

Original research article

Awareness and Attitude Regarding the Risk Factors, and Self Examination for Breast Cancer in the Students of an Engineering College of South India

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Abstract

Breast cancer is the one of the most commonly occurring cancer in women and is among the top five causes of mortality due to cancer. Early detection of breast cancer plays leading role in reducing mortality rates and improving the patient's prognosis. The factors related to women's awareness, knowledge and perceptions about breast cancer may contribute significantly to medical help-seeking behaviours. Thus, practice of breast self-examination among female undergraduate students will be essential in acknowledging targeted interventions through the provision of guided educational training programs.

Material & Methods: A cross sectional study on female students of an engineering college in Karimnagar were studied between January - April 2020 using a pretested structured questionnaire regarding awareness of breast cancer, its risk factors, clinical features and preventive measures. Data collected was analysed using SPSS v16.0.

Results: Knowledge regarding - risk factors for breast cancer was 36.8%, regarding clinical features was 51.5%, BSE as a preventive measure was 83.8%. Major source of gained knowledge was the Internet (75%).

Conclusion: Most students know about breast cancer but their overall knowledge about its risk factors and clinical presentation is inadequate. Only one third of them were aware of BSE as a means to detect Breast cancer.

Keywords: Breast cancer, Risk factors, BSE, Awareness, Engineering Students

Introduction

Cancer is one of the most threatening disease, largely due to its delayed clinical presentation and dreadful outcomes. Breast cancer is the one of the most commonly occurring cancer in women and is among the top five causes of mortality due to cancer.¹ The high morbidity and mortality due to breast cancer can be in-part reduced if the lesion is detected early enough.² In a developing country like India, it remains a significant public health challenge as incidence rates have been shown to increase yearly by as much as 5% with over 1 million projected new cases annually by 2020.³ The emergence of breast disease and subsequent development of cancer appears to be more aggressive in young women compared to its progression in older women.⁴ Breast cancer has multiple risk factors like gender, age, family history, genetic background, hormonal exposure such as early age at menarche, late age at menopause, null

parity, late age at first birth, little or no breast feeding and long-term use of hormone replacement therapy, use of oral contraceptive pills, history of alcohol consumption, smoking.⁵ Although substantial improvement in survival from this disease has been reported in high-income countries, the risk continues to increase and survival rates in middle-and low-income countries remain low.⁶ Early detection of breast cancer plays leading role in reducing mortality rates and improving the patient's prognosis. The recommended screening methods for early detection of this disease are mammography, Clinical Breast Examination and Breast Self-examination.⁷ There may be settings where routine clinical breast examination and mammography may not be feasible. Breast self-examination (BSE) has an important role to play in the early detection of breast cancer in those restricted settings. In such settings, BSE is recommended because it is free, private, painless, easy, safe, and requires no specific equipment. It has also been shown to improve breast health awareness and thus potentially allow for early detection of breast anomalies.⁸

Presently cancer patients seek treatment in the advanced stages due to lack of awareness about breast cancer in its inception. This lack of awareness combined with non-availability of facilities for early detection and treatment are major factors for the increase in the incidence of breast Cancer⁷.

The American Cancer Society also recommends that women from the age of 20 years onwards should be educated on the benefits of performing BSE monthly.⁹ The factors related to women's awareness, knowledge and perceptions about breast cancer may contribute significantly to medical help-seeking behaviours.¹⁰ Thus, practice of breast self-examination among female undergraduate students will be essential in acknowledging targeted interventions through the provision of guided educational training programs.

This study was designed to identify the gaps in knowledge regarding breast cancer and the proper practice of self breast examination in young adult women.

Material and Methods:

A cross sectional study regarding awareness of Breast cancer and its prevention was conducted on the female students of an Engineering college in Karimnagar. Approval for the study was obtained from the Institutional Ethics Committee of Chalmeda Ananda Rao Institute of Medical Sciences, Karimnagar. A total of 204 students were included in the study. Informed consents from the students were obtained. Students who have not given consent were excluded from the study. The study was conducted between January 2020 to April 2020. Data collection was carried out using a pre-tested, structured questionnaire. The data obtained was analyzed using SPSS version 16. A score of +1 was given for every correct response for the questions on risk factors and correct practice of BSE while a score of -1 was given to every wrong response. The total score was calculated separately for all the questions on risk factors and for all the questions on Clinical features of breast cancer. The final score for knowledge on risk factors for breast cancer was categorized as adequate knowledge if the cumulative score was 5 and above whereas it was categorized as inadequate if the cumulative score was 4 or below. Similar categorization was done for total score of knowledge regarding Clinical Features of Breast cancer – a cumulative score of 5 and above was categorized as adequate and 4 or below was categorized as inadequate knowledge.

Result:

A total of 204 engineering students have participated in the study. Majority of them were aged 18 to 20 years (64%) and 21 to 25 years were 36%. Hindus were predominantly high that is 90%.

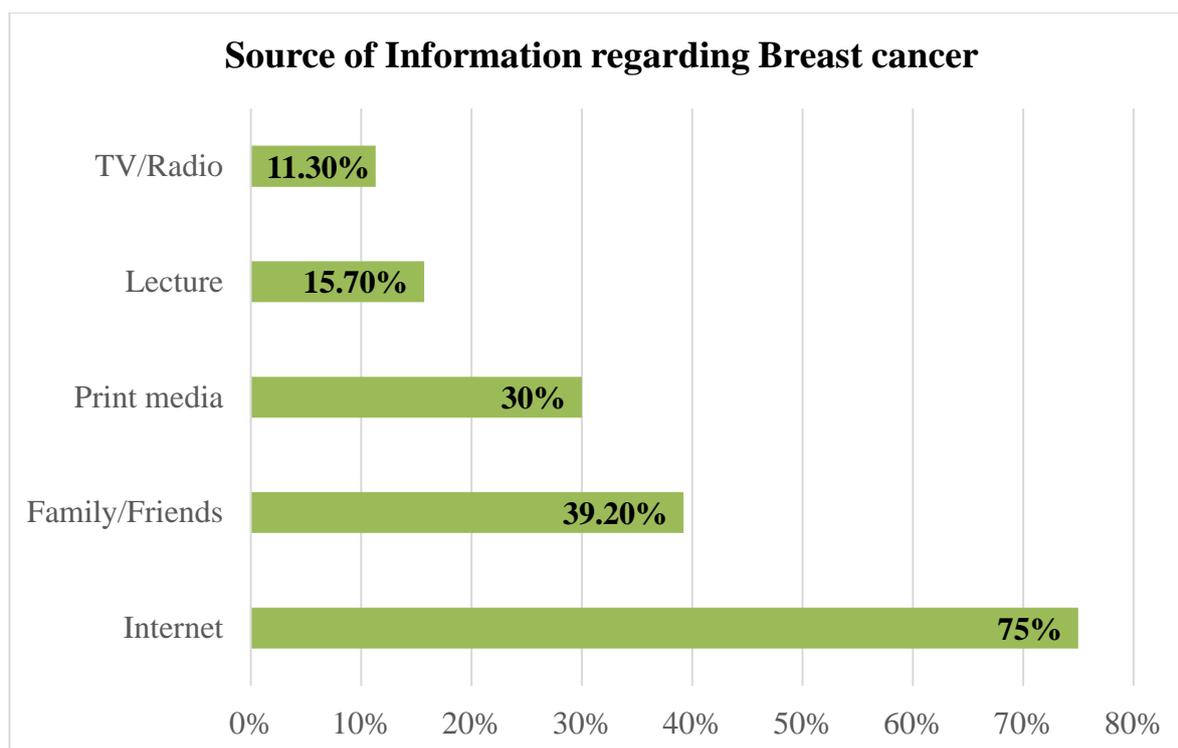


Figure 1: Source of information on breast cancer

Majority of the students gained their knowledge about breast cancer through the Internet (75%) followed by family/friends (39.2%).

28 participants (13.7%) acknowledged that they had a family member with history of breast cancer – most of them reported it as their grandmother (6.4%) and aunt or distant relative (6.4%).

Table 1: Knowledge on Risk Factors of Breast cancer

Risk factor	Yes	No	Don't know	Total
Increasing age	66 (32.4%)	46 (22.5%)	92 (45.1%)	204 (100%)
Family history	127 (62.3%)	30 (14.7%)	47 (23.0%)	204 (100%)
Exposure to radiation	136 (66.7%)	17 (8.3%)	51 (25.0%)	204 (100%)
Alcohol consumption	71 (34.8%)	51 (25.0%)	82 (40.2%)	204 (100%)
First child at late age	46 (22.5%)	47 (23.0%)	111 (54.4%)	204 (100%)
Menstruation at very early age	36 (17.6%)	65 (31.9%)	103 (50.5%)	204 (100%)
Late menopause	33 (16.2%)	47 (23.0%)	124 (60.8%)	204 (100%)
Sedentary lifestyle	68 (33.4%)	27 (13.2%)	109 (53.4%)	204 (100%)
Obesity	78 (38.2%)	39 (19.1%)	87 (42.7%)	204 (100%)
Hormone therapy	102 (50.0%)	23 (11.3%)	79 (38.7%)	204 (100%)
Witchcraft	13 (6.4%)	69 (33.8%)	122 (59.8%)	204 (100%)
Wearing tight inner-ware	106 (52.0%)	42 (20.6%)	56 (27.4%)	204 (100%)
Karma effect	22 (10.8%)	101 (49.5%)	81 (39.7%)	204 (100%)

Most of the students had good knowledge about the risk factors like family history (62.3%) and exposure to radiation (66.7%).

Overall, 48 participants (23.5%) had good knowledge regarding risk factors of breast cancer while 130 (76.5%) had poor knowledge. Only 1 participant (0.5%) had correctly identified all

risk factors. 26 participants (12.7%) had no idea about any of the risk factors of Breast cancer. Mean score of knowledge about risk factors was 2.17 ± 3.35 (Maximum = 13, Minimum = -7).

Table 2: Knowledge of symptoms of Breast cancer

Symptom	Yes	No	Don't know	Total
Lump in the breast	155 (76.0%)	16 (7.8%)	33 (16.2%)	204 (100%)
Discharge	98 (48.0%)	39 (19.1%)	67 (32.9%)	204 (100%)
Pain of soreness in the breast	156 (76.5%)	18 (8.8%)	30 (14.7%)	204 (100%)
Swelling or enlargement of breast	143 (70.1%)	25 (12.3%)	36 (17.6%)	204 (100%)
Change in the size of the breast	115 (56.4%)	33 (16.2%)	56 (27.4%)	204 (100%)
Discoloration/dimpling of breast	85 (41.7%)	39 (19.1%)	80 (39.2%)	204 (100%)
Ulceration of breast	86 (42.2%)	35 (17.1%)	83 (40.7%)	204 (100%)
Inversion/pulling in of nipple	84 (41.2%)	38 (18.6%)	82 (40.2%)	204 (100%)
Weight loss	46 (22.6%)	69 (33.8%)	89 (43.6%)	204 (100%)
Lump under the armpit	83 (40.7%)	41 (20.1%)	80 (39.2%)	204 (100%)

The students in this study had knowledge about symptoms of breast cancer which are lump in breast (76.0%), pain or soreness in breast (76.5%) and enlargement of breast (70.1%). 19 students (9.3%) had no idea about any of the clinical features of Breast cancer and 19 students (9.3%) could correctly identify all the clinical features of Breast cancer correctly. Overall, 94 students (46.1%) had adequate knowledge (cumulative score ≥ 5) regarding the clinical features of Breast cancer while 110 participants (53.9%) had inadequate knowledge (Cumulative score ≤ 4). Mean score of knowledge about clinical features was 3.77 ± 4.77 (Maximum = 11, Minimum = -11).

Regarding knowledge on prevention of breast cancer, 6 participants (2.9%) had no idea about any of the preventive measures of breast cancer while only 1 participant could correctly identify the preventive measures of breast cancer. 83.8% of the students are aware of breast self-examination as a measure to prevent Breast cancer. 25% of students are no idea about breast self-examination. Only 80 students (39.2%) were aware of the utility of mammograms to screen for breast cancer.

In the present study, 59.3% of the students know that breast self-examination can prevent breast cancer by early detection. Internet (46.5%), Family/friends (25.5%) and print media (22%) were the major sources of information regarding BSE for the participants. Regarding the practice of BSE, 145 of the students (71.1%) had no idea about of the appropriate timing when breast self-examination should be done, while 31 participants (15.2%) only could correctly tell the appropriate time of BSE in relation to their menstrual cycle. 96 participants (47.1%) had no idea how frequently should BSE be done, while 62 participants (30.4%) could correctly tell the intervals at which BSE should be done.

Table 3: Attitude towards Breast cancer and Benefits of BSE

Attitude towards any abnormality in breast	Will be scared	Yes	27 (13.2%)
		No	177 (86.8%)
	Will pray to god	Yes	11 (5.4%)
		No	193 (94.6%)
	Will use traditional medicine	Yes	14 (6.9%)
		No	190 (93.1%)
	Will consult a doctor	Yes	139 (68.1%)
No		65 (31.9%)	
Will perform mastectomy if necessary	Yes	25 (12.2%)	
	No	179 (87.8%)	
Benefits of Breast-self examination	To be familiar with the breast texture	Yes	51 (25.0%)
		No	100 (49.0%)
		Don't Know	53 (26.0%)
	Early detection of breast cancer	Yes	121 (59.3%)
		No	30 (14.7%)
		Don't Know	53 (26.0%)
	Detection of any abnormal change in the breast texture	Yes	98 (48.0%)
		No	53 (26.0%)
		Don't Know	53 (26.0%)
	A good breast exercise	Yes	33 (16.2%)
No		118 (57.8%)	
Don't Know		53 (26.0%)	

Discussion:

Madhukumar et al¹¹ in their study on College students pursuing Basic sciences in Bengaluru in 2015, reported awareness regarding breast related ailments as 17%, knowledge regarding risk factors for breast cancer was 31%, knowledge regarding clinical features of breast cancer was 44.6%, awareness regarding BSE was 18%, 22% acknowledged that Breast cancer was preventable and major source of information regarding breast cancer was mass media (57%).

Vasishta et al¹² studied 177 female degree college students pursuing Basic sciences in Mandya, Karnataka in 2018 regarding their awareness about breast cancer and outcome of teaching on Breast Self-Examination. They reported that 68.9% students had average knowledge about risk factors of Breast cancer, 80.8% students had never heard about BSE and 97.7% had never performed BSE. The major source of their information regarding Breast cancer was television (33.78%) followed by newspaper (27.02%).

Kajal Srivastava et al¹³ in a similar study on nurses in a tertiary care hospital of Pune, India done in 2015 reported good awareness about risk factors (mean = 65%), but poor practice of BSE (15.6%).

Suleiman et al¹⁴ in a similar study on female college students of Jordan university in 2012 stated that 51.8% students were aware of breast cancer, awareness regarding risk factors was poor (mean = 10.6%) and 34.9% were aware of BSE but only 11% practiced it.

Comparitively in the current study, knowledge regarding risk factors for breast cancer was 36.8% (mean), knowledge regarding clinical features of breast cancer was 51.5% (mean), 83.8% of the students are aware of breast self-examination as a measure to prevent Breast cancer. Majority of the students gained their knowledge about breast cancer through the Internet (75%). Awareness regarding risk factors and clinical features seems to be similar to other non medical students but less than that of nursing students.

Mohamedraed Elshami et al¹⁵ studied 2774 adolescents attending high school and women attending clinics in Gaza Strip, Palestine in 2017 and reported that overall mean \pm SD score for recognition of Breast Cancer symptoms was 5.9 ± 2.9 of 11, a breast lump was the most commonly recognized symptom (78.1%), while pulling in of nipple was the least recognized (36.4%). The overall mean \pm SD score for recognition of BC risk factors was 7.5 ± 3.1 of 16.

In the current study, Mean score of knowledge about risk factors was 2.17 ± 3.35 (Maximum = 13, Minimum = -7), while the Mean score of knowledge about clinical features was 3.77 ± 4.77 (Maximum = 11, Minimum = -11). The most commonly recognized risk factor was Exposure to radiation (66.7%) and advanced age (66%). The most commonly recognized clinical features were Pain of soreness in the breast (76.5%) followed by Lump in the breast (76%). Lump under armpit (40.7%) and weight loss (22%) were the least recognized clinical features. Low awareness in current study could be because the students were not getting information or instruction regarding Breast cancer through formal education channels but through internet and other media.

Conclusion:

It is evident from the study that most of the students know about breast cancer but their overall knowledge about its risk factors and clinical presentation is inadequate. Though one third of them were aware about Breast Self-Examination as a means to detect Breast cancer, majority had little to no knowledge about the actual practice of BSE.

Hence we can conclude that there is a need to address the gap in the knowledge about causality of breast cancer and there is an acute necessity to teach the skill of performing BSE to engineering students.

Conflict of interest: None

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