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# Study on perceptions of breast cancer risk factors and early detection measures among nurses in Bangladesh

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**Abstract**
**Introduction:** Breast cancer is the most prevalent cancer worldwide with about 1 million new cases annually. In Bangladesh, it has overtaken cancer of the cervix to become the commonest malignancy in women. While studies conducted to assess breast cancer knowledge among women showed satisfactory level in some places. Other reports, especially from developing countries like Bangladesh revealed inadequate knowledge and awareness about the disease. Breast self-examination (BSE), clinical breast examination (CBE) and Mammography are recognized screening methods for breast cancer. Female healthcare professionals have greater influence on women's positive perception of breast cancer and motivation to practice screening methods for early detection of the disease.
**Objectives:** To assess the perceptions of breast cancer risk factors and early detection measures among nurses in Bangladesh
**Methods:** The study was a cross-sectional descriptive type of study in which exposure the present status is measured simultaneously in a given population as performed on the level of awareness of breast cancer risk factors and early detection measures among nurses. The study populations were 300 respondents that selected areas through random sampling technique from different medical college hospital, general hospital, nursing college/ nursing institute. Data were collected by questionnaires and also by secondary sources that focused on extensive literature review covering relevant national-level studies and reports.
**Results:** Out of 300 respondents, 90.0% respondents said that about whether breast cancer can be prevented and 30(10.0%) were did not know whether breast cancer can be prevented. Most of the respondents 97.7% said that they didn't received radiation treatment for any reasons of breast cancer. Results also showed that 196(65.3%) strongly agree, about the distribution of routine breast cancer screening is necessary for women >40 and only 4(1.3%) disagreed about this. On the other hand, about source of information 61.7% were well known from training institution about prevention of breast cancer. The respondents informed about early detection measures of breast cancer, 237(79%), Breast self-examination 23(7.7%) on clinical breast examination, 38(12.7%) on Mammography 2(0.7%) respondents on Ultrasound.
**Conclusions:** In Bangladesh, previous studies on breast cancer knowledge assessment were conducted mainly among community dwelling women. Reports from these studies showed low level of awareness of breast cancer and practice of screening methods. In view of the large proportion of patients with breast cancer in Bangladesh presenting with advanced stages of the disease, there is need for more awareness of measures for early detection. Adequate knowledge and positive attitude towards breast cancer screening are essential for female healthcare professionals if they are to play their expected role in breast cancer awareness campaign in Bangladesh.

**Keywords:** Breast cancer; risk factor, breast cancer knowledge, perceptions, breast self-examination, mammography, early detection measure

## Introduction

Breast cancer is one of the top most public health concern jeopardizing the lives of many people's worldwide [1, 2]. This kind of cancer is malignant by nature endangers breast tissue, and may involve either the tubules carrying milk or ducts which produce the milk. This type of disease can metastasize to distant areas or invade surrounding tissues. Commonly, the disease happens in women population although males may also suffer from it [3]. Breast cancer is the most common type of cancer and the most frequent cause of cancer-associated death among women in the world. However, the burden is not consistently distributed, and according to the best accessible statistics, there are huge variations in the incidence, mortality, and survival between different countries and regions and within specific regions. Several multifaceted factors influence these variations, including population structure (e.g., age, race, and ethnicity), lifestyle, environment, socioeconomic status, risk factor prevalence, mammography use, disease stage at diagnosis, and access to high-quality care [4]. Also some of contributing factors implicated in steady rise in breast cancer incidence in developing countries are widespread urbanization, changing patterns of reproductive and environmental risks factors, obesity, decreased physical activity, and increasing life expectancy [5]. Breast cancer is the most common malignancy in women worldwide. It was estimated that 1,671,149 new cases of breast cancer were identified and 521,907 cases of deaths due to breast cancer happened worldwide in 2012. According to GLOBOCAN, it is the most common cancer in women, accounting for 25.1% of all cancers [6]. More than half (52.9%) of 1.67 million new breast cancer cases were diagnosed in developing

countries in 2012 [7], while the corresponding figure for 1980 was only 35% [8] Although in developed countries breast cancer is mainly a disease of postmenopausal women (50 years), almost half of all breast cancer cases (45%) in developing countries in 2010 were diagnosed in women of reproductive age (15–49 years) [8]. In Asia, the incidence of breast cancer peaks among premenopausal women in their forties, whereas among postmenopausal women in Western countries it peaks in their sixties [9]. The mortality of breast cancer is significantly higher in developing countries than in high-income countries. In 2012 nearly 62% of deaths associated with breast cancer occurred in developing countries. Breast cancer incidence in developed countries is higher, while relative mortality is greatest in less developed countries [10]. Five-year relative survival estimates range from 12% in parts of Africa to almost 90% in the United States, Australia and Canada, with the discrepancy associated with a combination of early detection, access to treatment services and cultural barriers. Observed improvements in breast cancer survival in more developed parts of the world over recent decades have been attributed to the introduction of population-based screening applying mammography and the systemic use of adjuvant therapies [11]. These factors act individually or together to cause breast cancer. The most frequent etiological factors include; age factors, age at first birth, early menarche, gender, dietary factors, tobacco smoking, alcohol consumption, low-dose irradiation, obesity, physical activity, lactation, hormonal factors, hormone replacement therapy, steroid hormone receptors, mammographic density, benign breast disease, and genetic factors [12]. Breast cancer (BC) is a common problem worldwide and is one of the major cause of death in females [13, 14]. It is a type of cancer that originates in the breast tissue ranging from noninvasive to metastatic carcinoma. According to the International Agency for Research on Cancer (IARC), approximately, 2.1 million breast cancer cases were diagnosed in females worldwide in the year 2018 [15]. Breast cancer cannot be prevented, however its risk can be reduced and can be treated if detected at an early stage [16, 17]. Cancer-screening tests have greatly shown to decrease mortality in breast cancer patients [18]. According to the American Cancer Society (ACS), clinical breast examination (CBE) and mammography has been suggested for the early diagnosis of breast cancer[19]. Due to lack of knowledge and awareness of breast cancer in the society, many women fail to early diagnosis and treatment opportunities thereby conquering advanced stages of this disease [20]. Breast self-examination (BSE) is a practice of monthly palpation continually to a rigorous set method carried out by the female at the same time of each month [21]. In combination with improved breast awareness, BSE allows women to increase their perception of vulnerability to the risk of breast cancer [22]. This encourages them to participate in effective screening procedures which enable early breast cancer diagnosis and subsequent decrease in mortality.

Bangladesh is one of the most densely populated countries in the world. About 45 million women are at reproductive age, while 13.5 million women are 50years old. As in other South Asian countries, the life expectancy of Bangladeshi women has increased significantly in recent years from 59 years in 1990 to70 years in 2011 [23]. Women are the key drivers of the Bangladesh economy and of its social transformation through their enormous contribution in the clothing industries [24] and in microcredit-and micro finance-based development programs [25]. Healthy women are vital for healthy families and communities. However, women's problems generally get a lower priority in Bangladeshi society. Although Bangladesh has made enormous progress in the health care sector–especially related to infectious diseases, as recently highlighted by Lancet [26] the issue of cancer is given lower priority at both policy and research levels [27]. Not much information on breast cancer in Bangladesh is available. So far no effort has been made toward creating population-based cancer registries or a central cancer registry to provide comprehensive nationwide data. Therefore, the incidence and prevalence of breast cancer is mostly unknown. The incidence of breast cancer is similar to that in Bangladesh (ASR25.2 per 100,000) [28]. The only hospital-based cancer registry tracks new cancer cases systematically in Bangladesh at the National Institute of Cancer Research and Hospital (NICRH). According to an NICRH report, 5255 breast cancer cases were diagnosed during the period 2005–2010; the mean age of the breast cancer patients was 41.8 years (age range 15-94 years) and over 56% of the cases were women of reproductive age (15-44 years) [29, 30]. Similarly, in our neigh-boring country (India), premenopausal patients constitute about 50% of all breast cancer patients [31]. The higher proportion of pre-menopausal cases in Bangladesh might be due to the fact that the overall population is much younger than in high-income countries, and possibly missing cases of older women who often feel shy about seeking medical help as well as getting lower priority for treatment compared to younger family members in South Asian countries. None of the breast cancer cases is detected by organized screening in Bangladesh. Almost all breast cancer case s are detected clinically. Breast cancer can be detected at earlier stages by simple self-examination of the breasts [32], but most of the patients (more than 90%) seek medical attention at advanced stages: i.e., stages III and IV.

In Bangladesh, general health education is poor, and few people are aware of cancer. Literatures earaches yielded only two reports on breast cancer knowledge and awareness among urban people of Dhaka city. One study conducted on 175 women of reproductive age showed that 41% of the participant shad not even heard of breast cancer. About 94% of them mentioned that breast cancer is not a disease of old age [33]. This perception might have been acquired from the fact that the majority of the breast cancer cases in Bangladesh occur at a relatively young (premenopausal) age.

**Objective of the Study**

The objective of the study is as follows:

1. To assess the perceptions of breast cancer risk factors and early detection measures among nurses in Bangladesh

**Methodology of the Study**

Study Design and setting: The study design was descriptive type of Cross sectional study that performed 300 student nurses and senior staff nurses in different categories of educational level which were voluntarily participate and age between 15-49 years at MAG Osmani Medical College and Hospital, Jalalabad Ragib Rebeya Medical College Hospital, Sylhet Nursing College and Begum Rabeya khatun Chowdhury Nursing College at Sylhet District and Rangamati Nursing institute at Rangamati Hill District in Bangladesh.

**Sources of Data:** Data were collected from primary and secondary sources. Primary data were collected from the respondents of the study areas. The data were collected purposively selected respondent for to assess the level of perception of breast cancer risk factors and early detection measures among nurses of different hospital. The secondary data collection method has focused on extensive literature review covering relevant national-level studies and reports. Websites of relevant organizations were analytically surfed through. Besides, newspapers, conference proceedings, working papers, Journals, Articles, Term paper, Research Report, and other sources of information were also explored to the optimum level.

**Data Collection Tools:** Questionnaires were used as a form of collecting data. Data were collected through appropriate questionnaire which was prepared for the study. Closed-ended questions were used in the questionnaire.

**Methods of Data Collection:** Data were collected through interview method, i.e. Interviewers collect data from the respondents through face to face interview.

**Data processing and Analysis:** The collected data were interpreted and analyzed by using SPSS (Statistical Package for Social Sciences) for windows version 16. Demographic characteristics were simply present in frequency and chi-square test was used to compare the qualitative variables and parametric test like t-test was used for quantitative variables.

**Ethical Consideration:** The study protocol was submitted to local Ethical Committee of the concerned authority. Each participant was well informed about the aim and potential benefit of the study and their consent and confidentiality was ensured.

## Results

**Table 1:** The baseline characteristics of the respondents (n=300)

| Variables | Categories | Perception | | $X^2$ value | P value |
|---|---|---|---|---|---|
| | | Good | Poor | | |
| Age | Below 20 years | 0 | 4 | 10.506 | 0.015 |
| | 21-30 years | 69 | 148 | | |
| | 31-40 years | 7 | 39 | | |
| | 40 + years | 15 | 18 | | |
| Marital Status | Married | 44 | 98 | 0.054 | 0.816 |
| | Single | 47 | 111 | | |
| Professional qualification | Diploma | 55 | 146 | 4.479 | 0.107 |
| | Graduate | 27 | 54 | | |
| | Post Graduate | 9 | 9 | | |
| Menstrual cycle | Before 12 years | 6 | 11 | 0.210 | 0.647 |
| | At or after 12 years | 85 | 198 | | |
| Age at birth to first child | 20 years or younger | 0 | 3 | 2.742 | 0.602 |
| | 21- 24 years | 7 | 13 | | |
| | 25-29 years | 20 | 57 | | |
| | 30 or older years | 5 | 8 | | |
| | No child | 59 | 128 | | |
| Family history of breast cancer | None | 89 | 205 | 2.550 | 0.279 |
| | One member | 1 | 4 | | |
| | More member | 1 | 0 | | |
| History of benign breast biopsies | None | 82 | 203 | 6.576 | 0.010 |
| | One time | 9 | 6 | | |
| Biopsy result | No result/Unknown | 82 | 203 | 7.387 | 0.025 |
| | No, atypical hyperplasia | 8 | 6 | | |
| | Yes, atypical hyperplasia | 1 | 0 | | |
| Age to start of using birth control Pills | Never use BCPs | 79 | 187 | 4.606 | 0.203 |
| | 21-24 years | 5 | 8 | | |
| | 25-29 years | 4 | 13 | | |
| | 30+ years | 3 | 1 | | |
| Stop using birth control pills | Not applicable | 79 | 188 | 7.330 | 0.197 |
| | Currently using | 4 | 8 | | |
| | Stop 1-4 years ago | 2 | 7 | | |
| | Stop 5-9 years ago | 0 | 2 | | |
| | Stop 10-14 years ago | 0 | 1 | | |
| | Stop 15+ years ago | 6 | 3 | | |
| History of mammogram | Yes | 6 | 3 | 5.796 | 0.016 |
| | No | 85 | 206 | | |
| History of others cancer | Ovarian cancer | 0 | 1 | 0.437 | 0.509 |
| | None | 91 | 208 | | |
| Family history of any cancer | Breast cancer | 3 | 5 | 0.200 | 0.655 |
| | None | 88 | 204 | | |
| History of exercise | Yes | 43 | 62 | 8.620 | 0.003 |
| | No | 48 | 147 | | |
| Exposed to pollution | Yes | 2 | 8 | 0.523 | 0.470 |

| | | | | | |
|---|---|---|---|---|---|
| | No | 89 | 201 | | |
| History of using birth control measures | Yes | 8 | 8 | 3.093 | 0.079 |
| | No | 83 | 201 | | |
| History of taking birth control pills | Not applicable | 81 | 190 | 0.262 | 0.609 |
| | Yes | 10 | 19 | | |
| History of treatment of infertility | Yes | 4 | 9 | 0.001 | 0.972 |
| | Not Applicable | 87 | 200 | | |
| History of treatment for menopausal symptoms | Yes | 1 | 0 | 2.304 | 0.129 |
| | No | 90 | 209 | | |
| BSE training | Yes | 90 | 21 | 21.426 | 0.000 |
| | No | 1 | 0 | | |
| | No opinion | 0 | 188 | | |
| Knowledge about risk factors and prevention | Yes | 81 | 175 | 1.412 | 0.235 |
| | No | 10 | 34 | | |
| Source of information about breast cancer | Training institution | 71 | 114 | 16.966 | 0.005 |
| | From relative/ friends | 0 | 9 | | |
| | During training course | 5 | 32 | | |
| | From medical person | 4 | 15 | | |
| | From mass media | 1 | 4 | | |
| | No opinion | 10 | 35 | | |
| Know about prevention of breast cancer | Yes | 90 | 180 | 11.499 | 0.001 |
| | No | 1 | 29 | | |
| Early detection measures of breast cancer | Breast self-examination | 76 | 161 | 11.593 | 0.009 |
| | Clinical breast examination | 11 | 12 | | |
| | Mammography | 4 | 34 | | |
| | Ultrasound | 0 | 2 | | |
| Practice sports or physical exercise | Yes | 39 | 43 | 15.848 | 0.000 |
| | No | 52 | 166 | | |
| Times of practice of physical exercise | Several times a week | 30 | 25 | 21.514 | <0.001 |
| | once or twice a week | 6 | 14 | | |
| | Less than once a week | 4 | 4 | | |
| | Not applicable | 51 | 166 | | |
| History of radiation therapy | Yes | 1 | 6 | 0.873 | 0.350 |
| | No | 90 | 203 | | |
| History of personal health | Polycystic ovarian syndrome | 1 | 0 | 4.485 | 0.106 |
| | Tubal Ligation | 0 | 5 | | |
| | None | 90 | 204 | | |
| Breast feeding practice | Yes | 28 | 77 | 1.028 | 0.311 |
| | No | 63 | 132 | | |
| BMI | Below 18.4 (underweight) | 10 | 30 | 1.741 | 0.628 |
| | 18.5-24.9 (normal) | 60 | 143 | | |
| | 25.0-29.9 (overweight) | 18 | 31 | | |
| | 30 and above (obese) | 3 | 5 | | |
| Routine breast cancer screening is necessary | Strongly agree | 65 | 131 | 3.373 | 0.185 |
| | Agree | 26 | 74 | | |
| | Neither agree or Disagree | 0 | 4 | | |

Table 1, shows that respondent's showing results of baseline characteristics.

**Table 2:** Percentage distribution of key risk factors of Breast Cancer

| Key risk factors of breast cancer | Frequency (n) | Percentage (%) |
|---|---|---|
| 1. Age | 3 | 1.0 |
| 2. Age at first period | 11 | 3.8 |
| 3. Age at the time of birth of first child | 3 | 1.0 |
| 4. Family history of breast cancer | 3 | 1.0 |
| 5. Number of past biopsies | 2 | 0.7 |
| 6. Number of breast biopsies showing atypical hyperplasia | 1 | 0.3 |
| 7. Race | 2 | 0.7 |
| 8. No breast feeding practice | 4 | 1.3 |
| 9. Give 2 opinion | 70 | 23.3 |
| 10. Give 3 opinion | 201 | 67.0 |
| Total = N | 300 | 100 |

Table 2, shows that respondent's showing results of distribution of key risk factors of breast cancer. Out of 300 respondents, highest Give 3 opinion was 201 (67.0%) and lowest 1(0.3%) was key risk factors of breast cancer. Others are in different percentage.

**Table 3:** Percentage distribution of preventive measures of breast cancer

| Preventive measures of breast cancer | Frequency (n) | Percentage (%) |
|---|---|---|
| 1. Lowering risk e.g. exercise / diet | 3 | 1.0 |
| 2. Regular screening | 19 | 6.3 |
| 3. Breast cancer chemoprevention | 1 | .3 |
| 4. Preventive surgery for women with very high breast cancer risk | 2 | .7 |
| 5. Population awareness | 2 | .7 |
| 6. Breast feeding practice | 1 | .3 |
| 7. Give 2 opinion | 87 | 29 |
| 8. Give 3 opinion | 148 | 49 |
| 9. Give 4 opinion | 7 | 3 |
| 10. No opinion | 30 | 10 |
| Total = N | 300 | 100 |

Table 3, shows that respondent's showing results of distribution of factors which preventive measures of breast cancer. Out of 300 respondents, highest Give 3 opinion was 148(49.0%), Give 2 opinion was 87(29%), Give 4 opinion was 7(3%), No opinion was 30(10%) and lowest 1(0.3%) was Breast cancer chemoprevention & Breast feeding practice which factors preventive measures of breast cancer. Others are in different percentage.

**Table 4:** Percentage distribution of source of information about prevention of breast cancer

| Source of information about prevention of breast cancer | Frequency (n) | Percentage (%) |
|---|---|---|
| 1. Training institution | 185 | 61.7 |
| 2. From relative/ friends | 9 | 3 |
| 3. During training course | 37 | 12.3 |
| 4. From medical person | 19 | 6.3 |
| 5. From mass media | 5 | 1.7 |
| 6. No opinion | 45 | 15.0 |
| Total = N | 300 | 100 |

Table 4, shows that respondent's showing results of distribution of Source of information about prevention of breast cancer. Out of 300 respondents, Training institution was 185 (61.7%), During training course was 37(12.3%), From medical person was 19(6.3%), No opinion was 45(15.0%) and lowest 5(1.7%) was From mass media which Source of information about prevention of breast cancer.

**Table 5:** Percentage distribution of early detection measures of breast cancer

| Early detection measures of breast cancer | Frequency (n) | Percentage (%) |
|---|---|---|
| Breast self-examination | 237 | 79 |
| Clinical breast examination | 23 | 7.7 |
| Mammography | 38 | 12.7 |
| Ultrasound | 2 | .7 |
| Total = N | 300 | 100 |

Table 5, shows that respondent's showing results of distribution of early detection measures of breast cancer. Out of 300 respondents, Breast self-examination was 237 (79%), clinical breast examination was 23(7.7%), Mammography was 38(12.7%) and Ultrasound was 2(0.7%) of early detection measures of breast cancer.

## Discussion

Breast cancer in women is a major health burden both in developed and developing countries. It is the second leading cause of death in women worldwide as well as in Bangladesh. Recent global cancer statistics shows that global incidence is rising at a faster rate especially in developing countries like Bangladesh. The incidence, mortality and survival rate in different parts of the world vary from 4 to 10 fold [34]. The study found that breast cancer risk factors perception among nurses in different health care institutions, 30.33% nurses had good perception while 69.67% had poor perception on both breast cancer risk factors and early detection measures. In Karachi, Pakistan, a cross-sectional survey of breast cancer risk factors knowledge among nurses in teaching hospitals revealed that 35% of nurses had good knowledge of risk factors while 40% had fair knowledge and 25% had had poor knowledge[35]. The study also found age (P value= 0.01) was significant factor for perception of breast cancer risk factors and early detection measures among the female nurses. There is a significant lack of information and research that addresses young women's perceived barriers to breast cancer knowledge. A Jordanian study conducted among 163 nurses and 178 teachers showed that profession, age and family history significantly influenced breast cancer awareness. In our study, we found only 3% nurses were done mammogram (P value=0.026) for dense breast tissue. Most importantly, it is widely recognized that mammogram is one good measure for early detection for breast cancer. Moreover, the mammogram was very less among the nurses. Mammography, Ultrasound (US) and CBE were not commonly known and was attributed to lack or absence of such services in the respective countries and also lack of specialized consultants on breast cancer [36]. Most of the nurses (65.6%) considered that mammography decreases the mortality in breast cancer [37] Early diagnosis can be successfully achieved by mass screening either by

Mammography, Clinical Breast Examination (CBE) and Self breast examination (SBE) or by the combination of three. Though it is well documented that mammography is the best choice for screening, breast self-examination is also equally important and beneficial for mass awareness especially in country with limited recourses. A cross-sectional Turkey study raveled in a university hospital in Ankara. The mean age of the women was 52.1±9.98 years. Sixteen percent of the women had a family history of breast cancer. The majority of participants had mammograms (75.8%) before and had gained knowledge about breast cancer and it's screening (73.7%). The leading source of information about breast cancer was physicians (46.2%). Physician recommendations, having breast-related complaints, and family history of breast cancer were important reasons to obtain mammography [38]. In a developing country like Bangladesh and it is not a realistic approach to pursue a population based mass screening program. According to stepwise approach of Global Summit Panel 2002 Breast Self-Examination would be the approach for early detection in limited resources countries [39, 40]. Present study showed that 5.7% nurses with early menarche while 94.3% were said that their menarche started was after 12 years. A study done among nurses in rural region of Turkey, found that the risk factors and symptoms of breast cancer were generally well known, except for early menarche (23.2%) and late menopause (28.8%)

Preventive behavior is essential for reducing cancer both morbidity and mortality. Knowledge is a necessary predisposing factor for behavioral change. Knowledge also plays an important role in improvement of health seeking behavior. In our study, knowledge on preventive measures (P value=0.001) of breast cancer played an important role on level of perception. Not only that knowledge might dramatically improve the attitude, disbelieve, and misconception and consequently enhance screening practice. Beside this, several studies also show that knowledgeable women are more likely to adhere to recommended breast cancer screening [41]. A survey was conducted by P N Chong, M Krishnan, CY Hong, T S Swah on 447 public health nurses in Singapore, regarding knowledge and practices of Breast cancer screening. In their study they found that the nurses knew the answers to most of the questions on risk factors of the breast cancer except for smoking (24.6%) and oral contraceptives (21.6%). Out of 431 participants 401 (93.0%) nurses practiced BSE and 7% nurses never practiced BSE. The most common reason for not to practice BSE were "too busy" "forgot" and "not necessary". More than half (53.6%) of the nurses had their breast examination by a doctor in the past one year, 69.7% by a specialist and 30.3% by their family physician. 68.8% nurses who were more than 50 years of age and 31.1% who were less than 50 years of age had history of mammography test [42]. The overall good perception of breast cancer early detection measures was low (30.33%) that is, about 30 of every 100 nurses. The perception of breast cancer early detection methods among the nurses of Bangladesh is low and is similar to that seen in other developing countries like Nigeria, Pakistan, and Jordan. Given the lower incidence of breast cancer in the Uganda [43], from the findings, the method known method of early detection was Breast self-examination (79%) followed by clinical breast examination (7.7%), mammography (12.7%). However, only 0.7% nurses showed interested for ultrasound of breast cancer early detection measures.

## Conclusion

In the literature, factors like exercise, physical activity, body mass index and weight loss have been reported to be useful but not absolutely effective in breast cancer prevention (8, 40, 42-44). In order to increase women's awareness on breast cancer, it is of utmost importance for nurses to develop positive healthy lifestyle behaviors first in themselves, to utilize breast cancer early detection and diagnosis methods effectively, and to complete their shortcomings of knowledge on this subject. Nurses play an important role in determining information needs of women diagnosed with breast cancer and in meeting these requirements. In this study, it was determined that 74% of nurses perform BSE irregularly, 25.8% had a CBE, 2.5% had a MM, and 67.8% defined their knowledge in breast cancer prevention as "partially sufficient. The mean total score was calculated as 129.09±19.82. CBE, MM and BSE applications are of great importance in the early detection and diagnosis of breast cancer.

## Recommendations and Implications for Practice

Based on the study findings, the following recommendations can be used to initiate and establish preventive services for breast cancer in Bangladesh.

## Implications for Research

It is essential to plan and conduct community-based studies to find the knowledge, attitude and practices of BSE among both women and men as it will aid in identification of the perceived barriers. Further studies are needed to explore what customized interventions could be implemented to improve the uptake and practice of BSE and other methods for early breast cancer detection. Results derived from these studies will help the program managers and healthcare professionals to modify / emphasize / strengthen the existing strategies so that the greatest challenge of late presentation can be curbed and the chances of survival improved.

## Implications for Practice

There is an immense need for a public health education program to inculcate the practice of breast self-examination among women to minimize the fear, denial, myths and misconceptions. The messages and recommendations about breast cancer screening must be clear and the recognized barriers should be taken into consideration for maximization of the outcome. Every effort has to be taken to encourage the practice of BSE not only among women but also among men as there is visible increase in the incidence of male breast cancer.

## Abbreviations

ACS-American Cancer Society**,** BSE- Breast Self-Examination**,** BC-Breast Cancer**,** CBE-Clinical Breast Examination**,** IARC-International Agency for Research on Cancer**,** MM-Mammography**,** NICRH - National Institute of Cancer Research and Hospital**,** SPSS - Statistical Package for Social Sciences**,** US-Ultra sonogram

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**References**


1. Ersumo T. Breast cancer in an Ethiopian population, Addis Ababa. East Central Afr J Surg. 2006; 11:81-6. https://www.ajol.info/index.php/ecajs/article/view/136575
2. American Cancer Society Breast Cancer Facts & Figures 2013-2014. Atlanta USA, Inc, 2013. http://www.cancer.org/research/cancerfactsstatistics/breast-cancer-facts-figures
3. American Cancer Society Breast Cancer Facts and Figures. Atlanta, GA: American Cancer Society, 2011.
4. Ahmed AB *et al.* "Breast cancer in Saudi Arabia and its possible risk factors." Journal of Cancer Policy. 2017; 12:83-9.
5. Gabriel HN *Et al.* "The global breast cancer burden: variations in epidemiology and survival." Clinical Breast Cancer. 2005; 6(5):391-401.
6. Ferlay J, Soerjomataram I *et al.* "Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN." International Journal of Cancer. 2012; 136(5), 2015.
7. Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C *et al.* Globocan 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC Cancer- Base No. 11. Lyon, France: International Agency for Research on Cancer, 2014. Available from http://globocaniarcfr accessed on 07.07.14.
8. Forouzanfar MH, Foreman KJ, Delossantos AM, Lozano R, Lopez AD, Murray CJ *et al.* Breast and cervical cancer in 187 countries between 1980 and 2010: a systematic analysis. Lancet. 2011; 378:1461-84.
9. Leong SP, Shen ZZ, Liu TJ, Agarwal G, Tajima T, Paik NS *Et al.* Is breast cancer the same disease in Asian and Western countries. World J Surg. 2010; 34:2308-24.
10. Mahshid G, Pournamdar Z, Salehiniya H. "Incidence and mortality and epidemiology of breast cancer in the world." Asian Pacific journal of cancer prevention: APJCP, Spec No. 2016; 17:43-46.
11. Danny Y *et al.* "The descriptive epidemiology of female breast cancer: an international comparison of screening, incidence, survival and mortality." Cancer Epidemiology. 2012; 36(3):237-48.
12. Althuis MD, Dozier JM, Anderson WF, Devesa SS, Brinton LA. Global trends in breast cancer incidence and mortality 1973-1997. Int J Epidemiol. 2005; 34: 405-12.
13. Hortobagyi GN, de la Garza Salazar J, Pritchard K. *et al.* The global breast cancer burden: Variations in epidemiology and survival. Clin Breast Cancer. 2005; 6:391-401.
14. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A *et al.* Global cancer statistics: Globocan estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018; 68:394-424.
15. Alpteker H, Avci A. Determine the knowledge of the women about breast cancer and their practice about breast self-examination. J Breast Health. 2010; 6: 74-79.
16. Beacham AO, Carpenter JS, Andrykowski MA. Impact of benign breast biopsy upon breast self-examination. Prev Med. 2004; 38:723-731.
17. Berkiten A, Sahin NH, Sahin FM, Yaban ZS, Acar Z, Bektas H *et al.* Meta-analysis of studies about breaset self-examination beetween 2000-2009 in Turkey. Asian Pac J Cancer Prev. 2012; 13:3389-3397.
18. Dündar PE, Ozmen D, Oztürk 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; 6:4-43.
19. Smith RA, Saslow D, Sawyer KA, Burke W, Costanza ME, Evans WP *Et al.* American Cancer Society guidelines for breast cancer screening: update 2003. CA Cancer J Clin. 2003; 53:141-169.
20. Ceber E, Soyer MT, Ciceklioglu M, Cimat SB. reast cancer risk assessment and risk perception on nurses and midwives in Bornova health district in Turkey. Cancer Nurs. 2006; 29:244-249.
21. Thornton H, Pillarisetti RR. Breast awareness' and 'breast self-examination' are not the same. What do these terms mean? Why are they confused? What can we do? Eur J Cancer. 2008; 44:2118-2121.
22. Gupta A, Shridhar K, Dhillon PK. A review of breast cancer awareness among women in India: Cancer literate or awareness deficit? Eur J Cancer. 2015; 51:2058-2066.
23. WHO. Life expectancy. http://appswhoint/gho/data/nodemain688? Lang =en.
24. Naila K, Simeen M. Globalization, gender and poverty: Bangladeshi women workers in export and local markets. J Int Dev. 2004; 16:93-109.
25. Adams AM, Rabbani A, Ahmed S, Mahmood SS, Al-Sabir A, Rashid SF *et al.* Explaining equity gains in child survival in Bangladesh: scale, speed, and selectivity in health and development. Lancet, 2013; 382:2027
26. Das P, Horton R. Bangladesh: innovating for health. Lancet; 2013; 382:1681-2.
27. Hussain SA, Sullivan R. Cancer control in Bangladesh. J p n JCl in Oncol. 2013; 43:1159-69.
28. Ghumare SS, Cunningham JE. Breast cancer trends in Indian residents and emigrants portend an emerging epidemic for India. Asian Pac J Cancer Prev. 2007; 8:507
29. NIRCH. Cancer Registry Report National Institute of Cancer Research and Hospital 2005-07; 2009. http://whobangladeshhealthrepositoryorg/bitstream/123456789/282/1/Publication_Cancer_Registry_Reportpdf.
30. NIRCH. Cancer Registry Report National Institute of Cancer Research and Hospital, 2008-2010, 2013.
31. Khokhar A. Breast cancer in India: where do west and where do we go. Asian PacJ Cancer Prev. 2012; 13:4861
32. Oezaras G, Durualp E, Civelek FE, Gul B, Uensal M. Analysis of breast self-examination training efficiency in women between 20–60 years of age inTurkey. Asian Pac J Cancer Prev. 2010; 11:799-40.
33. Chowdhury S, Sultana S. Awareness on Breast Cancer among the Women of Reproductive Age. J Family Report Health. 2011; 5:125-32.
34. Bray F, McCarron P, Parkin DM. The changing global patterns of female breast cancer incidence and mortality; BMC. 2004; 6(6):229-239
35. Ahmed F, Hatcher J, Khan SM. Breast cancer risk factor knowledge among nurses in teaching hospitals of Karachi, Pakistan: a cross-sectional study BMC

Nursing, Pub Med, 2006, 5. Doi:10.1186/1472-6955-5-6
36. Oluwatosin OA, Oladipo O. Knowledge of breast cancer and its early detection measures among rural women in Akinyele Local Government Area, Ibadan, Nigeria; BMC Cancer. 2006; 6:271.
37. Yaren A, Ozkilinc G, Guler A, Oztop I. Awareness of breast and cervical cancer risk factors and screening behaviours among nurses in rural region of Turkey; *E*uropian Journal of cancer Care; 1793). 2007; 278-284. https://doi.org/10.1111/j.1365-2354.2007.00856.x
38. Guvenc I, Guvenc G, Tastan S, Akyuz A. Identifying Women's Knowledge about Risk Factors of Breast Cancer and Reasons for Having Mammography. Asian Pacific journal of cancer prevention: APJCP. 2012; 13(8):4191-7. DOI: 10.7314/APJCP.2012.13.8.4191
39. Benjamin O, Anderson, Vivien DT. Breast Cancer in Low and Middle Income Countries: How Can Guidelines Best Be Disseminated and Implemented? PMC2931011 US National Library of Medicine National Institutes of Health, 2008, 3(1).
40. Anderson BO. Global Summit Consensus Conference on International Breast Health Care: Guidelines for Countries with Limited Resources; The Breast Journal 9 2(s2). 2003; 40-1. DOI:10.1046/j.1524-4741. 9.s2.2.x
41. Sadler GR. Breast cancer knowledge, attitudes, and screening behaviors among African American women: the Black cosmetologists promoting health program; BMC Public Health. 2007; 7:57. doi:10.1186/1471-2458-7-57
42. Chong PN, Krishnan M, Hong CY, Swah TS. Knowledge and Practice of Breast Cancer Screening Amongst Public Health Nursesin Singapore; Singapore Med J. 2002; 43(10):509-516.
43. Parkin DM, Boyd L. Cancers attributable to overweight and obesity in the UK in 2010, British Journal of Cancer. 2011; 105:34-37. doi:10.1038/bjc.2011.48.