

Awareness of Knowledge, Attitude and Practice about Breast Self Examination among Female Medical Students

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ABSTRACT

Aim: To assess the knowledge, attitude and practices of female medical students regarding breast self-examination (BSE).

Method: A cross-sectional study was conducted from 23rd March to 25th May 2020 among 704 female medical students from first to fifth year of MBBS in public and private medical colleges of different cities in Pakistan. Data was collected using a structured, self-administered online questionnaire consisting of four parts; bio data, responder's knowledge, attitude and practice regarding BSE. The statistical analysis was done using SPSS 25

Results: The study showed that only 43.3% respondents believed that BSE should be done once a month. In terms of awareness about breast self-examination technique, 67.6% were not aware and 84.2% showed interest in performing BSE. 64.2% had performed BSE once, of which 42.2% were taught how to do BSE by a health professional.

Conclusion: The majority of the respondents knew about the importance of BSE but there is lack of knowledge regarding the correct technique of doing breast self-examination. However, there was a positive attitude towards performing breast self-examination and learning. There is a need for female medical students to have comprehensive knowledge regarding breast self-examination. Furthermore, importance of teaching BSE to medical students should be emphasized in earlier initial stages of medical school, regardless of their gender.

Key words: BSE, Knowledge, Practice, Medical students

INTRODUCTION

Breast carcinoma is one of the most prevalent malignancies amongst females in both developed and developing countries¹. In 2018, over 2 million cases of breast cancer were reported worldwide². In 2014, according to WHO Cancer Country profile of Pakistan 34,038 cases were reported annually, which grew to 83,000 in 2019 with a mortality rate nearing up to 50%^{3,4}. Furthermore in 2017, Pakistan was ranked 9th highest in the breast cancer incidence globally. This depicts breast carcinoma to be the second leading type of cancer-related deaths amongst women in Pakistan³. The alarming rate at which breast cancer is progressing, brings with it the utmost essential need to put preventive measures in practice. Due to lack of awareness regarding cancer screening practices, majority of the women in developing countries miss early detection and do not benefit from early treatment opportunities⁵.

Currently, breast cancer screening includes a step-by-step strategy, including breast self-examination (BSE), clinical breast examination and mammography in combination with each other⁶. Although mammography is considered as a gold standard in breast cancer screening, in developing countries like Pakistan, it is not cost-effective due to restraints on the national health budget and personal health finances. Moreover, due to culture inhibitions, many women do not opt for it. As a result, BSE is recommended by the health professionals because it is safe, free of cost, painless, private and does not require any special equipment or frequent visits to the tertiary care hospitals⁷. BSE includes regular breast examination to

detect an abnormal swelling or lump so that further investigations can be conducted if palpable⁸. Early diagnosis has proven to improve prognosis, reduce complications and limit the extent of disability⁹. According to Johns Hopkins Medical Center, 40 % of the diagnosed breast cancers are detected by women who feel a lump by palpating themselves, giving further evidence to the importance of a regular breast self-exam¹⁰.

Therefore, BSE is a recommended measure that gives an opportunity for early detection of anomalies and increases self-breast health awareness¹¹. In order to make this an effective tool, awareness and education about BSE is required as much as access to health care facilities is needed¹².

Majority of the population of Pakistan is based in rural settings where education has been noted as an area of negligence. Not only rural areas but also urban areas lack health education regarding breast cancer due to the taboos attached to this subject. This status quo further keeps on breeding this, as there is a deficiency and inability to set up a network to spread the needful awareness. Most patients present when the tumor is grossly enlarged or at end stage. This is clearly owing to the lack of general awareness regarding the disease stages of breast carcinoma and screening procedures in our society. Early detection methods such as BSE are considered not to be effective towards the cure of cancer by the masses. The main obstacle preventing BSE to become an efficient early detection tool, is how women are clueless and unaware of the proper methods to self-examine themselves. Due to certain cultural preferences, matters regarding the breast are not usually discussed with male health staff instead woman feel more comfortable with female health

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physicians. Adding to this problem is that how they do not discuss their health concerns regarding this matter with their husbands or other family members, who can guide them. There is an unavailability of empathy and tolerance in matters of breast health.

Therefore, it is crucial for young doctors and medical students to have comprehensive and accurate knowledge regarding breast cancer and its screening methods. Current and future health personnel, play a pivotal role in educating masses regarding breast cancer and BSE.

According to our knowledge, supported by literature review, there has been no previous study conducted in our region which specifically focuses on female medical students. In Pakistan, the health education system has not been subject to improvement in this faculty, leading to lack of clinical knowledge and skill among young physicians.

METHODOLOGY

A cross-sectional study was conducted from 23rd March to 25th May 2020. This multi-centered study was conducted in various major cities of Pakistan. The majority of medical colleges that participated in the survey were from Lahore, Faisalabad, Karachi, Islamabad and Multan. The target population included female medical students from first to final year of MBBS. A simple random sampling technique was applied for selection of the subjects on the 704 female medical students who participated in the survey. The study was based on a knowledge, attitude and practice design (KAP). Data was collected via a self-administered questionnaire which was constructed after reviewing literature from previous studies. It consisted of 4 parts; biodata of the participant, respondent's knowledge of breast cancer, attitude and practice regarding BSE. Questionnaire was designed to maintain confidentiality, as the responses were submitted anonymously and to be filled in the least possible time to maintain the participant's interest.

Knowledge component consisted of 10 questions regarding participants understanding of key elements of BSE and breast cancer. Attitude section constituted of 5 questions while the practice component consisted of 8 questions. The questionnaire was distributed through social media platforms and the responses were collected via Google Docs which were checked on daily basis. It was distributed to individuals as well as various medical groups and websites. The questionnaire was reviewed and approved by a team of volunteer researchers and doctors. IRB ethical approval was given for this study. Analysis was conducted via SPSS 25.

RESULTS

The results are described under 4 components: Demographic details, Knowledge, Practice and Scoring of Knowledge and Attitude Responses consisting of Likert's scale. The study consisted of 704 female medical students (Table 1).

Among the 704 students, the majority 677(96.2%) had heard about BSE previously, main sources of information were "Lectures" 363(51.6%) followed by "Mass Media" 267(37.9%) and 74(10.5%) knew it from "Friends, Family and Colleagues".

Table 1: Demographic Analysis

		Frequency
Age	18-20	174(24.7%)
	21-23	454(64.5%)
	24-26	75(10.7%)
	27 or more	1(0.1%)
Total		704(100.0%)
Year of study	1st year	47(6.7%)
	2nd year	95(13.5%)
	3rd year	195(27.7%)
	4th year	123(17.5%)
	Final year	244(34.7%)
Total		704(100.0%)
Previous education	Matric/fs.c	598(84.9%)
	O levels/a levels	106(15.1%)
Total		704(100.0%)
Which city is your college located in?	Faisalabad	61(8.7%)
	Islamabad/rawalpindi	39(5.5%)
	Karachi	29(4.1%)
	Lahore	430(61.1%)
	Multan	28(4.0%)
	Other	117(16.6%)
Total		704(100.0%)
Institution	Private	351(49.9%)
	Public	353(50.1%)
Total		704(100.0%)
Residence status	Day scholar	381(54.1%)
	Hostel life	323(45.9%)
Total		704(100.0%)
Marital status	Married	11(1.6%)
	Single	693(98.4%)
Total		704(100.0%)

In response to "How often BSE should be done", the majority 305(43.3%) of the respondents selected monthly, followed by 166(23.6%) of the respondents answering 'Don't Know' and 49 (7%) said every 2 months. Regarding the position in which BSE should be done, "While standing in front of mirror" was the most selected option by 451 (64.1%), after which "Lying down" was selected by 107 (15.2%) and 111 (15.8%) answered "Do not know". About half of our respondents 330(49.6%) knew that BSE should be started below "20 years" of age, while only 162(23%) said that it should be started "above 25". Upon asking which part of hand is required to examine any lump or thickening of the skin, 505 (71.7%) selected "Pulp of finger" and 117 (16.6%) selected "Palm of hand". A good percentage 476 (67.6%) of respondents had no knowledge of the "Vertical strip and Circular technique", whereas 228 (32.4%) knew about it.

The following responses were scored as: Strongly Agree 5, Agree 4, Neutral 3, Disagree 2, and Strongly Disagree 1. For each statement the highest possible score was 5 and lowest possible was 1. The mean average scores were calculated for each question and are presented in Table 2:

The results about practice details show that majority of the respondents had performed BSE in the past as presented in Table 3.

Table 2 :

I am interested in doing bse	Agree	300(42.6%)
	Disagree	9(1.3%)
	Neutral	101(14.3%)
	Strongly agree	293(41.6%)
	Strongly disagree	1(0.1%)
Total		704(100.0%)
Bse is not useful for me	Agree	15(2.1%)
	Disagree	309(43.9%)
	Neutral	77(10.9%)
	Strongly agree	9(1.3%)
	Strongly disagree	294(41.8%)
Total		704(100.0%)
Bse makes me feel unpleasant and embarrassed	Agree	76(10.8%)
	Disagree	276(39.2%)
	Neutral	144(20.5%)
	Strongly agree	17(2.4%)
	Strongly disagree	191(27.1%)
Total		704(100.0%)
All woman should do bse	Agree	159(22.6%)
	Disagree	1(0.1%)
	Neutral	23(3.3%)
	Strongly agree	519(73.7%)
	Strongly disagree	2(.3%)
Total		704(100.0%)
I should discuss bse with my friends and family	Agree	286(40.6%)
	Disagree	11(1.6%)
	Neutral	87(12.4%)
	Strongly agree	318(45.2%)
	Strongly disagree	2(0.3%)
Total		704(100.0%)
Bse includes armpit examination to check for lumps	Agree	247(35.1%)
	Disagree	16(2.3%)
	Neutral	64(9.1%)
	Strongly agree	374(53.1%)
	Strongly disagree	3(0.4%)
Total		704(100.0%)
Visual inspection of breast is a part of bse	Agree	242(34.4%)
	Disagree	7(1.0%)
	Neutral	54(7.7%)
	Strongly agree	398(56.5%)
	Strongly disagree	3(0.4%)
Total		704(100.0%)
Retraction of nipple is a warning sign	Agree	190(27.0%)
	Disagree	1(0.1%)
	Neutral	11(1.6%)
	Strongly agree	447(63.5%)
	Strongly disagree	2(0.3%)
Total		704(100.0%)
Lump is an early sign of cancer	Agree	316(44.9%)
	Disagree	74(10.5%)
	Neutral	158(22.4%)
	Strongly agree	144(20.5%)
	Strongly disagree	12(1.7%)
Total		704(100.0%)
Hands should be raised up above the head alternatively while doing BSE	Agree	261(37.1%)
	Disagree	51(7.2%)
	Neutral	170(24.1%)
	Strongly agree	213(30.3%)
	Strongly disagree	9(1.3%)
Total		704(100.0%)

Table 3: Results about BSE Practice

Have you ever performed BSE?	No	252(35.8%)
	Yes	452(64.2%)
Total		704(100.0%)
If Yes, then why?	Advice from friends and family	93(20.6%)
	Family history	22(4.9%)
	Medical reason	66(14.6%)
	Noticed a lump	38(8.4%)
	Routine medical examination	233(51.5%)
Total		452(100.0%)
If No, then why? (skip if you selected Yes)	Fear of detecting an anomaly	33(13.1%)
	I do not know how to perform bse	168(66.7%)
	I prefer to rely on lab diagnosis	24(9.5%)
	It is not an effective method of early detection	11(4.4%)
	Other Reason	16(6.3%)
Total		252(100%)
Have you ever been taught BSE by health staff?	No	407(57.8%)
	Yes	297(42.2%)
Total		704(100%)
Have you ever searched for information regarding BSE from internet, newspaper, magazine?	No	365(51.8%)
	Yes	339(48.2%)
Total		704(100.0%)
Have you ever taught someone BSE?	No	489(69.5%)
	Yes	215(30.5%)
Total		704(100.0%)
Have you ever advised someone to perform BSE?	No	362(51.4%)
	Yes	342(48.6%)
Total		704(100%)
On identifying an abnormality, what would you do?	Consult with a doctor	499(70.9%)
	Discuss with colleagues	19(2.7%)
	Do nothing	9(1.3%)
	Search about it on the internet	79(11.2%)
	Tell family member	98(13.9%)
Total		704(100%)

DISCUSSION

Breast cancer incidence in our country continues to increase, presenting with high morbidity and mortality. Due to an increasing burden of the disease and decreasing resources available to the health sector, breast cancer in Pakistan has become one of the most difficult diseases to detect. In view of this situation, breast screening modalities such as breast self-examination have become more necessary than ever. Owing to this, our study focused on female medical students soon to be health care professionals.

Knowledge: A study done among female undergraduates in the University of Buea in Cameroon, showed only 73.5% had heard about BSE and the main sources were "Television" 19.9%, "Friends" 19.3% and "Doctors" 17.5%. Whereas, our study's analysis confirmed that the majority had heard about BSE previously, with only 4.4% of the total surveyed not being aware about it at all. They knew about it

mostly from lectures as the respondents affirmed, followed by learning through mass media platforms and hearing it from friends, family and colleagues. The better results observed in our study could be because breast cancer is a part of the medical school syllabus taught in universities and our study focused on medical students other than only taking general undergraduate students into account¹³.

Further comparing our study with the study in University of Buea, only 37.3% knew that BSE should be performed monthly in Cameroon¹³. Close results were seen in our study where 43.3% said that BSE should be done monthly while 23.6% didn't know the correct frequency. Furthermore, in our study, 46.9% of the respondents agreed that BSE should be started below 20 years of age, in contrast to a study conducted in Shiraz Iran where 81.4% of medical students selected the age of 20 as the best age for initiating BSE into regular practice⁽¹⁴⁾. In order for BSE to be fully effective, it should be started at the correct age regarded to be below 20 years of age to detect any anomaly as early as possible to aid in long term prevention.

Attitude: A study conducted amongst female undergraduate students in Nigeria showed that 42.8% respondents believed that it is useful to perform BSE. This finding was supported by our study showing a near identical result where 41.6% strongly agreed that BSE would be useful to perform¹⁵.

Practice: A study done in Saudi Arabia showed that 61% had performed BSE and 39% had not. The main cause for poor performance was absence of symptoms in the breast as reported by 45.7% of the cases¹⁶. These results were similar to our study where 64.2% of the students had performed BSE and 35.8% had not because they did not know how to perform it. We believe that the reason for similar results could be due to the fact that medical education and teaching is similar in Pakistan and Middle East which sheds light on the importance of a more clinical rather theoretical approach to medical teaching. In another study done in Karachi on female undergraduate students 63.8% agreed to consult a doctor on finding an abnormality¹⁷. Whereas, in our study better results were observed where 70.9% agreed to consult a doctor. The greater percentage in our study is due to the reason that medical students better understand the value of a professional medical opinion from a doctor.

CONCLUSION

Our study concluded that the level of knowledge among our respondents was good and the attitude towards learning more about breast carcinoma and breast self-examination was positive and encouraging. In light of this, the only element lacking in our respondents was practical application of breast self-examination. We expect our results to provide an insight on how to improve breast cancer awareness programs by health professionals and a greater emphasis to be made on performing BSE accurately at an earlier stage especially in female students.

Disclosures: We confirm that none of the authors have any conflicts of interest or other relevant disclosures pertaining to this manuscript.

Limitations: The questionnaire could not be distributed in medical institutions or to individual students in person due to COVID-19 pandemic and implementation of the lockdown across Pakistan which led us to distribute it via online platforms. Due to a randomized distribution among individual students a definite sample size could not be set. This led to an uneven number of responses from different cities and institutions across Pakistan which though makes it a vast representation of results but may lack uniformity.

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