



**ORIGINAL RESEARCH PAPER**

**Pathology**

**KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING BREAST CANCER AND BREAST SELF EXAMINATION AMONG FEMALE MEDICAL STUDENTS OF MEDICAL COLLEGE – A CROSS SECTIONAL STUDY**

**KEY WORDS:** Breast cancer, BSE (Breast Self-Examination), genetic mutation, Lumps

<b>Dr. Rafia Khatoon*</b>	Assistant Professor, Department Of Pathology, Majmaah University, College Of Medicine, MAJMAAH, K.S.A. *Corresponding Author
<b>Dr Shamshad Begum Loni</b>	Assistant Professor, Department Of Basic Medical Sciences, Majmaah University, College Of Medicine, MAJMAAH, K.S.A
<b>Dr Nadakuditi. Rajya Lakshmi</b>	Assistant Professor, Department Of Pathology, Majmaah University, College Of Medicine, MAJMAAH, K.S.A
<b>Ms. Nallavelli Sai Pravalika</b>	Medical Student, Mahavir Institute Of Medical Sciences, Vikarabad, Telangana

**ABSTRACT**

**OBJECTIVE:** The main objective of our study is to find out the knowledge, attitude and practice of college going MBBS students towards BSE.

**METHODS:** A cross sectional study was carried out among 140 MBBS students at Mahavir Institute of Medical Sciences, Vikarabad, Telangana, Study was conducted through distribution of 30 questionnaires and collecting the response in proper hard copy response sheet. Data were analyzed by using SPSS 18.0 software.

**RESULTS:** Our study result indicates that most of the participants were aware about the term breast self-examination. 75.71% of respondents have heard about BSE, 25 % of the respondents think that Pain or soreness in the breast is the main sign and symptom of breast cancer where as 19.3% of respondents believes that Lump under armpit is the main sign and symptom of breast cancer. 27.14% of participants got knowledge about BSE from television. 97.14% respondent thinks that BSE is a good practice and also will recommend others to perform BSE regularly. 58.6% participants think that they don't have any problem to allow male doctor to examine their breast. 44.28 % respondent practice BSE regularly where as 35.48 % of total practitioner practice BSE recommended once a month.

**CONCLUSION:** We can conclude that students have inadequate knowledge about BSE and need of proper training is most. We recommend making BSE training compulsory to all young students.

**INTRODUCTION**

Globally around 1.15 million of new cases of breast cancer are added every year and around 502,000 women die each year. Currently around 1 in 26 women are expected to be diagnosed with breast cancer in their lifetime. [1] The incidence is increasing day by day in either developing or developed countries.[2]

Breast cancer occurs in noticeable organ so early detection is possible in comparison to other cancers. [3]. Early detection has increased the 5 year survival rate in 85 % women and late detection has decreased the survival rate to 56%. [4]. Low survival rate in under developed and developing countries may be due to lack of awareness for early detection and inadequate diagnostic and treatment facilities. Tumors which are detected in its first phase are mostly detected by one self. [5] Even though most of women are conscious about the risk and consequences of breast cancer, most of them have negligence assuming that they are at low risk of getting it and they even don't think that self screening is of importance. Wrong perception is prominent among most of women that they don't get infected until they have family history of breast cancer or they reach the certain age or are sexually inactive. Constituents of breast cancer are due to combination of different factors. Some risk factors are use of hormone therapy, use of OCPs, genetic mutation, alcohol consumption, over weight and obesity, dense breast, older age, late menopause, early menarche. [6-8] Early stage of breast cancer do not produce any symptoms but as the tumor enlarges symptoms like painless lumps can be felt in the breast , under armpit, swelling and thickness of breast's skin is seen, also may lead to pain in breast, may also lead to bloody discharge and erosion or inversion in the nipple is also seen.[9] Mortality rate from breast cancer is vigorously spine-chilling. Due to advancement in diagnostic and screening techniques and modern treatment approaches, we can be optimistic that a long period of difficulty is nearing an end for betterment of estimated survival rate. Survival rate is

increasing day by day. [10] Better prognosis is only possible if the disease is detected as early as possible in initial stage. It can be possible from awareness and knowledge about the disease and proper self assessment.

Breast self examination (BSE), clinical breast examination (CBE) and mammography are three ways of breast cancer screening. [11]. Clinical breast examination and mammography require hospital visit and specialized hospital equipment whereas BSE can be done at home. Among these methods mammography is only proven and effective methods.[9]

Breast self examination [BSE] is recommended method in developing country like ours. It is cheap, convenient and private with no new technology or trained person required. [12, 13] main purpose of BSE is to make women aware about the early changes that can occur in breast and detect the cancer in its early stage.

Performance of BSE and early detection of breast cancer is directly related as shown by many studies and most of early breast tumors have been self-discovered. [14, 15] Breast self-examination is simple self-assessed cost free, non-invasive screening method for early detection of breast cancer. Main aim of doing BSE is to feel the changes in breast as early as possible but most of the women are unaware of the technique or they are doing it wrong. [16]

Aim of this study is to assess the knowledge, attitude and practice among medical students towards Breast Self Examination (BSE) and also to explore their knowledge about breast cancer focusing on risk factors and clinical presentation.

**MATERIAL AND METHODS**

A cross-sectional descriptive study was conducted among Female Medical students of medical college in India, at

Mahavir Institute of Medical Sciences, Vikarabad, Telangana, regarding their knowledge, attitude and practice of BSE. The study was conducted for a total period of 3 months, from June 2018 to August 2018. Total 140 participants were selected after signing informed consent form in our study. Out of 140, 85 were female students perusing MBBS.

**Research instrument:**

Self administered 30 questionnaires were provided to the participants and aim of the study was made clear. Data collected by questionnaire was prepared considering all possible variables according to information, developed on the basis of relevant literature. The questionnaire also contains demographic characteristics and socio-cultural status of the respondents. In the knowledge part contains questions on incidence of breast cancer worldwide and, specific symptoms, risk factors and methods of diagnosis. There are also questions for participants regarding their attitude on breast cancer and practices on different screening programs. Participants were requested to choose from one of the multiple choices provided with the questionnaire. The maximum questions of the questionnaire are close ended and the possible answer is "yes" or "no".

**DATA COLLECTION:** An informed consent was taken from those who agree to participate in the planned study. To ensure confidentiality, no name was collected; instead codes were used to identify the respondents. Furthermore, the respondents were also provided with an envelope to seal the questionnaire upon completion before submission. To avoid contamination and dissemination of knowledge the students were motivated not to discuss the questionnaire mutually rather answer individually.

Participation was on voluntary basis. Anonymity and confidentiality of the responses was assured. Ethical committee clearance from the institutional data review board was obtained

**Assessment of knowledge on BSE**

There are 12 knowledge questions that will estimate the basic knowledge of research participants. Based on the score gained by the participants we will categorize into full aware, partially aware and unaware.

**Assessment of attitude on BSE:** There are 8 attitude indicators used to evaluate the attitude of respondents towards BSE. According to attitude score we will have brief idea whether the participants are in favor of BSE or are against it.

**Assessment of practice towards BSE:** There were 10 practice indicators used to evaluate the technical knowledge of respondents towards BSE.

**Limitation of the study:**

The proposed study population is a specific group and profession of the country. They are the highly educated and not merely represent the general population of the country. In spite of that the planned study is designed specifically on medical student for a number of reasons. First, the aim was to assess the medical professionals' knowledge and attitude and practice towards breast cancer, because general population is much dependent on the advice and motivation of the health professionals due to information asymmetry. Second, cancer specially breast cancer is a neglected public health problem due to high burden of communicable diseases, but the situation of breast cancer is alarming. Major portions of the health policy maker are health professionals, so if somehow this group can be motivated then this neglected public health problem can be addressed more effectively.

Last not least, by assessing the knowledge, attitude and practice of medical students we can set a standard and can compare the knowledge and attitude in the general non-medical educated group.

**DATA ANALYSIS:**

Obtained data was checked for errors and then data entry completed and finally data were analyzed by using recent SPSS 18.0 software. Demographic characteristics are simply presented in frequency and chi-square test is used to compare the qualitative variables and parametric test like t-test is used for quantitative variables.

**RESULTS**

Out of 155 contestants, only 140 gave the written consent and were ready to participate in study, so only 140 participants were selected for the study. Most of the participants were MBBS students. All of the participants were selected female gender as most of our questionnaires are directed to females. Participants were between the age of 19-25 years mean age 22 years.

**Table 1: General characteristics of study participants**

Characteristics	Frequency	Percent
1. Do you have any family history(1st degree relation*) of breast cancer		
Yes	1	0.7
No	139	99.3
2. Do you have any breast problem		
Yes	0.00	0.00
No	140	100.0
3. Do you know the incidence of the breast cancer in India		
Yes	78	55.7
No	62	44.3
Total	140	100.0

Out of 140 participants, only 1 participant has family history (\*first degree) of breast cancer and rest 139 (99.3%) participants has no any family history. Among 140 participants, no any participants have any kind of noticeable breast problem. 78 (55.7 %) of participants are aware of incidence of breast cancer in India and 44.3% are unaware of any kind of incidence of breast cancer in India. [Table 1]

**A) KNOWLEDGE ON BSE**

Nearly 3/4<sup>th</sup> (75.71%) participants are aware about BSE and remaining 24.28% are unaware about BSE. 45% (63) participants believe that BSE should be performed at least once a month but remaining 55% don't feel it's necessary to perform BSE at last once a month. [Table 2]

Majority of respondents 27 (19.3%) think that positive family history is the main causative agent of breast cancer while 24 (17.1%) of respondents believe that breast cancer is more common in women with late menopause. 6.4 % respondent believes that having larger breast may be the causative agent of breast cancer. [Table 2]

Majority of participants 35 (25%) believe that pain and soreness in the breast is the main sign related to breast cancer followed by lump under armpit & Inversion/pulling in of nipple 27 (19.3%), Whereas swelling/enlargement of breast & weight loss was seen as main sign and symptom by 15 (10.7%) of participants. [Table 2]

Most of the respondent came to know about BSE from television 38 (27.14%), followed by internet 31 (22.14%). [Table 3]

**B) ATTITUDE ON BSE**

34.8% percent of respondent said that they will first visit doctor when developed breast cancer and 25.9 % respondents said that they can perform mastectomy if necessary. 74 (52.28%) respondents believe that they will get afraid that they can believe breast cancer whereas 66 (47.72 %) participants said that they are not afraid of detecting breast cancer. 121 (86.4%) participants will visit doctor as soon as they are diagnosed of breast cancer. 22 (15.71%) respondents think that breast clinical examination [CBE] is a

disgraceful practice as other people sees or touches the breast to detect breast cancer. [Table 4] 100% participant believes that they are not in risk of developing breast cancer.

**C) PRACTICE ON BSE**

86 participants (61.4%) out of 140 believe that they can perform BSE while 38.6% participants are unaware about how to perform BSE. 50 percent of total participant (n=70) believe that BSE should be performed at least once a month while 27.85% think that once a year examination is sufficient. 62 (44.28%) respondents practice regularly while 78 (55.71%) participants do not perform BSE. Out of 62 respondents who perform BSE, majority (i.e. n=22) practice BSE once a month while 16 respondents practice at least twice a month. Most of the BSE practitioner (n=28) started practicing BSE at the age between 21-24 years, while 18 participants started after the age of 25. Main reason for not practicing BSE is that the participants don't have any kind of breast problem (n=27) and also most of participants don't know the technique (n=14) of practicing BSE. [Table 5]

Only 3 participants out 140 have ever done a clinical breast examination [CBE] by a doctor that also only once in a life., while majority 137 (97.9%) have never done any kind of clinical breast examination. 54 (38.57 %) of participants know the 3 positions of performing BSE while 86 (61.42%) are unaware of three techniques of performing CBE. Most of the participants, 43 believe they didn't consulted to doctor about breast examination because they had no signs and symptoms and 25 participants believe that the they weren't recommended for CBE. [Table 6]

In our study, there is a significant association between knowledge and practice of BSE (2 = 8.90, df = 4, P = 0.069), and also between attitude and the practice of BSE (2 = 9.43, df = 4, P = 0.023). Over all knowledge and practice of BSE is positively correlated in our study (r=0.379, p=0.013)

**Table 2: Knowledge of women on identifications of risk factors, signs & symptoms and methods of diagnosis of breast cancer**

Dimensions	Response	Frequency	Percent
1 Ever heard of BSE?	Yes	106	75.71%
	No	34	24.28%
2 Should BSE be performed monthly?	Yes	63	45%
	No	77	55%
3. Please identify the factors which you think is a potential risk factors for developing			
Positive family history		27	19.3%
High fat diet		6	4.3%
Smoking		7	5.0%
Race/ethnicity		12	8.6%
Working class women		16	11.4%
Alcohol consumption		1	0.7%
First child at late age		14	10.0%
Early onset of menarche		18	12.9%
Late menopause		24	17.1%
Stress		6	4.3%
Larger breast		9	6.4%
4. Please identify the sign and symptoms which you think related to Breast cancer			
Discharge from the breast		2	1.4%
Pain or soreness in the breast		35	25.0%
Change in the size of the breast		3	2.1%
Discoloration /dimpling of the breast		3	2.1%
Ulceration of the breast		3	2.1%
Weight loss		15	10.7%
Changes in the shape of the breast		8	5.7%

Inversion/pulling in of nipple	27	19.3%
Swelling or enlargement of the breast	15	10.7%
Lump under armpit	27	19.3%
Scaling/dry skin in nipple region	2	1.4%
5. Please identify the methods of diagnosis of breast cancer		
Self-Breast Examination (SBE)	1	0.7%
Clinical Breast Examination by doctor	16	11.4%
Mammography	35	25.0%
Ultra sound	88	62.9%
Total	140	100.0%

**Table 3: Other Knowledge dimensions on breast cancer**

Dimensions	Frequency	Percent
6. Do you know at what age self-breast examination should be started?		
Yes	56	40.0%
No	84	60.0%
Total	140	100.0%
7. Do you know how often CBE should be done until a women should reach 40 years?		
Once in a year	55	39.3%
Once in two years	11	7.9%
Once in three years	4	2.9%
Do not know	70	50.0%
8. Do you know recommended age for mammography examination to start?		
At the age of 30 years	38	27.1%
At the age of 35 years	20	14.3%
At the age of 40 years	15	10.7%
At the age of 45 years	26	18.6%
Don't know	41	29.3%
9. Do you believe that breast cancer occur more commonly in old women?		
Yes	70	50.0%
No	70	50.0%
10. Do you think breast cancer is a curable disease		
Yes	130	92.9%
No	10	7.1%
11. Do you think Long time survival (more than five year) is rare (due to breast cancer)		
Yes	37	26.4%
No	103	73.6%
Total	140	100.0%
12. Sources of information on BSE		
Television	38	27.14%
Internet	31	22.14%
Teachers	27	19.28%
Family	19	13.35%
Friends	14	10%
Health staffs	7	5%
Other sources	4	2.85%

**TABLE 4: ATTITUDE OF WOMEN ON BREAST CANCER**

1. If Develop BC what is your Attitude <sup>a</sup>	Frequency	Percent
1. You will be scared	80	23.8%
2. You will consult to a doctor	117	34.8%
3. You will use traditional medicine	14	4.2%
4. You will go to prayer house	38	11.3%
5. You will agree to perform Mastectomy (If necessary)	87	25.9%
Total	336	100.0%
2. Are you afraid that you will detect breast cancer?		
Response	Yes	74
	No	66
		52.28%
		47.72%
3. If you develop breast lump how fast you will go to see a doctor?		
Within one week	121	86.4%

Within 1 month	15	10.7%		
Within 1 -3months	4	2.9%		
4. Will you allow male doctor to examine your breast?				
Yes	82	58.6%		
No	58	41.4%		
5. Is CBE disgraceful practice that other people sees or touch the breast to detect breast cancer?	Response	Yes	22	15.71%
		No	118	84.28%
6. Please give your perceived risk for developing breast cancer				
Not at risk	140	100.0%		
Lower risk	0	0		
Medium risk	0	0		
Higher risk	0	0		
Don't know	0	0		
7. Do you think you have any risk factors?				
None	140	100.0%		
One risk factor	0	0		
Two risk factors	0	0		
Three risk factors	0	0		
More than 3 risk factors.	0	0		
Total	140	100.0		
8. Is BSE a good practice? Will you recommend others to do BSE	Response	Yes	136	97.14%
		No	4	2.85%

a. Multiple response questions

**Table 5: Practices of women towards Self Breast Examination**

Dimensions	Frequency	Percent
1. Do you know how to perform Self Breast Examination (SBE)?		
Yes	86	61.4
No	54	38.6
2. Do you know how often SBE should be done?		
Daily	4	2.9
Weekly	16	11.4
Monthly	70	50
Yearly	39	27.85
Do not know	11	7.85
3. Do you practice BSE (Breast Self-Examination)		
Yes	62	44.28
No	78	55.71
4. If Yes, then how often you practice Breast self-Examination		
Twice in a month	16	25.80
Once in a month	22	35.48
Once in six months	7	11.29
Once in a year	11	17.74
Not very often	6	9.67
Total	62	100%
5. At what age you started practicing BSE (Breast Self-Examination)		
Less than 20 years of age	16	25.82
21-24Years of age	28	45.16
Above 25 years of age	18	29.03
Total	62	100
6. Don't practice SBE regularly reasons		
1. I don't have breast problem.	27	34.61%
2. I don't think I should	10	12.8%
3. I don't feel comfortable doing this	7	8.97%
4. I do not know how to do	14	17.94%
5. Carelessness	3	3.84%
6. Too frequent to practice.	1	1.28%
7. I don't think it is necessary.	7	8.97%
8. Unsure about its benefit	9	11.53%
Total	78	100.0%

**Table 6: Practices towards Clinical Breast Examination**

Dimensions	Frequency	Percent
7. Have you ever done your breast examination by any Doctor (Clinical Breast examination)		

Yes	3	2.1%	
No	22	15.7%	
Total	25	17.9%	
No Response	115	82.1%	
8. (If Yes) Frequency of examination			
Once	3	2.1%	
Not Applicable	137	97.9%	
9. Do you know 3 positions to perform CBE?	Yes	54	38.57%
	No	86	61.42%
10. Why reluctant to participate CBE <sup>a</sup>			
1. Concern about extra money	1	1.0%	
2. Concern about extra time	1	1.0%	
3. Fear of out come	9	8.9%	
4. Too young to participate	11	10.9%	
5. No sign symptom of breast cancer	43	42.6%	
6. No one recommended	25	24.8%	
7. Unsure about the benefit.	9	8.9%	
8. If other than specify	2	2.0%	
Total	101	100.0%	

a. Multiple response questions

**DISCUSSION**

As we discussed earlier that early detection of breast cancer can be done by proper and routine use BSE technique. Due to unavailability of standard authenticated questionnaire, we developed 30 questions which we thought might be relevant to current context. Our study generally focused on female MBBS students so that it can motivate young medical personnel to practicing SBE routinely.

Self breast examination (BSE) was quiet familiar among our study population. Almost 3/4<sup>th</sup> (75.61%) of respondents were familiar with the term BSE in contrast to study Performed among women in Buea, where only 9.6 % of the participants were aware of BSE as technique.[17] This high percentage of knowledge in our study may be due to the medical background of maximum participants. Our study contrasts to that of other similar studies performed.

27 (19.3 %) participants in our study think that having positive family history might be main reason for breast cancer followed by 24 (17.1%) of participants think breast cancer is more frequent among women with late menopause. In another study done in India suggests that 27.6% of participants think that positive family history is main risk factor for breast cancer [18] while another study suggests that 60 % of participants think positive family history is main risk factor[19]. Similar study done by Md sabbir ahmad et al on Bangladeshi university going women shows contrasting result than ours which shows that exposure to radiation (58.2%) is the main risk factor for breast cancer followed by 47.6 % believe that positive family history may be the risk factor for breast cancer.[20]

In our study 25 % of participants believe that pain and soreness in the breast is the main sign and symptom of breast cancer which is contrast of other similar studies done in Saudi Arabia, where more than 50 % or responders believe that pain and soreness in the breast is the main sign and symptoms of breast cancer. [21, 22] Presence of lump under armpit as sign was believed by 19.3 % of participants whereas this was high in studies done in Saudi Arabia, where 55.3 % respondents think presence of lump under armpit as sign of breast cancer [22] In one similar study revealed that 85.5 % of respondents believe presence of lump under armpit as main sign of breast cancer, which is very high than our study. [21]

Majority (75.61 %) of respondents were aware about BSE but only 86 (61.4%) respondents know how to perform BSE whereas only 54 (38.6%) respondent know the basic 3 positions to perform the BSE. Over all knowledge on BSE and its techniques was slightly higher than other similar studies. [23,24]

27.14 % respondents came first time to know about BSE from television, which is similar to other studies also. [23-25] In our study 97.14% of respondent believe that BSE is important technique and they also would like to recommend to others to perform BSE, which shows the very good attitude of respondents of our study, Attitude of our participants towards BSE is similar to another study done by D. M. Nemenqani et al among Saudi Arabian medical student [26] and study done by Linda Ahenkorah Fondjo et al on female secondary and tertiary school going students of Ghana. [27]

Our study revealed that only 22 out of 140 (15.71%) participants practice recommended once a month self breast examination. [Table 5] which is similar to other studies done worldwide, [26,28,29] whereas study done in Delhi and Nigeria showed that monthly practice rate was 49.1% and 34.9 % respectively [19, 30]. Another study done in Ghana among Ghanaian market women revealed that practice of BSE was 64%, [31] which contrast our study. It may be due to the fact that urban women are well knowledgeable regarding breast cancer and also are active on internet and television, from which they might have got knowledge. Majority of our respondents (73.6%) are pessimistic and do believe that long time survival (more than five year) is rare (due to breast cancer). 78 (55.71%) of participants do not practice BSE, which may be due to lack of knowledge about benefit of BSE which is similar to other studies done worldwide [31-33]. Among the non practitioner of BSE in our study (34.61%) doesn't perform BSE because they think that they don't have any breast issue.

**CONCLUSION**

From this study we can conclude that positive relationship exists between knowledge of the participants and the attitude and practice. All the three domains are inseparable and interrelated. From our study we came to know that even in developing countries like ours there are still lot of people who have no idea about breast self examination, so we can arrange a mandatory training on BSE as soon as a girl reach the puberty. Training is also required for all the groups of population so that they can identify the early changes occurring in their breast, which can give big lead to breast cancer.

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