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Breast Cancer Screening: Knowledge, Attitude and Practice Among Female Doctors and Medical Students in a Tertiary Care Hospital and Medical College in Bangladesh

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Background: Female doctors encounter breast diseases more in their daily practice because the females feel more comfortable to discuss their health issues with them. Therefore, they should have adequate knowledge, positive attitude and sound practice relevant to breast cancer screening. As a future health provider the medical students should also have the relevant Knowledge, Attitude and Practice (KAP) of breast cancer screening. The aim of the study was to explore the existing KAP of female doctors and students regarding Breast Self Examination (BSE) Clinical Breast Examination (CBE) and Mammography as screening tests for breast cancer.

Materials and methods: This cross sectional study was conducted from July 2019 to September 2019 among the female doctors and students of Chittagong Medical College Hospital, a tertiary level hospital of Bangladesh. A total of 200 semi-structured, self-administered questionnaire were distributed among female doctors and 4thand 5th year medical students for data collection, 164 were returned. The questionnaire had four parts: i) Demographic characteristics ii) KAP about BSE iii) KAP about CBE and iv) KAP about mammography.

Results: The mean (SD) age of the female doctors was 39.01±7.52 years and medical students was 20.75±1.87 years. Among the participants, 17.07% had family history of breast cancer. There is knowledge gap among both doctors and students regarding starting age of BSE and mammography, interval of doing CBE and who should do BSE and CBE. Regarding attitude majority considered BSE,CBE and mammography as useful tool for early detection of breast cancer, but the percentage was less in students.78.8% doctors and 46.8% medical students practice BSE and 24.13% doctors done mammography for themselves.There is statistically significant gap among the doctors and medical students in their knowledge, attitude and practice of breast cancer screening, as expected.

Conclusion: Both the doctors and medical students had positive attitude towards BSE,CBE and mammography as screening tests. But their knowledge and practice regarding these tests were not optimal.

Key words: BSE; CBE; Mammography; Female doctors; Bangladesh.

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INTRODUCTION

In Bangladesh and other developing countries breast cancer patients usually presents late with advanced stage resulting in poor outcome. Whereas mortality of breast cancer in western world is decreasing due to early detection by screening and better management[1,2]. Here breast cancer screening tests play a pivotal role in reducing breast cancer related mortality[3]. Early detection and prompt treatment offer the greatest chance of long term survival in patients with breast cancer[3,4]. Breast cancer remains a leading dreadful cancer of women in Bangladesh. The rate of breast cancer occurrence in Bangladesh is estimated to be 22.5 per 100000 females of all ages and in women aged between 15-44 years, breast cancer has

the highest prevalence 19.3 per 100000 compared to any other type of cancer[5]. A recent study demonstrated that, breast cancer is increasingly occurring in younger age groups in Bangladesh when compared with western countries and a more aggressive nature of the disease strikes in their reproductive period suggesting the need for change in modalities of early cancer detection and adjusting preventive and therapeutic efforts[6].

To reduce cancer morbidity and mortality rates primary prevention and early detection through ensuring effective screening is an important strategy in Bangladesh[7]. Breast Self-Examination (BSE) Clinical Breast Examination (CBE) and mammography are recommended and commonly used screening tools[8]. A significant number of the records for the breast cancer patients in a Canadian institution's database showed that the tumors were not detected using mammography and would have been missed if a CBE had not been performed. Performed by a trained physician, CBE is important for detecting breast cancers and is a very low-cost test that could improve the detection of breast cancer[9]. The American Cancer Society (ACS) recommends CBE and mammography in the early detection of breast cancer[10]. The ACS no longer recommends BSE as there are reliable data that breast cancer detection through BSE does not increase survival rates[1,4]. But in developing countries like Bangladesh, especially in rural areas where access to CBE and mammography is difficult, BSE seems to be a realistic approach to detect breast cancer early enough for treatment to cover mass population. BSE is most convenient as it is inexpensive, simple and does not require any specialized equipment or regular visits to the hospital, thus proving its usefulness in under developed countries with lack of resources. In addition, performing BSE on a regular basis makes women accustomed to the normal appearance and feeling of their breasts and they are able to notice any changes in their breast as soon as they appear[11,12]. However lack of awareness of this disease and the screening methods including BSE is the major limitation to get benefit of this screening modalities[13]. So increasing the awareness about breast cancer and the significance of regular monthly BSE is likely to reduce the obstacle to diagnosis and treatment[14].

Health care providers especially the female doctors and also the medical students are supposed to have an optimum updated knowledge about breast cancer and different screening strategies in our context, as the females feel more comfortable to discuss their health issues with them. They can play a vital role for dissemination of the knowledge and information to their patients and the general public. To determine the knowledge gap in this issue studies have conducted in different countries with an aim to assess the Knowledge, Attitude and Practice (KAP) of different screening tool for breast cancer among health care workers[15-19].

The aim of this study was to determine the KAP regarding BSE, CBE and mammography as screening tests for breast carcinoma among female doctors of Bangladesh working at a tertiary care government hospital, as well as among the medical students of the same medical college.

MATERIALS AND METHODS

This cross-sectional study was conducted from July 2019 to September 2019 among female doctors and medical students in Chittagong Medical College and Hospital (CMCH) Chattogram, a tertiary care hospital of Bangladesh. We intended to reach all the female doctors working at the time and 4th and 5th year female medical student. After receiving ethical approval from Chittagong Medical College (CMC) potential participants were informed about the aims of the study and were asked to volunteer for participation. They were also informed that all information would be kept strictly confidential. A total of 200 forms were distributed and 85 doctors and 79 students were responded.

A semi-structured self-administered questionnaire was used for data collection. It had four parts: i) Demographic characteristics ii) KAP about BSE iii) KAP about CBE iv) KAP about mammography. The questionnaire was derived from our own experience and other published studies dealing with the same topic[11-15]. Among the four parts, the first part of the questionnaire contained socio-demographic characteristics of respondents (Including age, current marital status, level of education, family history of breast cancer and history of breast health problems) the second, third and fourth part consisted of items focusing on the respondents' knowledge level, attitudes towards and their practices of as well as frequency of these practices of BSE, CBE and mammography respectively.

SPSS for Windows Version 23.0 Statistical package was used in data analysis. Data were expressed as numbers, percentages and means (SD) and 95% confidence interval of the point estimates was calculated.

RESULTS

The mean age of the female doctors in the study group was 39.01±7.52 years and mean age of the students was 20.75±1.87 years. Among the 85 doctors 34.12% were in ≥ 40 year's age group, and 48.24% were post graduate doctors. In 1.8% of the total respondents there was a history of breast cancer in 1stdegree relatives and 15.2% had a history of breast cancer in other relatives (Table I).

Results for the knowledge, attitude and practice of BSE are presented in Table II. Overall, 85 (100%) doctors were aware of BSE, agreed that it is a useful tool for early detection of breast cancer and agreed that BSE is a good practice. A total of 80(94.1%) doctors had been taught about BSE and 67 (78.8%) reported to be practicing it. Only 33 (38.8%) doctors correctly chose that BSE should be started at the age of 20 years. A total of 56 (65.9%) doctors agreed that the best time for BSE is a week after menstrual period and 67 (78.8%) doctors agreed that BSE should be done monthly. Among the students 88.6% were aware of BSE, 53.2% had been taught about BSE and only 46.8% reported to be practicing it. So there is statistically significant difference in the knowledge level between doctors and students.

Results for the knowledge and practice of CBE are presented in Table III. It has been seen that 96.5% doctors believed that CBE is a useful tool for detection of breast cancer, but only 3.5% had underwent CBE. On the other hand 73.4% students mentioned CBE as a useful tool but only 1.3% had undergone CBE. Though 83.5% doctors and 79.7% students correctly chose that a doctor should do CBE, but only 36.5% doctors and 13.9% students agreed that the examination should be conducted at an interval of 1 year. Most of the doctors (97.6%) had heard about mammography but only 70.9% students acknowledged about it. Among the students only 20.3% know about the starting age of mammography and 35.3% doctors and 3.8% students believed that mammography should be done every year. Out of 29 participants age ≥ 40 years only 7 participants had underwent mammography (Table IV).

Table I : Demographic characteristics of the participants (n=164).

Characteristics	Level	Values
Age (Years)	<40 years	135 (82.3)
	≥ 40 years	29 (17.7)
	Mean ± SD (Years)	30.21 ± 10.71
	Doctors (Years)	39.01 ± 7.52
	Medical Students (Years)	20.75 ±1.87
	Range	17 - 59
Marital status	Unmarried	79 (48.2)
	Married	85 (51.8)
Level of education	Undergraduate	79 (48.2)
	Graduate	44 (26.8)
	Post-graduate	41 (25.0)
1st degree relatives history of breast cancer		3 (1.8)
2nd degree relatives history of breast cancer		25 (15.2)

Data are expressed as frequency (Percentage) if not mentioned otherwise.

Table II : Knowledge, attitude and Practice of Breast Self-Examination.

Questions/statements for assessing knowledge and practice of BSE	Correct answer	Doctor (n = 85)	Medical Student (n = 79)	n (%)[a]	95% CI[b]	p value[c]
Yes- I have heard of BSE		85 (100)	70 (88.6)	155 (94.5)	89.8 – 97.5	.004
BSE is a useful tool for early detection of breast cancer		85 (100)	69 (87.3)	154 (93.9)	89.1 – 97.0	.002
Yes- I have been taught about BSE		80 (94.1)	42 (53.2)	122 (74.4)	67.0 – 97.0	.000
Age at which BSE should be started	At the age of 20.	33 (38.8)	12 (15.2)	45 (27.4)	20.8 – 34.9	.001
How often a woman should do BSE?	Once a month	67 (78.8)	31 (39.2)	98 (59.8)	51.8 – 67.3	.000
What is the best time to do BSE	A week after period	56 (65.9)	26 (32.9)	82 (50.0)	42.1 – 57.9	.000
BSE should be done by	The Individual	73 (85.9)	69 (87.3)	142 (86.6)	80.4 – 91.4	.964
BSE is done by	Inspecting the breast in front of a mirror	60 (70.6)	46 (58.2)	106 (64.6)	56.8 – 71.9	.136
	Feeling the breast with the hand	82 (96.5)	67 (84.8)	149 (90.9)	85.4 – 94.8	.020
	Feeling the armpit with the hand	54 (63.5)	34 (43.0)	88 (53.7)	45.7 – 61.5	.013
	All of the above three	52 (61.2)	30 (38.0)	82 (50.0)	42.1 – 57.9	.005
Benefits of BSE	Early detection of breast cancer	44 (51.8)	30 (38.0)	74 (45.1)	37.4 – 53.1	.106
Yes- I do practice BSE		67 (78.8)	37 (46.8)	104 (63.4)	55.5 – 70.8	.000
Time for above examination	Monthly	28 (41.8) [n = 85]	8 (21.6) [n = 37]	36 (34.6) [n = 104]	25.6 – 44.6	.064
Yes- BSE is a good practice		85 (100)	79 (100)	164 (100.0)	97.8 – 100.0	Constant

[a] Frequency (Percentage) of the ratio of correct answers, [b]95% Confidence intervals in column 6 for the percentages (%) in column 5, [c]Pearson Chi-Square tests value with Yates continuity correction.

Table III : Knowledge, attitude and Practice of Clinical Breast Examination.

Questions/statements for assessing knowledge and practice of CBE	Correct answer	Doctor (n = 85)	Medical Student (n = 79)	n (%)[a]	95% CI[b]	p value[c]
Yes- I have heard of CBE		83 (97.6)	53 (67.1)	136 (82.9)	76.3 – 88.3	.000
Yes- CBE is a useful tool for detection of breast cancer		82 (96.5)	58 (73.4)	140 (85.4)	79.0 – 90.4	.000
CBE should be done by	Doctor	71 (83.5)	63 (79.7)	134 (81.7)	74.9 – 87.3	.672
CBE is done using	Hand	49 (57.6)	24 (30.4)	73 (44.5)	36.8 – 52.5	.001
How often CBE should be done	Yearly	31 (36.5)	11 (13.9)	42 (25.6)	19.1 – 33.0	.002
Yes- I do practice CBE		3(3.5)	1(1.3)	4(2.4)	0.7-6.1	.621

[a] Frequency (Percentage) of the ratio of correct answers, [b]95% Confidence intervals in column 6 for the percentages (%) in column 5, [c]Pearson Chi-Square tests value with Yates continuity correction.

Table IV : Knowledge, attitude and Practice of mammography.

Questions/statements for assessing knowledge and practice of mammography	Correct answer	Doctor (n = 85)	Medical Student (n = 79)	n (%)[a]	95% CI[b]	p value[c]
Yes- I have heard of mammography as screening test		83 (97.6)	56 (70.9)	139 (84.8)	78.3 – 89.9	<0.001
Yes- mammography is a useful tool for the early detection of breast cancer		78 (91.8)	47 (59.5)	125 (76.2)	69.0 -82.5	<0.001
Age at which mammography should be started	From 40 years	75 (88.2)	16 (20.3)	91 (55.5)	47.5 – 63.2	<0.001
How often should mammography be done?	Yearly	30 (35.3)	3 (3.8)	33 (20.1)	14.3 – 27.1	<0.001
Yes- I have done a Mammography (n=29)		7 (24.13)	NA	7 (24.13)	-	NA

[a]Frequency (Percentage) of the ratio of correct answers, [b]95% Confidence intervals in column 6 for the percentages (%) in column 5, [c]Pearson Chi-Square tests value with Yates continuity correction.

DISCUSSION

BSE, CBE and mammography are well recognized screening methods for breast cancer[20]. Although in recent international guidelines, which focus on developed countries, the time frames for screening have been questioned, this may not apply to the developing countries including Bangladesh where the awareness is very low and patients routinely present at advanced stage of breast cancer[20,21]. This study was conducted to evaluate the KAP of breast cancer screening in the female physicians at CMCH and among medical students of CMC. A wide knowledge application gap has been observed across the globe between the knowledge and the actual practice of BSE[9-11]. Similar trend was observed in our study as our participants had knowledge and positive attitude towards breast cancer screening methods but their reported practice was low.

The current study demonstrated that, though most of the doctors being aware of the importance of BSE, they had gaps in their knowledge and practice. Though 78.8% of the doctors reported to be practicing BSE about half the total failed to mention the correct technique of BSE. This practicing rate of the current study is much higher than the rate for BSE among health care workers (Doctors and nurses) seen in Pakistan (51.7%) but similar to a study in Saudi Arabia (74.7% in health care workers)[18,19]. This is very encouraging indeed and also a little surprising considering the inadequate knowledge in this study. Regarding the responses of correct technique other studies are in line with the present study[16,18]. Though there is controversy as regards the use of regular BSE as a screening tool as it can raise anxiety, but in countries like Bangladesh due to lack of infrastructure and cost issues of other screening tools, BSE becomes an important strategy[22-24]. Among the medical students though the attitude is not unsatisfactory but the knowledge and practice is poor. There is statistically significant gap in KAP of breast cancer screening among doctors and medical students which is not unusual but still they should be taught and encouraged.

A good number of participants in our study had heard of CBE and believed that it is a useful tool. However, very few of the participants (3.5% doctors and 1.3 % students) had underent CBE. The results were similar for mammography as well with most is being aware of mammography as a screening tool but very few opting for it. Yearly mammography is usually recommended after the age of 40 years and out of 29 participants aged $\geq$ 40 years in the present study only 24.13% reported to done it at least once in their life[22]. It is to be noted that, more than two third of the doctors failed to state the correct interval of doing CBE and mammography for screening breast cancer, which is more disappointing in medical students.

Our findings have important practical applications. At present, mammography as a screening tool is not applicable to Bangladesh. A project has ongoing throughout the country to make feasible of the once-a-year CBE for women above the age of 40 years[7]. Female physicians can bring about a significant positive impact to make this project fruitful. It was observed that female can bring change in the overall perspective of their female patients, regarding screening practices and positively influence their attitudes and beliefs[25]. They are also the first point of contact irrespective of their specialty of work for not only their female patients but also female relatives and friends for advice regarding breast cancer screening. Females usually feel embarrassed to talk about this issue with their male physicians. Consequently, measures are required to educate women and spread awareness. To achieve this, an important step would be to ensure that female healthcare professionals

specially the doctors and nurses themselves possess adequate knowledge which they can transmit to their patients, relatives and acquaintances[26]. In addition if the medical students are educated from the very beginning by incorporating the subject in their courses, they can also play a very fruitful role in this regard.

LIMITATION

Limitation of this study is being a very small study done in a tertiary level hospital in Chattogram over a very brief period which may not be representative of whole country though gives an evidence regarding the pattern. Other limitations are self-administered questionnaires and convenient sampling.

CONCLUSION

The findings from the present study show that there is lack of knowledge of performing BSE, CBE and mammography and associated practice of these screening methods in their individual level. There is need for continuous medical education programs as well as awareness program aimed at improving knowledge on breast cancer screening methods both among the female physicians and the medical students.

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DISCLOSURE

The author declared no competing interest.

REFERENCES

1. Hawsauer AK, Keegan TH, Chang ET, Glaser SL, Howe H, Clerke CA. Recent trends in breast cancer incidence in US white women by county-level urban/rural and poverty status. Biomed Cent Med. 2009;7:31.

2. Alatise OI, Lawal OO, Olasode OO, Adesunkanmi AR. Breast fine needle aspiration cytology in a Nigerian tertiary hospital. East Cent Arf J Surg. 2007;12:126-132.

3. Dundar PE, Ozmen D, Ozturk B, Haspolat G, Akyildiz F, Coban S et al. The knowledge and attitudes of breast self-examination and mammography in a group of women in a rural area in Western Turkey. BMC Cancer. 2006;6:43.

4. Balogun MO, Owoaje ET. Knowledge and practice of BSE among female traders in Ibadan, Nigeria. Ann Ib Postgrad Med. 2005;3:52-56.

5. Forazy MAR. Incidence of breast cancer in Bangladesh. Health Care: Current Reviews (Online) 2015;3:3.
Available in: https://www.longdom.org/proceedings/ incidence-of -breast-cancer-in-bangladesh-5168.html.

6. Nessa A, Hussain T, Alam SM, Faruk I, Jahan I. Age distribution pattern of female breast cancer patients in Bangladesh- developing early and presenting late. IntSurg J. 2018;5(2):379-382.

7. National Cancer Control Strategy and Plan of Action 2009-15. Line Director (Non-Communicable Diseases and OPHI). Directorate General of Health Services. Ministry of Health and Family Welfare, Bangladesh. 2009-2015.

8. Takkar N, Kochhar S, Garg P, Pandey AK, Dalal UR, Handa U. Screening methods (Clinical breast examination and mammography) to detect breast cancer in women aged 40-49 years. J Midlife Health. 2017;8(1):2-10.

9. Provencher L, Hogue JC, Desbiens C, Poirier B, Poirier E, Boudreau D, Joyal M, Diorio C, Duchesne N, Chiquette J. Is clinical breast examination important for breast cancer detection? CurrOncol. 2016 ;23(4):e332-339.

10. Smith RA, Saslow D, Sawyer KA, Burke W, Costanza ME, Evans WP 3rd et al. American Cancer Society guidelines for breast cancer screening: Update. CA Cancer J Clin. 2003;53:141-169.

11. Saslow D, Hannan J, Osuch J, Alciati MH, Baines C, Barton M et al. Clinical breast examination: Practical recommendations for optimizing performance and reporting. CA Cancer J Clin. 2004;54:327-344.

12. Babu GR, Samari G, Cohen SP, Mahapatra T, Wahbe RM, Mermash S, Galal OM. Breast cancer screening among females in Iran and recommendations for improved practice: A review. Asian Pac J Cancer Prev. 2011;12(7):1647-1655.

13. Badar F, Faruqui ZS, Ashraf A, Uddin N. Thirld world issues in breast cancer detection. J Pak Med Assoc. 2007; 57(3):137-1340.

14. Akhtari-Zavare M, Muhamad J, Zarina-Ismail I, Salmiah S, Latiffah AL. Barriers to breast self examination. 2015;4(469):1-6.

15. Erdem Ö, Tokta . Knowledge, Attitudes, and Behaviors about Breast Self-Examination and Mammography among Female Primary Healthcare Workers in Diyarbak r, Turkey. BioMed Research International. 2016;6490156.

16. Güleser GN, Unalan D, Akyldz HY. The knowledge and practice of breast self-examination among healthcare workers in Kayseri, Turkey. Cancer Nurs. 2009;32(5):E1-E7.

17. Shallo SA, Boru JD. Breast self-examination practice and associated factors among female healthcare workers in West Shoa Zone, Western Ethiopia: A cross-sectional study. BMC Res Notes. 2019;12(1):637.

18. Jamil A, Kouser S, Zarreen A, Saeed S, Anwar AB. Awareness and Practice of Breast Self Examination among Doctors and Nurses in Punjab and Sindh. JSOGP. 2015;5(3):161-166.

19. Heena H, Durrani S, Riaz M, AlFayyad I, Tabasim R, Parvez G et al. Knowledge, attitudes, and practices related to breast cancer screening among female health care professionals: A cross sectional study. BMC Women's Health. 2019; 19(1).
doi:10.1186/s12905-019-0819-x

20. World Health Organisation. Breast cancer - Early diagnosis and screening.
Available at: http://www.who.int/cancer/prevention/diagnosis-screening/ breast-cancer/en/. Updated in 2020.

21. Smith RA, Andrews KS, Brooks D, Fedewa SA, Manassaram-Baptiste D, Saslow D et al. Cancer screening in the United States, 2017: A review of current American Cancer Society guidelines and current issues in cancer screening. CA Cancer J Clin. 2017;67(2):100–121.

22. World Health Organisation. Breast cancer: Prevention and control.
Available at: https://www.who.int/cancer/detection/breastcancer/en/index3.html/. Updated in 2020.

23. Canadian Task Force on preventive health care. Preventive health care, update: Should women be routinely taught BSE to screen cancer? CMAJ. 2001; 164:1837-1846.

24. Fouzia N. Importance of Breast Self-Examination among Rural Women for Early Detection of Breast Cancer: Bangladesh Perspectives. Journal of Science Foundation. 2017;15(2):29-30.

25. Coleman EA, Lord J, Heard J, Coon S, Cantrell M, Mohrmann C et al. The Delta project: increasing breast cancer screening among rural minority and older women by targeting rural healthcare providers. OncolNurs Forum. 2003;30(4):669–677.

26. Mandal R, Basu P. Cancer screening and early diagnosis in low and middle income countries: Current situation and future perspectives. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2018;61(12):1505-1512.