

## A Study of Awareness about Breast Cancer and Breast Self-Examination in Nursing Students

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### Abstract

### Original Research Article

**Introduction:** Breast cancer is the leading cause of cancer death worldwide which makes it an important health issue in women. Nurses being the front-line health care workers can play an important role in imparting education about BSE in women as early detection is essential to breast cancer survival. Hence the present study was undertaken with an objective to assess the knowledge and practice of nursing students regarding breast cancer and BSE which will help to fulfil the gap in knowledge, if there any, by imparting BSE training to them. **Material and methods: Study design:** descriptive, cross-sectional workplace-based study. **Study place:** all six nursing schools in Akola city. **Period of study:** June to July 2018. **Study subjects:** All 180, 2<sup>nd</sup> and 3<sup>rd</sup> year female nursing students of all six nursing schools in a city. **Data collection:** Pretested semi structure questionnaire was used to collect information about personal characteristics of nurses, about causes, risk factors, screening methods and treatment available and knowledge about breast self-examination. **Ethical approval:** Obtained from Institutional Ethics Committee and also permission was obtained from the principals of the concerned nursing schools. **Results:** out of 180 nursing students. 167 participated in the study. All participants have heard about breast cancer. Approximately 87.4%, 82.6% and 82.6% participants knew about various risk factors, various screening methods and different methods of treatment respectively. BSE was known to only 57.5% participants. Only 6.6 % knew about proper method of BSE while only 17.4% knew about frequency of BSE. Only 5.3 % practiced BSE. **Conclusion:** Though the knowledge of respondents about breast cancer is adequate, it requires reinforcing about the subject throughout their study. Their knowledge about BSE is very poor. Nurses should adopt such preventive screening procedure and act as role models for the patients and for the community.

**Keywords:** Breast cancer, Breast self-examination (BSE), lump, nursing students.

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## INTRODUCTION

Breast cancer is the second most common cancer in the world and the most frequent cancer among women with an estimated 1.67 million new cancer cases diagnosed in 2012 [1]. Globally, over one million breast cancer cases are diagnosed annually [1]. This amounts to a total 411,000 deaths from breast cancer accounting for 14% of female cancer deaths worldwide [2, 3]. According to the World Health Organization (WHO), its incidence is expected to increase by 50% by 2020 [4]. Though the incidence of breast cancer has increased globally over the last several decades [5, 6], the greatest increase has been found to occur in the Asian countries [7]. The incidence varies between countries and regions. The developed countries account for almost 50% of breast cancers diagnosed worldwide [8]. It is estimated that about half (60%) of breast cancer deaths occur in economically developing countries [3, 9]. The lowest breast cancer incidence is reported from Far Eastern and South East Asian countries [10, 11] and it is expected

that in coming decades, these countries would account for majority of new breast cancer patients diagnosed globally.

In India, over 100000 new breast cancer patients are estimated to be diagnosed annually [11, 12]. As per the ICMR-PBCR data breast cancer is the commonest cancer among women in urban area while it is second most common cancer in rural area after cancer of uterine cervix [13]. The age standardized incidence range from 6.2 to 39.5 per 100000 Indian women [13]. More than two-third of the patients are already in an advanced and incurable stage at the time of diagnosis [14]. In early stages, breast cancer is less aggressive with low incidence of metastasis and is potentially curable. Since the prognosis of this disease is influenced primarily by the stage at which intervention is introduced, secondary prevention (early detection) is the mainstay [15]. It has been documented that 85% of localized breast cancer cases have 5 year survival rate.

But it drops to 56% for the regional disease and 18% to distant metastasis [16]. According to World Health Organization early detection of breast cancer is the cornerstone to improve the breast cancer outcome and survival [2] Hence Early detection through breast self-examination (BSE) plays an important role in decreasing the morbidity and mortality rates [17]. In a resource- limited community, an important method of early detection is breast self-examination. It is relatively simple, convenient, affordable, noninvasive and less painful adjuvant screening method of early detection of breast cancer recommended for women [18]. There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment to yield a better survival rate [19]. BSE does not require any specialized personnel or equipment; rather it is painless and inexpensive self- care action that can be done at home in about ten minutes [20]. However it has been documented that all the women who are advised about BSE by health care professional demonstrated greater knowledge and confidence and are more likely to practice this procedure routinely than those who become aware from other sources [21-27].

Nurses being the front line health care workers are in an excellent position to make use of many opportunities to encourage the women to be breast aware. They can play an important role in imparting education about BSE in women. But before they start educating the women they themselves need to be

knowledgeable and confident regarding the BSE. Hence the present study was undertaken with an objective to assess the knowledge and practice of nursing students regarding BSE which will help to fulfil the gap in knowledge, if there any, by including it in their curriculum.

## MATERIAL AND METHODS

A cross sectional study was conducted between June and July 2018 to study awareness about breast cancer and breast self-examination in nursing students. There are six nursing schools in Akola city. All 180 female nursing students of 2<sup>nd</sup> and 3<sup>rd</sup> year of these schools constituted the study population. Purpose of the study was explained to the participants before the start of study. All participants were assured of anonymity and confidentiality of responses and verbal consent was obtained from them. Pretested semi structure questionnaire was used to collect information about personal characteristics of nurses, about causes, risk factors, screening methods, treatment available and knowledge about breast self-examination. Ethical approval was obtained from Institutional Ethics Committee. Permission for conduct of study was also obtained from the principals of the concerned nursing schools before start of study. Out of 180 female nursing students, 13 students were absent at the time of study. Hence information was collected from 167 female nursing students by using self-administered questionnaire. The obtained data was analyzed by using Epi Info software.

## RESULTS

**Table-1: Personal characteristics of the study subjects (n=167)**

Parameters	No.	%	
<b>Age</b>	18-20years	124	74.2
	Above 20 years	43	25.7
<b>Academic year</b>	Second year	82	49.1
	Third year	85	50.9
<b>Residence</b>	Urban	109	65.3
	Rural	58	34.7
<b>Marital status</b>	Married	23	13.8
	Unmarried	144	86.2
<b>Family history of breast cancer</b>	Yes	05	03.0
<b>Personal history of breast lump</b>	Yes	14	08.4

Table 1: Mean age of the respondents was 21.1±2.3 SE. 124 (74.2 %) respondents were below 20 years of age. 109 (65.3%) were from urban area. Only

23 (13.8%) were married. 5 (3.0%) respondents gave family history of breast cancer. 14 (8.4%) respondents had personal history of breast lump.

**Table-2: Knowledge about risk factors for breast cancer**

Risk factors for breast cancer	No of respondents	Percentage
Family history of breast cancer	114	68.3
Early menarche	33	19.8
Late menopause (after 55 years)	134	80.2
Radiation exposure	56	33.5
Prolonged use of oral pills	56	33.5
Obesity	76	45.5
Nulliparity	115	68.9
Not breast feeding	45	26.9
Hormone therapy for menopause	54	32.3
Smoking/alcoholism	56	33.5

Table 2: All 167 respondents have heard about breast cancer. Majority of the respondents i.e. 87.4% knew about various risk factors for breast cancer, but the knowledge about early menarche, oral pills consumption for prolonged period, not breast feeding,

and hormonal therapy for menopause as a risk factors were known to very few respondents i.e. to 19.8%, 33.5%, 26.9% and 32.3% respectively. Only 33.5% nurses knew about smoking, alcoholism and radiation exposure as risk factors for breast cancer.

**Table-3: Knowledge about warning signs, early detection measures and Treatment of breast cancer**

Items	No.	Percentage	
Breast cancer is a public health problem	113	67.7	
Can be detected in early stage by screening test	138	82.6	
Early detection increases chances of survival	108	64.7	
Warning signs of breast cancer	Breast lump	120	71.8
	Discharge through nipple	114	68.3
	Pain in breast	117	70.0
	Retraction of nipple	103	61.8
	Change in shape and size of breast	112	67.1
	Ulcer /swelling over breast	110	65.9
	Discoloration over breast	104	62.8
Screening & diagnostic methods	BSE	96	57.5
	Mammography	135	80.8
	FNAC / biopsy	120	71.8
	Breast USG	106	63.5
Treatment of breast cancer	Surgery	138	82.6
	Chemotherapy	128	76.6
	Radiation/radiotherapy	131	78.4
	Combination of above	64	38.3

Table 3: 67.7% respondents considered breast cancer as a public health problem, 82.6% opined that it can be detected in early stage by screening test. 64.7% said that early detection can improve the chances of survival. Various warning signs of breast cancer were known to more than 70% respondents. More than 80% respondents knew about one or other screening and diagnostic methods of breast cancer. Mammography,

FNAC/ biopsy, Breast USG as screening methods were known to 80.8%, 71.8% and 63.5% respectively. But only 57.5% respondents knew about Breast self-examination (BSE) as a screening test for early detection of breast cancer. Various modalities of treatment i.e. surgery, chemotherapy, radiotherapy or combination of these were known to 82.6%, 76.6%, 78.4% and 38.3% respectively.

**Table-4: Awareness of participants about breast BSE**

Questions	No.	Percentage
Heard of BSE	127	76.0
BSE help in early diagnosis of breast cancer	96	57.5
BSE is easy procedure which can be done at home	48	28.7
BSE is conducted starting from age 18 years or older	33	19.8
BSE should be performed monthly	29	17.4
BSE should be performed at the end of menstrual period	24	14.4
All stages of BSE knows	11	06.6

Table 4: Though 76.0% respondents heard about BSE, only 57.5% knew importance of BSE in early diagnosis of breast cancer and 28.7% said that it is an easy procedure that can be done even at home. Small number of respondents knew about starting age for BSE (19.8%), frequency of doing BSE (i.e. monthly) (17.4%), and time of doing BSE i.e. after the end of menstrual period (14.4%). Only 6.6% respondents knew about all stages of BSE.

In the present study only 9 (5.3%) respondents practice BSE regularly. Reasons of non-practicing BSE in 158 respondents were- not heard about BSE 40 (23.9%), don't know the procedure of BSE 31 (18.7%), do not have symptoms 47 (28.1%), do not find time to do BSE 21(12.6%), BSE is embarrassing 16 (9.6%) and scared of being diagnosed for breast 3 (1.8%)

## DISCUSSION

Breast cancer is one of the common cancers among women in the world and is a leading cause of mortality in them [5, 28-30]. It is the most common malignancy amongst Indian women after cervical cancer. It is estimated that one out of seven women either has or will develop breast cancer in her life time [31].

Nurses who are involved in direct patient care have a better opportunity to partake in patient assessment, management of symptoms, patient education and counselling, and also give supportive care. Awareness among nurses about various aspects of breast cancer and breast self-examination (BSE), are important, as they can identify the high risk women, and guide them appropriately.

In the present study, all 167 respondents have heard about breast cancer. 67.7% respondents considered breast cancer as a public health problem. Majority of the respondents knew about various risk factors for breast cancer, but their knowledge about early menarche, oral pills consumption for prolonged period, not breast feeding, and hormonal therapy for menopause as risk factors is poor as is the case in other developing countries [32-34].

Knowledge about established risk factors i.e. radiation exposure (33.5%), obesity (45.5%) and smoking /alcohol consumption (33.5%) is also insufficient in them as contrast to the study done earlier [35].

Various warning signs of breast cancer were known to more than 70% respondents. 82.6% opined that it can be detected in early stage by screening test. 64.7% said that early detection can improve the chances of survival. More than 80% respondents knew about one or other screening and diagnostic methods of breast cancer. In contrast to this, Oluwole [36] in his study found poor knowledge about different methods of

screening of breast cancer in the health care workers. In our study only 57.5% respondents knew about breast self-examination (BSE) as a screening test for early detection of breast cancer. Various modalities of treatment i.e. surgery, chemotherapy, radiotherapy or combination of these were known to 82.6%, 76.6%, 78.4% and 38.3% respectively.

Our study revealed that very few participants have knowledge about the ease of BSE, starting age for BSE, frequency of doing BSE (i.e. monthly) and time of doing BSE i.e. after the end of menstrual period. Only 6.6% respondents knew about all stages of BSE. These findings are agreeing with the study done among Jordanian nurses [37, 38].

In the present study only 9 (5.3%) respondents practice BSE regularly. This is due to limited knowledge about breast cancer and methods of early detection. While the study done by Al-Naggar *et al.* [39] reported that 55% of the respondents who had performed BSE before, only 28.5% of them practiced BSE once a month. Many other studies also reported that, 23% to 48% nurses practiced BSE regularly [40-42].

In our study, 158 respondents do not practice BSE because of unaware about it and its procedure or because of reluctant to do BSE due to not having any symptoms or feeling embarrassing about it and having fear about its diagnosis in them. Sukhpal also reported that Majority of the students reported the reason for not doing BSE as 'do not get time'. The other reasons reported were 'not interested', 'do not consider it important' and 'feel embarrassed' [43].

In fact the students at this age usually have different priorities and do not discriminate ability to correlate the seriousness of the disease with BSE practice. This has been supported by many other studies in which the various reasons reported are 'forgetting', 'lack of confidence', 'fear of finding a lump', 'embarrassment', 'too busy' and thinking 'it is not necessary' [44-46].

## CONCLUSION

Though the knowledge of respondents about breast cancer is adequate, it requires reinforcing about the subject throughout their study. It is also found from the present study that their knowledge about BSE is insufficient. BSE remains an important tool for the early diagnosis of breast cancer in our environment due to lack of facilities and screening program. Nurses being close in contact with the patients need to be properly educated to efficiently carry out this procedure. BSE and breast cancer education programmes should be integrated into the curriculum of nursing and as part of continuing nursing education (CNE) program. Nurses should adopt such preventive screening procedure and

act as role models for the patients and for the community.

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