Breast Self-Examination: An Early Familiar Diagnostic Test of Breast Cancer

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Abstract

Background: Among female patients' breast cancer are a growing threat for over a century. In women, breast cancer is the most common malignancy universally such as 154 of 185 nations. Breast self-examination (BSE) is a simple, very low-cost, non-invasive early detection method used to detect early breast cancer, which involves the woman herself looking at and feeling for any change in their breast as early as possible, which yields a better survival rate. BSE should be done for all women older than 20 years. This study intended to determine knowledge, attitude, and practice (KAP) of breast cancer among medical and non-medical undergraduate students. **Material & Methods:** A descriptive cross-sectional study was conducted from October to November 2019 to assess the knowledge, attitude, and practice of BSE. The target population consisted of undergraduate female medical and non-medical students. A total of 154 (N=154) undergraduate female students participated in this study. Verbal consent was taken before recruiting the study population. Completed data forms were reviewed, edited, and processed for computer data entry. The data analysis was performed using Statistical Package for the Social Sciences (SPSS) Version 25.0. **Results:** Among the study population (N=154) with an early familiar diagnosis of breast cancer "breast self-examination, the mean age of them was 20.434±4.38. Of seventy-eight respondents (n=78), breast cancer screening test was heard by around half of the medical students (42, 53.8%) & of seventy-six non-medical respondents (n=76), around three-fifth of them (46, 60.5%) did not hear about breast cancer screening test. There was no significant relationship between them (p=0.394). Forty medical students (40, 51.3% and twenty-five non-medical students (25, 32.9%) had no idea, twenty-four medical students (24, 30.8%) & forty-three (43, 56.6%) non-medical students had monthly BSE done. **Conclusion:** Initial diagnosis and treatment of breast cancer have a definite survival benefit. So early detection is an issue of necessity to be uplifted. The results of the present study suggested that knowledge regarding breast cancer, its risk factors, sign symptoms, prevention measures, and performance of BSE is insufficient.

INTRODUCTION

The female population with first-degree relation carcinoma is at increased threat of death over the century.[1,2] In women, breast cancer is the most common malignancy universally such as 154 of 185 nations.[3] Breast cancer is the second leading cancer universally and the fifth cause of cancer mortality.[4] The occurrence of breast cancer is approximately 22.5 per 100000 females of all ages in Bangladesh. Breast cancer has the highest prevalence 19.3 per 100000 compared to any other type of cancer among Bangladeshi

women, aged between 15-44 years.[5] Around 2.3 million women have been diagnosed with breast cancer and 685,000 deaths worldwide in 2020 and at the end of 2020; around 7.8 million women survived who was diagnosed with breast cancer. Now a day, it is also a Public Health Concern.[6] In Cameroon, the crude annual incidence of breast cancer is estimated at 19.3 per 100,000 women with a mortality of 10.7 per 100,000 women.[7]   Breast cancer is distinguished from other types of cancer by the fact that it occurs in a visible organ and be detected and treated at an early stage and it can be treated easily in case of early detection.[8] The age-specific occurrence rate of breast cancer is considerably lesser in low-income countries (LICs) compared to high-income countries (HICs).[9] Almost all breast cancer cases are detected clinically in Bangladesh. Breast cancer can be detected at earlier stages by simple self-examination of the breasts, but most of the patients (more than 90%) pursue medical consideration at advanced stages: i.e., stages III and IV.[10] Breast self-examination (BSE) is a simple, very low-cost, non-invasive early detection method used to detect early breast cancer, which involves the woman herself looking at and feeling for any change in their breast as early as possible, which yields a better survival rate. BSE should be done for all women older than 20 years.[11] The three screening approaches recommended for breast cancer comprise breast self-examination (BSE), clinical breast examination (CBE), and mammography. Distinct CBE and mammography, which require hospital appointments and particular equipment and expertise, BSE is reasonable and is carried out by women themselves.[12] It aids women in two ways: women become familiar with both the appearance and the feel of their breasts and detect any changes in their breasts as soon as possible.[13] BSE makes women more "breast conscious", which in turn may lead to a prior diagnosis of breast cancer.[14] Breast Self-Examination (BSE) plays a substantial part in the early finding and management of breast cancer and increased life prospects.[15] This study intended to provide awareness(KAP) of medical and non-medical graduated students an early familiar diagnosis of breast cancer.

Objectives

To determine the knowledge, attitude, and practice (KAP) of breast cancer among medical and non-m undergraduate students.

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted from October to November 2019 to assess the knowledge, attitude, and practice of BSE. The target population consisted of undergraduate female medical and non-medical students. A total of 154 (N=154) undergraduate female students participated in this study. The nonprobability sampling technique was used for the selection of a convenience sample of respondents. The sample was selected from one private medical college (Enam medical college) and two universities (Savar University College, Savar, Dhaka, and Ahasanullah University of Science and Technology, Dhaka). A semi-structured questionnaire was developed in English to collect data. The questionnaire was then pre-tested in a non-sample area on a similar population. Ethical clearance was taken from the hospital and university. Verbal consent was taken from all the participants before starting data collection. The study coordinators

performed random checks to verify data collection processes. Completed data forms were reviewed, edited, and processed for computer data entry. Frequencies, percentages, and cross-tabulations were used for descriptive analysis. The data analysis was performed using Statistical Package for the Social Sciences (SPSS) Version 25.0. The significance level of 0.05 was considered for all tests.

RESULTS

Among the study population (N=154) with an early familiar diagnosis of breast cancer ''breast self-examination, the mean age of them was 20.434±4.38. The minimum age was 18 years and the maximum was 24 years. Seventy-eight (78,50.64%) were medical students and seventy-six (76,47.36%) were non–medical. Most of them (142,92.2%) were married. Based on H/O family members affected by breast cancer, one-fifth of the respondents (31,20.1%) answered "YES" [Table 1]. Of seventy-eight respondents (n=78), breast cancer screening test was heard by around half of the medical students (42,53.8%) & of seventy-six non-medical respondents (n=76), around three-fifth of them (46,60.5%) did not hear about breast cancer screening test. There was no significant relationship between them (p=0.394). Nearly three-fifths (45,57.7%) of the medical students answered "YES" that BSE is a useful tool for the early detection of breast

cancer & thirty-nine non-medical students (39,51.3%) answered "YES". There was no significant relationship between them (p=0.560). Only one-fifth of the medical students (16,20.5%) learned how to do BSE, but around two-fifths of the non-medical students (31,40.8%) learned how to do BSE, & there was a significant relationship between them (p=0.004). BSE is a good practice, agree with most of the medical (69,87.3%) and non-medical (61,81.3%) respondents & there was a significant relationship between them (p=0.000). About two-fifths of medical students (32,41.0%) & thirty-two non-medical respondents (32,42.1%) had no idea about doing the USG of the breast [Table 2]. Thirty-three medical students (33,42.3%) & similarly thirty-four non-medical students (34,44.7%) had no idea at what age BSE should be started. Forty medical students (40,51.3% and twenty-five non-medical students (25,32.9%) had no idea, twenty-four medical students (24,30.8%) & forty-three (43,56.6%) non-medical students had monthly BSE done. Nearly sixty-two medical students (62,79.5%) and forty-nine non-medical students (49,64.5%) had no idea of the best time to do BSE. CBE should be done ''when abnormality found in breast self-examination (BSE)'', was answered "YES" by twenty-six (26,33.3%) medical students and thirty-six (36,47.4%) non-medical students [Table 3].

Table 1: Distribution of the study population based on Socio-demographic characteristics (N=154).

Characteristics	(N, %)
Mean age	20.434±4.38
Minimum	18
Maximum	24
Marital status	
Unmarried	142,92.2%

Married	12,7.8%
H/O family members affected by breast cancer:	
Yes	31,20.1%
No	123,79.9%

Table 2: Distribution of the study population based on Knowledge and Practice of BSE (N=154).

Characteristics	Medical Students Response	Non-Medical Students Response	p-value
Heard the screening test for breast cancer	(n=78)	(n=76)	
Yes	42(53.8%)	30(39.5%)	0.394ns
No	36(46.2%)	46(60.5%)	
BSE heard			
Yes	47(60.3%)	44(57.9%)	0.169ns
No	31(39.7%)	32(42.1%)	
Early detection of breast cancer			
Yes	45(57.7%)	39(51.3%)	0.560ns
No	33(42.3%)	37(48.7%)	
Have been taught how to do BSE			
Yes	16(20.5%)	31(40.8%)	0.004s
No	60(76.9%)	45(59.2%)	
No response	2(2.6%)	-	
Practice BSE			
Yes	20(25.3%)	16(21.3%)	
No	59(74.7%)	58(77.3%)	0.000s
No response		1(1.3%)	
BSE is a good practice, agree with this			
Yes	69(87.3%)	61(81.3%)	
No	8(10.1%)	10(13.3%)	0.000s
No response	2(2.5%)	4(5.3%)	
Idea of ultra-sonogram (USG)			
Yes	11,14.1%	12,15.9%	
No	35,44.9%	32,42.1%	0.000s
No response	32,41.0%	32,42.1%	

Table 3: Distribution of the study population based on Attitude (N=154).

Characteristics	(N, %)	(N, %)
At what age BSE started		
No idea	33,42.3%	34,44.7%
From 20 years	18,23.1%	20,26.3%
Puberty	15,19.2%	2,2.6%
No response	5,6.4%	-
After 30 years	3,3.8%	8,10.5%

After marriage	4,5.1%	11,14.5%
After 40 years	-	1,1.3%
After menopause	-	-
How often BSE should be done		
No idea	40,51.3%	25,32.9%
Monthly	24,30.8%	43,56.6%
Weekly	6,7.7%	-
No response	3,3.8%	-
Daily	2,2.6%	1,1.3%
Yearly	2,2.6%	7,9.2%
Multiple answers	1,1.3%	-
The best time to do BSE		
No idea	62,79.5%	49,64.5%
No response	4,5.1%	-
During breastfeeding	4,5.1%	2,2.6%
During menstruation	3,3.8%	6,7.7%
A week after menstruation	3,3.8%	17,22.4%
A week before menstruation	2,2.6%	2,2.6%
During pregnancy	-	-
Multiple answers	-	-
Clinical-based examination (CBE)		
Yes	26,33.3%	36,47.4%
No	33,42.3%	22,28.9%
No response	19,24.3%	18,23.6%

DISCUSSION

As breast cancer is challenging to inhibit, it becomes rapidly important to identify ways to detect it at an early stage, as that has been shown to improve patient mortality.[16] Breast self-examination is the feasible and easiest approach that can prevent breast cancer morbidity. This study has revealed self-limiting awareness among undergraduate medical and non-medical female students. According to a NICRH report, breast cancer is the second leading cancer worldwide.[17] In this current analysis, the mean age of the respondent was 20.434±$.38. Another contradictory study suggested that the mean age of the breast cancer patientswas41.8years (range15 -94years) and over56%of the cases were women of reproductive age (15–44years).[10] In our study. only 20.1% of the respondents have a breast cancer history in their family members. Another study revealed that 42.9% of respondents had a family history of breast cancer.[18] Regarding knowledge and practice of BSE, in this current study, nearly 53.8% of the medical students and 39.5% of the non-medical students heard the screening test for breast cancer (p=.394). A related study carried out in Addis Ababa, Ethiopia found that almost 56.2% of the respondents knew that test.[8] In this present study, BSE heard only 60.3% and 57.5% of the medical and non-medical students respectively

(p=0.169). This finding was reliable with the study conducted at Qassim University, Saudi Arabia where nearly 98% of the medical students and 93.3% of non-medical students (p=0.372).[19] BSE is a useful tool for the early detection of breast cancer this regard is not well known by our respondents, only 57.7% of medical students and 51.3% of non-medical students (p=.560) knew. This percentage was not the same when compared with the study carried out at Qassim university Saudi Arabia where almost 99.4% of medical students think that BSE helps in the early detection of breast abnormalities in comparison to 98.98% of non-medical students (P = 0.651).[19] In this current study, breast self-examination was practiced by only 25.3% and 21.3% of medical and non-medical students respectively (p=0.000), this percentage was the same with the studies carried out in Nigeria where 54.8% practice BSE.[20] Thirty-three medical students (33,42.3%) & similarly thirty-four non-medical students (34,44.7%) had no idea at what age BSE should be started. A positive attitude toward BSE among females was seen in other parts of the world too, such as in Nigeria (80%) and Shahroud (78%).[21,22] In contrast, nearly half of the female students interviewed in Jordan (45.5%) agreed that they would examine their breasts if it was beneficial for them.[16] A study carried out in Western Massachusetts also showed a positive attitude among all ethnicities.[23] Most of our respondents 87.3% of medical and 81.3% of non-medical students (p=0.000) showed agree with BSE is a good practice. 42.3% of medical students had no idea and similarly, 44.7% of non-medical students had no idea at what age BSE should be started. Moreover, 51.3% of medical students and only 32.9% of non-medical students had no idea

about how often BSE should be done. However, > 30.8% of medical students supported BSE should be done monthly, similarly, 56.6% of non-medical students had stayed that attitude. Our study revealed that more than 79% of medical students and above 64% of non-medical students have no idea for the best time for BSE should be, these results are similar to a study shown in Angola and Pakistan where > 50% of medical and non-medical students did not know the best time to perform BSE, only 13.5% knew about the proper time of BSE and 21.8% knew about the frequency of BSE respectively.[24,25] Nearly 47.4% of non-medical students supported mammography for doing CBE, whereas 15.9% of nonmedical students supported ultrasonography(USG). Few participants had clinical breast examination (CBE) found in another study.[26] The study findings may also be limited by the fact that these were based on the structured questionnaire – students did not ask nor were assessed to correctly perform a BSE, thus the estimation of awareness (KAP) didn't assess properly. Our outcomes are limited to a sample of urban and relatively undergraduate female students, thus limiting the to the whole of undergraduate Bangladeshi female students. The convenient sample size of 154 may also indicate imprecision in the estimations of the result. We have thought that our undergraduate female students' knowledge about breast cancer screening tests especially BSE may be poorer.

CONCLUSIONS

Initial diagnosis and treatment of breast cancers have a definite survival benefit. So early detection is an issue of necessity to be uplifted. The results of the present study suggested that knowledge regarding breast cancer, its risk

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factors, sign symptoms, prevention measures and performance of BSE is insufficient. So it is a topic of concern that the knowledge regarding breast cancer prevention and screening methods should be reached in every portion of the world. Hence, early detection to improve breast cancer outcomes and survival remains the cornerstone of breast cancer control.

Recommendations

Public health efforts in Bangladesh should address the need for early diagnosis of breast cancer. Formulating specific guidelines is essential. There is a necessity for setting a screening docket to cover all age groups for early detection and treatment of cases. Furthermore, strategies should be implemented to accelerate government programs. The burden of long-term morbidity due to breast carcinoma should be put to the notice of the concerned authorities. To get robust data, multi-center studies are in great need of policymakers to interpret the demonstrable scenario and to take necessary steps towards mitigating this problem. Further research is also needed to detect cancerous patients.

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