

## KNOWLEDGE, ATTITUDES AND PRACTICES RELATED TO BREAST CANCER SCREENING AMONG FEMALE DOCTORS OF A TERTIARY CARE HOSPITAL IN BANGLADESH

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### Abstract

**Background:** Doctors with inadequate knowledge and unfavorable practice in their own life will be sub-optimal in their performance in community. This study aimed to determine the Knowledge, Attitude and Practice (KAP) regarding Breast Self Examination (BSE) Clinical Breast Examination (CBE) and mammography as screening test for breast carcinoma among female doctors.

**Materials and methods:** This cross-sectional study was conducted on working female doctors of Chittagong Medical College Hospital, a tertiary care hospital of Bangladesh. A semi-structured self-administered questionnaire was used for data collection which consisted of four parts: i) Demographic characteristics ii) KAP about BSE iii) KAP about CBE iv) KAP about mammography. A total of 100 forms were distributed and 84 were returned back.

**Results:** The mean (SD) age of the female doctors was 38.92 ± 7.52 (Range, 27-59 years). Family history of Breast cancer was positive in 15.5% and 96.4% of the doctors were married, Out of those with positive family history, 4 (30.76%) were 1st degree relatives of the respondents. Regarding to their knowledge proportion of doctors had heard about BSE, CBE and mammography were 100%, 97.6% and 100% respectively. But proportion of

doctors did not know the exact starting age for BSE and mammography were 61.9% and 11.9% respectively. Moreover, 13.1% didn't know who should do the BSE, 11.9% reported that, trained nurse should do CBE, about 41% reported that CBE should be done by either mammography or ultrasonography. Regarding attitude majority considered BSE (100%), CBE (96.4%) and mammography (91.7%) as useful tool for early detection of breast cancer. Out of 36 doctors age 40 years 23.8% never practiced BSE and only 11.1% done mammography for themselves.

**Conclusion:** Though doctors had positive attitude towards BSE, CBE and mammography as screening tests their knowledge and practices regarding these test were not optimal. Emphasis should be laid on BSE and CBE in undergraduate and post-graduate courses for doctors.

### Key words

BSE; CBE; Mammography; Female Doctors; Bangladesh.

### Introduction

Cancer is a growing problem globally. Among different malignancies, breast cancer is one of the most common malignancies in women worldwide and is the leading cancer-related cause of death in women<sup>1</sup>. In GLOBOCAN 2018, it was estimated that 2,088,849 (11.6%) new cases of breast cancer were identified and 626,679 (6.6%) cases of death due to breast cancer in the world<sup>2</sup>. Breast cancer remains a leading dreadful cancer of women in Bangladesh as well. 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<sup>3</sup>. 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<sup>4</sup>.

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To reduce cancer incidence, morbidity and mortality rates primary prevention and early detection through ensuring effective screening is an important strategy in Bangladesh<sup>5</sup>. Breast Self-Examination (BSE) clinical breast examination (CBE) and mammography are recommended and commonly used screening tools<sup>6</sup>. 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<sup>7</sup>. On the other hand BSE is the 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 underdeveloped countries too, which lack resources. In addition, performing BSE on a regular basis makes women accustomed to the normal appearance and feel of their breasts and they are able to notice any changes in their breast as soon as they present<sup>8</sup>. In developing countries like Bangladesh, BSE seems to be a realistic approach to cover mass population. However lack of awareness of this disease and the screening methods including BSE is the major limitation to get benefit of this screening modalities<sup>9</sup>. So increasing the awareness about breast cancer and the significance of regular monthly BSE is likely to reduce the obstacle to diagnosis and treatment<sup>10</sup>.

Health care providers especially the female doctors 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<sup>11-15</sup>.

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

### Materials and methods

This cross-sectional study was conducted among female doctors who work in Chittagong Medical College Hospital (CMCH) Chattogram, a tertiary care hospital of Bangladesh. There were 100 female doctors had been working at the time. We intended to reach the entire sample, thus we contacted these female doctors via e-mails and telephones after receiving ethical approval from Chattogram Medical College. Potential participants were informed about the aims of the study and they were asked if they would like to volunteer for participation. They were also informed that all information would be kept strictly confidential. The questionnaire form was sent to all of the female doctors and an immediate response was requested. A total of 100 forms were distributed and 84 were returned back (Response rate 84%).

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 form was derived from our own experience and other published studies dealing with the same topic<sup>11-15</sup>. 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, percents and means (SD). 95% confidence interval of the point estimates was calculated.

### Results

The mean age of the female doctors in the study group was  $38.92 \pm 7.52$  years, 42.9% were in 40 years age group, 96.4% were married, 39.3% were post graduate doctors, in 3.6% there was a history of breast cancer either in 1<sup>st</sup> degree relatives and 11.9% had a history of breast cancer in other relatives' (Table I).

**Table I :** Demographic characteristics of the participants (n=84).

Characteristics	Level	
Age (Years)	<40years	48 (57.1)
	≥ 40 years	36 (42.9)
	Mean±SD	38.92±7.52
	Range	27-59
Marital status	Unmarried	3 (3.6)
	Married	81 (96.4)
Level of education	Graduate	51 (60.7)
	Post-graduate	33 (39.3)
1 <sup>st</sup> degree relatives' history of breast cancer		3 (3.6)
2 <sup>nd</sup> degree relatives' history of breast cancer		10 (11.9)

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

Results for the knowledge, attitude and practice of BSE are presented in Table II. Overall, 84 (100%) participants 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 75 (89.3%) participants had been taught about BSE and 64 (76.2%) participants reported to be practicing it. Only 32 (38.1%) participants correctly chose that BSE should be started at the age of 20 years. A total of 57 (67.9%) participants agreed that the best time for BSE is a week after menstrual period and 66 (78.6%) participants agreed that BSE should be done monthly.

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

Questions/statements for assessing knowledge and practice of BSE	Correct answer	n (%) <sup>a</sup>	95% CI <sup>b</sup>
Yes- I have heard of BSE		84 (100)	95.7-100
BSE is a useful tool for early detection of breast cancer		84 (100)	95.7-100
Yes- I have been taught about BSE		75 (89.3)	80.6-95.0
Age at which BSE should be started	At the age of 20.	32 (38.1)	27.7-49.3
How often a woman should do BSE?	Once a month	66 (78.6)	68.3-86.8
What is the best time to do BSE	A week after period	57 (67.9)	56.8-77.6
BSE should be done by	The Individual	73 (86.9)	77.8-93.3
BSE is done by	Inspecting the breast in the mirror	59 (70.2)	59.3-79.7
	Feeling the breast with the hand	74 (88.1)	79.8-94.3
	Feeling the armpit with the hand	56 (66.7)	56.1-76.2
	All of the above three	44 (52.4)	41.2-63.4
Benefits of BSE	Early detection of breast cancer	43 (51.2)	40.0-62.3
Yes- I do practice BSE		64 (76.2)	65.7-84.8
Time for above examination (n = 64)	Monthly	26 (40.6)	28.5-53.6
Yes- BSE is a good practice		84 (100)	95.7-100

<sup>a</sup>Frequency (percentage) of the ratio of correct answers; <sup>b</sup>95% Confidence intervals in column 4 for the percentages (%) in column 3.

Results for the knowledge, attitude and practice of CBE are presented in Table III. A total of 82 (96.4%) participants believed that CBE is a useful tool for detection of breast cancer, but only 2 (2.4%) had undergone CBE. Though 71 (84.5%) respondents chose that a doctor should do CBE, but 35 (41.7%) believed that either ultrasonography or mammography should be used in CBE, and only 27 (32.1%) agreed that the examination should be conducted at an interval of 1 year.

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

Questions/statements for assessing knowledge and practice of CBE	Correct answer	n (%) <sup>a</sup>	95% CI <sup>b</sup>
Yes- I have heard of CBE		82 (97.6)	91.7-99.7
Yes- CBE is a useful tool for detection of breast cancer		81 (96.4)	89.9-99.3
CBE should be done by	Doctor	71 (84.5)	75.0-91.5
CBE is done using	Hand	49 (58.3)	47.1-69.0
How often CBE should be done	Yearly	27 (32.1)	22.4-43.2
Yes-I have undergone CBE		2 (2.4)	0.3-8.3

<sup>a</sup>Frequency (percentage) of the ratio of correct answers; <sup>b</sup>95% Confidence intervals in column 4 for the percentages (%) in column 3.

All of the 84 (100%) participants had heard about mammography. A total of 74 (88.1%) participants agreed that mammography should be started at 40 years of age and 30 (35.7%) participants believed that mammography should be done every year. Out of 36 participants age 40 years only 4 (11.1%) participants had undergone mammography (Table IV).

**Table IV :** Knowledge, attitude and practice of mammography.

Questions/statements for assessing knowledge and practice of mammography	Correct answer	n (%) <sup>a</sup>	95% CI <sup>b</sup>
Yes- I have heard of mammography		84 (100)	95.7-100
Yes- mammography is a useful tool for the early detection of breast cancer		77 (91.7)	83.6-96.6
Age at which mammography should be started	From 40 years	74 (88.1)	79.2-94.1
How often should mammography be done?	Yearly	30 (35.7)	25.6-46.9
Yes- I have done a Mammography (n=36)		4 (11.1)	3.1-26.1

<sup>a</sup>Frequency (Percentage) of the ratio of correct answers, <sup>b</sup>95% Confidence intervals in column 4 for the percentages (%) in column 3.

### Discussion

BSE, CBE and mammography are well recognized screening methods for breast cancer<sup>16</sup>. Although in recent international guidelines, which focus on developed countries, the timeframes 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<sup>17,4</sup>. This study was conducted to evaluate the KAP of breast cancer screening in the female physicians at CMCH. A wide knowledge application gap has been observed across the globe between the knowledge and the actual practice of BSE<sup>13-15</sup>. Similar trend was observed in our study as our participants had knowledge and positive attitude towards breast cancer screening methods their reported practice was low.

The current study demonstrated though most of the participants being aware of the importance of BSE, they had gaps in their knowledge. About 90% of the participants reported that, they had been taught about BSE, but only 38% participants correctly stated the appropriate age of starting BSE. About 32% participants did not know the appropriate time for BSE and more than 20% of the respondents failed to state correctly about the interval of doing BSE in the present study. Though 76.2% of the participants 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)<sup>14,15</sup>. 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<sup>12,14</sup>. 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<sup>18,19,20</sup>.

Most of the participants in our study had heard of CBE and believed that it is a useful tool. However, very few (2.9%) of the participants had undergone 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 36 participants aged 40 years in the present study only 11.4% reported to do it at least once in their life<sup>18</sup>. It is to be noted that, more than two third of the participants failed to state the correct interval of doing CBE and mammography for screening breast cancer.

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<sup>5</sup>. 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.<sup>21</sup> 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<sup>22</sup>.

### 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.

### 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. This might be one of the causes of the unsatisfactory level of breast cancer awareness in Bangladesh.

### Recommendation

There is need for continuous medical education programs as well as awareness program aimed at improving knowledge on breast cancer screening methods among female physicians.

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**Contribution of authors**

SA- Conception of design, drafting and final approval.

RRC- Acquisition of data, drafting and final approval.

OPS- Data analysis, critical revision and final approval.

SA- Acquisition of data drafting and final approval.

FUA- Design, drafting and final approval.

AA- Data interpretation, drafting and final approval.

**Disclosure**

All the authors declared no competing interest.

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