be noted that breast cancer is leading in the age groups of 15–34 years which is a cause of concern as this denotes the need for educative and awareness programs targeting younger members of the society, to implement early practices of breast examination. This study was carried out with the intention of assessing the level of knowledge and awareness of carcinoma breast and breast self-examination (BSE) in female college students. **Materials and Methods:** This cross-sectional study was carried out in a well-known basic sciences college. After the pretest questionnaire was given, an awareness talk was given about breast cancer and BSE. A posttest questionnaire was administered. The data of pre- and post-test were collected and analyzed using SPSS. **Results:** Pretest and posttest were collected from 1030 students. The age of the study participants was ranged between 18 and 23 years. Most of them were aware of breast carcinoma, but half of them thought breast cancer affects the elderly. Regarding different aspects studied, 58% had a knowledge of at least one of the symptoms and 59% knew at least one of the risk factors for breast carcinoma. Only 185 (18%) women knew about BSE and 107 women practice it. **Conclusions:** This study concluded that the awareness of the breast cancer was good but the knowledge of signs and BSE was poor, which is utmost important for early detection and in reduction of mortality.

Keywords: Breast cancer, breast self-examination, risk factors, symptoms

Introduction

In India, cancer prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year.^[1] The common sites for cancer in India for females are cervix, breast, and oral cavity. Breast cancer accounts for 19%–34% of all cancer cases among women in India.^[2,3] According to the National Cancer Registries and Regional Cancer Centers, it is the most common cancer in

Delhi, Mumbai, Ahmadabad, and Kolkata.^[2-6] In India, the number of new breast cancer cases is about 115,000 per year and this is expected to rise to 250,000 new cases per year by 2015.^[7]

The peak occurrence of breast cancer in developed countries is above the age of 50 years, as compared to India, where it occurs in a younger age group.^[4]

Cancers in the young (15–34 years) tend to be more aggressive which is a cause of concern as this denotes the need for educative and awareness programs targeting younger members of the

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society, as early as 18 years, to implement early practices of breast self-examination (BSE) into their lifestyle,

Screening is also an “alien” word for most people. Hence, naturally, this results in most people presenting only when symptomatic, most “symptomatic” cancers are Stage 2B and beyond.^[4,9] BSE is an important screening measure for detecting breast cancer.^[2] There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage and early diagnosis has been reported to influence early treatment, to yield a better survival rate.^[3]

Thus, the present study aimed at identifying the level of knowledge and practice of BSE among degree female students who are the citizens of the future and they can teach their family members, neighbors, friends, and the community which helps the people to detect breast cancer in the early stage. Hence, incorporating the BSE concept in the degree education curriculum is very useful and helpful.

By increasing public health awareness activities and use of screening programs, we can detect the disease early. Hence, the present study has been done to quantify various aspects of awareness of carcinoma breast.

The objectives of the study were:

- To assess the level of knowledge and awareness of breast carcinoma and BSE in college female students
- To determine the effectiveness of planned teaching program among female college students on BSE.

Materials and Methods

This cross-sectional study was carried out in a well-known basic sciences college in Bengaluru. The study subjects comprised college students of basic sciences in the age group 18–23 years. A total of 1030 students present on those days of data collection and who gave consent were included in the study. The study period was from June 2015 to December 2015. The study had been approved by the Ethical Committee of the Institute. A self-administered pretested questionnaire was used to collect the relevant details. Care was also taken to ensure privacy and confidentiality. An awareness talk was given about breast cancer and video and a PowerPoint presentation were done about BSE. After the health education session, posttest questionnaire was administered to the students. The data of pre- and post-test were collected and analyzed using SPSS (21 version, IBM).

Results

A total of 1030 students were present during the time of our study. Pre- and post-test were collected for the said number of students. The age of the study participants ranged between 18 and 23 years.

Awareness about breast cancer and other breast diseases

Pretest

Out of the 1030 women interviewed, most of them were aware of breast carcinoma. Almost half of them thought that breast cancer affects women of age group 25–45 years. Out of the study population, only 179 women (17%) were aware of other diseases that affect the breast such as breast abscess, fibroadenoma, and breast cysts.

Posttest

After the health education session, 64% understood that there are other diseases of the breast too. The proportion of women becoming aware that cancer affects both the younger and the older age groups too increased considerably ($P < 0.001$).

Knowledge about risk factors

Knowledge about risk factors such as age, diet, exercise, smoking, and alcohol was assessed. Surprisingly, many of them thought trauma to the breast might cause cancer.

Needless to say, the knowledge about the risk factors improved after the awareness program [Table 1].

Knowledge about signs and symptoms

Knowledge about the presentation of cancer breast was assessed [Table 2].

Knowledge about breast self-examination

It is surprising to know that out of 1030 women, only 185 (18%) women knew about BSE. Out of the 185 women who had knowledge of BSE only 107 practiced it regularly. Twenty-six women do it monthly and the remaining do the examination very irregularly.

The reasons mentioned by the women who did not practice BSE were that the act of doing it was embarrassing, lack of privacy, and some felt that it was not required. Majority ($n = 35$) said that they were not sure about how to do it.

Table 1: Knowledge of risk factors about cancer of breast

Risk factors	Pretest (%)	Posttest (%)	P
Age	616 (60)	1009 (98)	<0.05
Diet	249 (24)	755 (73)	
Exercise	155 (15)	632 (61)	
Smoking	612 (59)	952 (92)	
Alcohol	594 (58)	937 (91)	
Late marriage	174 (17)	807 (78)	
Avoiding breastfeeding	269 (26)	823 (80)	
Family history	292 (28)	919 (89)	
Oral contraceptive pill consumption	195 (19)	851 (83)	
Age at menopause	191 (19)	909 (88)	
Age at parity	178 (17)	865 (84)	

Table 2: Knowledge of symptoms about cancer of breast

Signs and symptoms	Pretest (%)	Posttest (%)	P
Lump in the breast	597 (58)	986 (96)	<0.05
Nipple discharge	322 (31)	953 (93)	
Change in shape	545 (53)	962 (93)	
Change in size	461 (45)	958 (98)	
Change in color	306 (30)	877 (85)	
Pain	669 (65)	898 (87)	
Fever	216 (21)	322 (31)	
Weight loss	526 (51)	967 (94)	
Breast ulcer/abscess	482 (47)	965 (94)	

After the awareness program, 93% ($n = 955$) understood about BSE. Out of them, 90% ($n = 859$) women said that would regularly practice BSE monthly. The remaining women ($n = 96$) said that they still thought it is embarrassing to perform the BSE.

Twenty-two percent of the study students thought that the cancer breast is preventable. Some of the preventive measures told were personal hygiene, regular check-up from 20 years of age, and not wearing brassiere.

Source of information

Most of the women (57%) who had some knowledge about breast cancer came from media (television, radio, and newspapers). Other sources were hospital staff (19%) and neighbors and relatives (11%).

Awareness program

Ninety percent of the women expressed that they will convey the knowledge acquired to their family, relatives, and friends after the awareness program and 93% stated that the program was very helpful.

Discussion

The study revealed that the study population was aware of cancer breast. However, the knowledge regarding risk factors and signs was poor. Risk factors are important to know as they can control their risk factors by assessing their risk category, which can help in early detection of the disease which tremendously increases their chance of survival.

A review of the literature reveals low breast cancer literacy with regard to risk factors among Indian women, irrespective of their socioeconomic and educational backgrounds, with little correlation between awareness levels and strength of evidence of the risk factors.^[9]

Studies have shown that there is no increase in the cancer literacy over time; low levels of awareness were consistently observed for important risk factors such as age at menarche, age at menopause, and age at birth of first child in the general population.^[9]

A consensus review from the Breast Health Global Initiative 2010 Global Summit summarizing barriers to breast cancer care

highlighted the lack of or very limited access to treatment and limited knowledge of health professionals as major barriers to cancer prevention and detection in developing countries.^[10]

Studies done by Kumar *et al.* and Seth *et al.* have shown low awareness levels of risk factors, which is similar to the present study. Low awareness levels are also a consequence of low informed coverage through different forms of media, including television and newspaper.^[11,12] Different types of screening methods are available among which BSE is the best way for early detection, which is also cost-effective. If women are educated properly on BSE, it can be the best tool for screening the disease; however, in our study, only 18% women had knowledge regarding BSE.

In a similar study done by Lemlem *et al.*, 57.8% of study women were aware of the breast carcinoma and its screening methods.^[13] This knowledge level is poor and is comparable to a similar study in Nigeria among school teachers, where only 27% of the participants were able to identify three risk factors correctly.^[14]

In general, it is found relatively low, and wide, variation in awareness of risk factors for breast cancer among women in India over the 8-year period of publications even as breast cancer became the most common cancer in the country. Women more commonly believed that unhealthy habits related to alcohol and tobacco consumption were more important risk factors than reproductive history, which is a much stronger determinant of breast cancer.^[8]

Knowledge and practice about BSE are also very low in the present study, which is similar to the other studies. It is proved that that screening by mammography can reduce the mortality in women over 50 years.^[15] However, this technique is expensive, and for this reason, it is difficult to adopt in India as a routine public health measure. A cohort study in Finland^[16] and a case-control study in Canada^[17] suggested BSE be beneficial at all ages. Awareness and practice of BSE can help women to seek medical care and advice immediately.

WHO stresses on promoting awareness in the community and encouraging early diagnosis of breast cancer for women who are attending primary health centers or hospital for other reasons, by offering clinical breast examinations.

As the source of knowledge is also very important, majority of women were educated by health personnel. Hence, health personnel should be both knowledgeable and trained properly regarding signs and symptoms of the disease. As education of women itself is a factor which can improve the knowledge, emphasis should be laid on women literacy.

There is an urgent need to explore the drives of awareness deficits and stigma surrounding breast cancer, in the general population, as incidence and mortality rates continue to raise. Understanding the drives and barriers is important for strategic and effective

awareness campaigns and/or interventions on prevention and early detection.

Conclusions

The study concluded that the awareness of breast cancer in our study population was good. The knowledge and awareness regarding BSE was poor which is utmost important for early detection and in reduction of mortality.

Indian women need to be aware of both modifiable and nonmodifiable risk factors for breast cancer to adopt appropriate practices for prevention. Breast cancer is a topic that is not freely discussed in India because of the cultural taboo. Hence, there is an urgent call for more effective nation-wide and state-wide cancer literacy programs, as well as engagements with community-level organizations and health system. The government should utilize good examples of famous personalities who have revived from the disease. Health education at the college level should be done more aggressively regarding various aspects ranging from risk factors to various methods of screening. BSE should be encouraged especially in women with family history.

With wide variations in the state-level burden, a coordinated, intensive health promotion intervention program on risk factors, prevention, screening, and management for breast cancer is prudent. Training on risk factors should be offered to healthcare providers to raise their cancer literacy, so they can then transmit this knowledge to other sections of the society. It is also to be seen that the information needs to be disseminated in a form which is appealing to the society.

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Conflicts of interest

There are no conflicts of interest.

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