



Publisher homepage: [www.universepg.com](http://www.universepg.com), ISSN: 2663-7529 (Online) & 2663-7510 (Print)

<https://doi.org/10.34104/ejmhs.020.01520158>

**European Journal of Medical and Health Sciences**

Journal homepage: [www.universepg.com/journal/ejmhs](http://www.universepg.com/journal/ejmhs)



## Study on Awareness, Knowledge and Practice of Breast Screening Methods among the Female Students of Bangladesh University of Health Sciences

Seejal Shah<sup>1</sup>, Sohel Rana<sup>1</sup>, Tanzila Parvin<sup>2\*</sup>, SM Muraduzzaman<sup>2</sup>, and Mushtaq Ahmed Jalali<sup>3</sup>

<sup>1</sup>Department of Radiology & Imaging Technology, Bangladesh University of Health Sciences (BUHS), Dhaka, Bangladesh; <sup>2</sup>Department of Biomedical Engineering & Medical Physics, Bangladesh University of Health Sciences (BUHS), Dhaka, Bangladesh; and <sup>3</sup>National instituted of Cancer Research Hospital (NICRH), Dhaka, Bangladesh.

\*Correspondence: [tanzilla@buhs.ac.bd](mailto:tanzilla@buhs.ac.bd) (Tanzila Parvin, Assistant Professor, Department of Biomedical Engineering & Medical Physics, BUHS, Dhaka, Bangladesh).

### ABSTRACT

At the present time, Breast cancer (BC) is spreading in an uncontrolled way, both in developed and developing countries. The main reason behind the deaths occurred by BC is that women with BC are mainly diagnosed in late stages due to a lack of awareness of early detection and barriers to health services. The aim of this study was to find out the knowledge, awareness about BC, diagnosis, and screening of BC, mammography, and practice of breast self-examination. After taking verbal consent, 90 female students of age above 18 years from BUHS were interviewed using a pretested self-administered questionnaire. Most of the respondent of this study were unmarried (60%) and 65.6% had experienced menarche at the age of 14 years. Among 90 respondents 93.3% had ever heard of BC and 66.7% of any screening methods of breast screening. BSE procedure was known to 45.1% but only 33.3% actually performed BSE. Regarding mammography, only 52.2% had ever heard of mammography and only 42.2% knew the correct purpose of a mammogram. According to 60.97% of the respondent, a woman should start to examine her breasts after marriage as 85.37% of respondents mentioned feeling discomfort to share such issues for not going for breast screening. Among 90 respondents, 18.9% had ever felt any kind of abnormalities like lymph. From the results of this study, it had been shown that there is a need for educating not only young females of University but also all aged women on large scale about BC to improve their knowledge level and awareness regarding myths about BC and increase their practice of early screening methods. Moreover, their confidentiality should be increased to talk about their issues regarding breasts as well as they should be known about BSE for early detection of BC or any abnormalities by themselves.

**Keywords:** Breast cancer, Breast self-examination, Screening, Knowledge, Awareness, and Mammography.

### INTRODUCTION

Breast cancer is the most common cancer and the major cause of cancer death among women worldwide as well as in Bangladesh. It is leading incident cancer amongst women in Bangladesh. The incidence of BC is increasing in the developing world due to increase life expectancy, increase urbanization and adoption of western lifestyles (Forazy

and Khatun, 2015). Although some risk reduction might be achieved with prevention, these strategies cannot eliminate the majority of breast cancers that develop in low- and middle-income countries where BC is diagnosed in very late stages (Nigar *et al.*, 2018). Therefore, early detection in order to improve BC outcome and survival remains the cornerstone of BC control. Limited resource settings with weak

health systems where BC incidence is relatively low and the majority of women are diagnosed in late stages have the option to implement early diagnosis program based on awareness of early signs and symptoms and prompt referral to diagnosis and treatment (Islam *et al.*, 2018; Sama *et al.*, 2017; WHO, 2020).

Both male and female can have BC but BC in male seems rare compared to women. In developing countries including Bangladesh, most of the BC patients are diagnosed at an advanced stage due to lack of awareness and inadequate access to health care facilities (Hossain *et al.*, 2015). Inadequate knowledge about BC is a crucial obstacle in diagnosis and treatment initiation which ultimately increases the morbidity and mortality rate (Muhammad *et al.*, 2015). More than 3 months delay in diagnosis and treatment from first detection of symptomatic BC may result in diagnosis of the disease at an advanced stage, poor treatment outcome and decreased survival length (Laura, 2019).

When BC is diagnosed at an early stage, prognosis is believed to be good with reduced morbidity and mortality. Therefore, steps should be taken to ensure early detection and timely treatment. Two vital strategies for early detection include early diagnosis and screening. An important aspect of early diagnosis includes increasing the awareness of early signs of cancer among physicians, nurses, other healthcare workers as well as the general population. Screening, on the other hand, includes employing simple tests to identify individuals with cancer even before symptoms appear. BSE, CBE, and mammography are well recognized screening methods for BC. Since there is no national registry of cause of death in Bangladesh or of patients' follow-up systems in hospitals, it is not possible to know about the mortality and survivorship of BC.

Nonetheless, GLOBOCAN has estimated that 7142 women died of BC in Bangladesh in 2012 (ASR 11 per 100,000) (NIPORT, 2011; Nas *et al.*, 2020). Apart from this, a maternal health survey estimated that cancer was responsible for 21% of all women's deaths in the reproductive age range (IHME, 2011). Another verbal autopsy study showed that 62% of all deaths associated with BC were in women less than 50 years old (Godfrey *et al.*, 2015).

### **Justification of the Study**

The study included only female students of Bangladesh University of health science. This study separately assessed the scores of individual with being taught about awareness, knowledge and practice of breast screening methods for early detection of BC and had a message to institution, as well, in necessity of addition to knowledge and awareness about BC and breast screening methods in their university curriculums (Olugbenga- Bello *et al.*, 2011; Atta *et al.*, 2018; and Carol, 2019).

### **Research Questions**

How much knowledge and awareness do the students have about BC, diagnosis and screening of BC, mammography and practice of breast self-examination?

### **Objectives of the Study**

The main objective of this study was to find out the knowledge, awareness about BC, diagnosis and screening of BC, mammography and practice of breast self-examination.

### **MATERIALS AND METHODS:**

This was a preliminary descriptive cross sectional study among 90 students of Bangladesh University of health sciences in Dhaka city.

**Tool of data collection:** The study was conducted through a well-structured self-administered questionnaire consisting of four parts –

- a) **First Part:** Socio- Demographic data (age, sex, level of education and marital status, menstruation cycle).
- b) **Second Part:** Knowledge regarding mammography (9 question).
- c) **Third Part:** awareness about BC and practice of breast self-examination (12 questions).
- d) **Fourth part:** perception on delayed breast screening and suggestion for improvement (4 questions).

### **Method of the study**

Explanation about the objectives of the study and the benefit of its findings was provided to each study participant before submitting the questionnaire. Responses were only based on their subjective data and recent attitudes without referring to any books. Questionnaire forms were directly distributed to all

female students individually who are studying under this university and only 90 students participated in this study and completed the forms.

**Ethical considerations**

All participants were consented verbally to fill the questionnaires and join the study and no names or any personal data were available to publish.

**Data Analysis**

Data was analyzed using excel and statistical package for social sciences program (SPSS) version 16.00. Then results achieved in tables.

**RESULTS:**

**Table 1:** Socio- demographic characteristics of the respondent

Demographic Data	Variable	Number	Percentage
AGE	18-22 years	39	43.3
	23-27 years	37	41.1
	28-32 years	12	13.3
	33 and above	2	2.2
	Total	90	100
Educational Qualification	Under graduation	74	82.2
	post-graduation	16	17.8
	Total	90	100
Marital Status	married	35	38.9
	unmarried	54	60
	Others (Divorce)	1	1.1
	Total	90	100
No. of Children	None	11	31.4
	One	17	48.6
	Two	7	20
	Total	35	100
Designation	Jobholder	15	16.7
	Student	75	83.3
	Total	90	100
Menarche	10 years	6	6.7
	14 years	59	65.6
	16 years	13	14.4
	other	12	13.3
	Total	90	100
Monthly period	Yes	83	92.2
	No	7	7.8
	Total	90	100
Reason for not having period monthly	Pregnant	2	25
	PCOS	2	25
	Irregular	2	37.5
	Thyroid	1	12.5
	Total	7	100

**Table 1** shows 43.3% of respondents are from (18-22) age range and 82.2% are students of under graduation and 65.6% have experience menarche at the age of 14 years old.

**Table 2:** Knowledge of participant’s regard mammography

	Variables	Frequency	%
Have you ever heard of mammography?	Yes	47	52.2
	No	43	47.8
What is the purpose of mammography?	Diagnosis	38	82.6
	Treatment	6	13
	Don't know	2	4.3
	others	0	0
Are there any side effects of mammography?	Yes	23	48.9
	No	18	38.3
	Don't know	6	12.8
Is mammography same as ultrasound?	Yes	8	17.0
	No	31	66
	Don't know	8	17
Where can you get a mammography done?	Any Hospital	18	38.30
	clinical Laboratory	23	48.90
	specific hospital	6	12.80
	others	0	0.00
Who is specialist under whom mammography is done?	Gynecologist	10	21.3
	Radiologist	10	21.3
	Technologist	21	44.7
	Doctor	6	12.8
What do you think the cost of mammography examination could be?	High	12	25.5
	Medium	31	66
	Low	4	8.5
What is the age at which first mammography should be done?	Adulthood	9	19.1
	35 plus	19	40.4
	Whenever problem arise	15	31.9
	others (don't know)	4	8.5
How often should women go for mammography screening?	Twice in a year	10	21.3
	Annually	29	61.7
	As recommended by doctor	7	14.9
	Others (don't know)	1	2.1

**Table 2** shows 52.2% have ever heard of mammography and among them 82.6% knows the correct purpose of mammography where as 48.90% believes mammography is done in clinical laboratory and only 40.4% knows mammography is done after 35 years old or above.

**Table 3** shows 93.3% have ever heard of BC among them 39.30% respondent’s source was from television. 66.7% knows there are screening methods for BC, 18.9% have ever felt abnormalities in breast like lymph and only 33.3% have practice BSE.

**Table 3:** Awareness, knowledge of BC and practice of breast screening methods

	Variables	N	%
Have you ever heard of BC	Yes	84	93.3
	No	6	6.7
If yes, what was your first source of information?	Radio	9	8.40
	Television	42	39.30
	Hospital	29	27.10
	Other	27	25.20
Do you know you can screen for BC?	Yes	60	66.7
	No	30	33.3
If yes, which method do you know?	Breast self-examination	37	45.10
	Mammography	18	22
	Clinical breast examination	18	22

	Other (don't know, biopsy, FNAC)	9	11
Do you practice breast self-examination?	Yes	30	33.3
	No	60	66.7
If yes, how frequently?	Weekly	8	26.7
	Once in a year	7	23.3
	Monthly	15	50
	Other	0	0
Have you ever feel any kind of abnormalities in your breast?	Yes	17	18.9
	No	73	81.1
If yes, what kind of problem you faced?	Hot flash	2	11.80
	Lymph	10	58.80
	Sudden pain	3	17.60
	Other	2	11.8
Have you ever visit a clinic for BC screening before?	Yes	13	14.4
	No	77	85.6
If yes, what kind of screening was done?	Clinical breast exam	9	64.3
	Mammography	3	21
	Ultrasound	2	14
	Other	0	0
If no, why have you not been to a clinic for BC screening?	Didn't know about it	30	30
	I practice breast self-examination	18	18
	Due to high cost	2	2
	I perceive myself not to be at risk	40	40
	Feel embarrassed to talk about such problem	10	10
If you had gone through mammography then what kind of experience you had during examination?	Discomfort	2	50
	Painful	1	25
	Will never go again	1	25
	Other	0	0

**Table 4:** Perceptions for breast screening and suggestion for improvement

	Variables	N	%
When should a women start to examine her breasts?	After marriage	50	55.60
	During breastfeeding	8	8.90
	After menopause	6	6.70
	During forties	7	7.80
In your opinion, why women do not go for breast screening?	Poor Awareness	50	35.2
	Family Restriction/Culture Barrier	14	9.90
	Feel dis-comfortable to share such issue	70	49.30
	Expensive	8	5.60
	Other	0	0.00
Do you think BC can be detect early and have proper treatment?	Yes	81	90
	No	9	10
Suggest how women can be encouraged to go for BC screening?	Enlightenment by government and NGOS	48	27.40
	Provision of facilities and reduction of cost	29	16.60
	Confidentiality should be encouraged	30	17.10
	Awareness program should be held	65	37.10
	No Suggestion	2	1.10
	Other (family support)	1	0.6

**Table 4** shows 55.60% of respondent believes women should examine her breast after marriage and 49.30% believes due to embarrassment of sharing such issues they do not go for breast screening.

## DISCUSSION:

This study shows out of 90 respondents, age range was 18 to 35 years with a mean age 26.5 years, most of them are unmarried (60%). 65.6% had experience of menarche at the age of 14 years. Among study respondent 93.3% had ever heard of BC and 66.7% of any screening methods of BC. Most of them have heard about BC from television and hospital 66.4%. Although early screening of BC was very important according to 66.7% respondents and BSE procedure was known to 45.1%, only 33.3% actually performed BSE. A few respondent 18.9% have ever feel any kind of abnormalities in their breast and the abnormalities were Lymph (58.8%). 90% think BC can be detect early and have proper treatment (CDCP, 2019). According to 60.97% respondent, a woman should start to examine her breasts after marriage. 85.37% respondent thinks that women do not use to go for breast screening because of feeling discomfort to share such issue. Regarding mammography only 52.2% had ever heard of mammography and 42.2% knew correctly the purpose of mammogram and 48.9% know that there is a side effect of mammography (Khokhar, 2015). Moreover, they know that mammography should be done at the age of 35 plus (21.1%) and examined it annually (32.2%). Suggestion from this study responder regarding how women can be encouraged to go for BC screening was Enlightenment by government and NGOS, and Awareness program should be held according to 58.54% and 79.27% respondent respectively.

The result of this survey shows the need for educating Bangladeshi young females about BC to improve their knowledge level and to increase their practice of early screening strategies as well as their confidentiality should be increase so that they can share any kind of issues or abnormalities related to their breasts. Health education programs, especially the BC awareness program, have the potential to increase BC awareness and down staging of disease.

## CONCLUSION:

This study shows that though there was good awareness of BC among respondent but poor

practice of BC screening methods. Even myths about examine breast and uncomfortable in sharing such issues have been seen in this study. Young females as well as women of all age should be educated about awareness of BC and practice of BC screening. Knowledge about BSE should be given specially to young females for early detection of any abnormalities in breast and BC further (Okobia *et al.*, 2006). Awareness and knowledge seems to play vital role in early detection of BC. Due to short period of time, this study could not generalize data of all the female students of this university. This study only included 90 female students of this university.

## ACKNOWLEDGEMENT:

This research behind it would not have been possible without the exceptional support of my supervisor, her enthusiasm; knowledge and exacting attention to detail have been an inspiration and kept my work on track from my first encounter with the questionnaire to the final draft of this paper. It is also my greatest pleasure to acknowledge my deep respect and gratitude to Head, Dept. of Biomedical Engineering & Medical Physics, BUHS, Dhaka, Bangladesh for their valuable suggestions and encouragement during the course of the study.

## CONFLICTS OF INTEREST:

The authors declare that there is no conflict of interest.

## REFERENCES:

- 1) Atta Abbas Naqvi, Niyaz Ahmad, and Sarah Jameel Khan, (2018). 'Awareness, knowledge and attitude towards breast cancer, breast screening and early detection techniques among women in Pakistan.' *J Pak MED Assoc*, **68**(4); 576-586.  
<https://pubmed.ncbi.nlm.nih.gov/29808048/>
- 2) Carol Der Sarkissian, (2019). *Breast anatomy*, Web MD, May 18, 2019.  
<https://www.webmd.com/women/picture-of-the-breasts#1>
- 3) Central for disease control and prevention (CDCP), Breast Cancer, September 11, 2018.  
[https://www.cdc.gov/cancer/breast/basic\\_info/what-is-breast-cancer.htm](https://www.cdc.gov/cancer/breast/basic_info/what-is-breast-cancer.htm)
- 4) Forazy A.R, Begum R.B Khatun, (2015). Incidence of breast cancer in Bangladesh, ISNCC BLOG, International cancer nursing News, November 26.

- 5) Godfrey K., Agatha T., and Nankumbi J., (2016). 'Breast cancer knowledge and breast self-examination practices among female university students in Kampala, Uganda: a descriptive study, *Oman Medical Journal*, **31**(2), 129–134.  
<https://pubmed.ncbi.nlm.nih.gov/27168924/>
- 6) Hossain M.S., Ferdous S., and Karim-Kos H.E., (2014). 'Breast cancer in South Asia: a Bangladeshi perspective.' *Cancer Epidemiology*, **38**(5), 465-470.  
<https://doi.org/10.1016/j.canep.2014.08.004>
- 7) Institute for Health Metrics and Evaluation (IHME), (2011). *The Challenge ahead: progress and setbacks in breast and cervical cancer*. Seattle, WA: IHME, 2011.  
<http://www.healthdata.org/policy-report/challenge-ahead-progress-and-setbacksbreast-and-cervical-cancer>
- 8) Islam R.M., Bell R.J., and Davis S.R., (2016). 'Awareness of breast cancer and barriers to breast screening uptake in Bangladesh: A population based survey.' *Maturitas*, **84**, 68-74. <https://pubmed.ncbi.nlm.nih.gov/26617272/>
- 9) Khokhar A, (2015). 'Study on knowledge, experiences and barriers to mammography among working women from Delhi.' *Indian journal of cancer*, **52**(4); 531-5.  
<https://doi.org/10.4103/0019-509X.178401>
- 10) Laura J. Martin, MD, (2019). *Invasive Breast Cancer: Symptoms, Treatments, Prognosis*, *WebMD* on November 09.  
<https://www.webmd.com/breast-cancer/invasive-breast-cancer#1>
- 11) Muhammad Akram, Mehwish Iqbal, and Asmat Ullah Khan, (2017). 'Awareness and current knowledge of breast cancer.' *Bio medical central*, **50**(33).  
<https://pubmed.ncbi.nlm.nih.gov/28969709/>
- 12) Nas FS, Yahaya A, and Ali M. (2020). Prevalence of *T. vaginalis* among pregnant women attending antenatal care in Kano, Nigeria. *Eur. J. Med. Health Sci.*, **2**(2), 39-45.  
<https://doi.org/10.34104/ejmhs.020.39045>
- 13) Nigar Sultana Tithi, Nishat Nasrin, Nahin Rahman, and Naharin Syeed, (2018). 'A cross section study on knowledge regarding breast cancer and breast self-examination among Bangladeshi women' *ISOR journal of pharmacy and biological sciences*, **13**(1); 38-44.  
<https://doi.org/10.9790/3008-1301013844>
- 14) NIPORT, (2011). *Bangladesh Maternal Mortality and Health Care Survey 2010*.  
<http://www.wpcuncedu/measure/publications/tr-12-87>
- 15) Okobia M.N., Bunker C.H., and Osime U., (2006). 'Knowledge, attitude and practice of Nigerian women towards breast cancer: a cross-sectional study.' *World Journal of Surgical Oncology*, **4**, 11-19.  
<https://doi.org/10.1186/1477-7819-4-11>
- 16) Olugbenga- Bello AL, Bello TO, Ojo Jo, and Oguntola AS, (2011). 'Awareness and breast cancer risk factors: Perception and Screening practices among Females in a Tertiary Institution in Southwest Nigeria.' *The Nigerian postgraduate medical journal*, **18** (1); 8-15.  
<http://europepmc.org/article/med/21445107>
- 17) Sama C.B., Abua N.L., and Fru Angwafo, (2017). 'Awareness of breast cancer and breast self examination among female undergraduate students in a higher teachers training collage in Cameroon.' *Pan African medical journal*, **28**: 91. <http://www.panafrican-med>
- 18) World health organization (WHO), (2020).  
[https://www.who.int/health-topics/cancer#tab\\_1](https://www.who.int/health-topics/cancer#tab_1)

**Citation:** Shah S, Rana S, Parvin T, Muraduzzaman SM, and Jalali MA. (2020). Study on awareness, knowledge and practice of breast screening methods among the female students of Bangladesh university of health sciences, *Eur. J. Med. Health Sci.*, 2(6), 152-158.

<https://doi.org/10.34104/ejmhs.020.01520158>

