

Breast Cancer Awareness and Breast Self-examination among Female Nursing Students in Dhaka, Bangladesh

Jannatul Ferdowsy*

Principal, Salauddin Nursing Institute, Dhaka-1203, Bangladesh

DOI: [10.36348/sjnhc.2020.v03i10.002](https://doi.org/10.36348/sjnhc.2020.v03i10.002)

| Received: 09.10.2020 | Accepted: 18.10.2020 | Published: 21.10.2020

*Corresponding author: Jannatul Ferdowsy

Abstract

Breast cancer is the most common cancer in women worldwide. A cross-sectional descriptive study was carried out among 90 female Nursing students of a nursing college in Dhaka, Bangladesh. Most of the respondents were from the age category 17-19 years Muslim was 67.8% and monthly family income between the ranges of 10,001-20,000. Most of the respondents, 76.6%, said that nuclear from family type. About 23.3% of respondents said they knew about cancer from family history. Most of the respondents, 46.7%, were from the first year, 35.6% of respondents from the second year, and 17.8% of respondents from the third year. Of all, 75.6% were in Diploma and the rest from Basic B.Sc. The majority of respondents said they knew what Breast Cancer was. These risk factors were asked to the respondents, and 56.7% said from family history, 36.7% respondents said from Advanced Age, 27.8% respondents said from early menarche, 34.4% respondents said from late menopause, 82.2% respondents said from Non lactating, 47.8% respondents noted from the use of Hormone Replacement therapy and 43.3% respondents said from obesity and less exercise. Regarding Breast cancer detection, about 75.6% of respondents said from Breast Self-examination, 83.3% of respondents said from Clinical Breast Examination, 75.6% of respondents said from Breast USG, and 45.6% respondents said from /Mammography. 72.2% said breast cancer is curable. Regarding the treatment of Breast Cancer, 70% said there should be a combination such as- Radiotherapy, Chemotherapy, and Surgery. There are many ways by which nursing students can get information on breast cancer. In this study, it was seen that 61(67.8%) said that they had information about breast cancer from an academic background, 72(80%) said from media, 67(74.4%) noted from family & friends, 65 (72.2%) noted from health personnel. Among all the respondents, 64.4% knew what BSE was, and the same number of respondents also thought it should be performed. But regarding the performance of Breast Self-examination, only 25% out of 58 performed it. It was found from the study that knowledge on BSE is significantly associated with age category, year of Nursing, and course of Nursing ($P < 0.05$). Also, it is seen that age category, year of Nursing, and religion were significantly associated with Breast Self-examination ($P < 0.05$).

Keywords: Breast Cancer, Female Nursing Students, Radiotherapy, and Chemotherapy.

Copyright © 2020 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Breast cancer is the most common cancer in women worldwide. Even though breast cancer incidence in developing countries is lower than in their Western counterparts, it is rising rapidly. According to GLOBOCAN estimates, more than half (52.9%) of 1.67 million new breast cancer cases were diagnosed in developing countries in 2012 [1]. In Asia, breast cancer peaks among premenopausal women in their forties, whereas among postmenopausal women in Western countries, it peaks in their sixties [2]. South Asia, the home of approximately 588 million women over 15 years of age, faces a growing breast cancer epidemic, as breast cancer incidence is increasing dramatically. [3]

With over 163 million, Bangladesh is one of the most densely populated countries in the world. Females have outnumbered males (84.1 versus 79.5 million) in the Bangladeshi population. About 45 million women are at the reproductive age, while 13.5 million women are at the reproductive age, while 13.5 million women are 50 years old. Asian countries' life expectancy of Bangladeshi women has increased significantly in recent years, from 59 years in 1990 to 70 years in 2011. Women are the key drivers of the Bangladesh economy and its social transformation through their enormous contribution to the clothing industries [4]. The issue of cancer is given lower priority at both policy and research levels [5].

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 a 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). Some reproductive factors (age at menarche, menopause and first pregnancy, breastfeeding, parity) and non-reproductive factors (menopausal hormone therapy, family history of cancer, body mass index, alcohol intake, and others) have been linked with breast cancer risk [6]. Compelling evidence suggests that certain factors are known to reduce breast cancer risk, including increased parity and duration of breastfeeding.

None of the breast cancer cases is detected by organized screening in Bangladesh. Almost all breast cancer cases are detected clinically. Breast cancer can be seen at earlier stages by simple self-examination of the breasts [7]. A majority of patients undergo inappropriate or incomplete surgical excision at the district or community level before they are referred to a specialist. One report showed that approximately 60% of 1116 breast cancer patients underwent mastectomy or lumpectomy surgery before being admitted to the specialized cancer hospital. No case-control studies have been conducted on breast cancer risk factors in Bangladesh's environmental context. However, well known reproductive factors may not be strongly associated with the breast cancer burden in Bangladesh, where most breast cancer cases are premenopausal. Marriage at an early age, breastfeeding for a more extended time, and multiple births are the standard features in Bangladeshi society. For females, the mean age at first marriage is 18.7 years. None of the breast cancer cases is detected by organized screening in Bangladesh. Almost all breast cancer cases are detected clinically. Breast cancer can be seen at earlier stages by simple self-examination of the breasts [35]. Still, most of the patients (more than 90%) seek medical attention at advanced settings: i.e., stages III and IV [8]. A prior study showed that most breast cancer patients presenting with a massive tumor were associated with regional adenopathy, chest wall changes (often fixed to the tumor or lymph nodes), and distant metastases [9]. This scenario can similarly be seen in many resource-limited countries like India. Bangladesh, burdened with a vast population, is facing a severe shortage of human resources for health. There are approximately five physicians and two nurses available for every 10,000 people [10]. No national health insurance system exists in Bangladesh. In contrast, over 70% of the population lives in rural areas. Most of the secondary and tertiary healthcare facilities are centered in urban areas. Public hospitals are generally overcrowded and lack the necessary resources, including equipment and essential drugs. In contrast, private clinics and hospitals are

relatively well equipped, but these are financially out of reach for most Bangladeshis. The recordkeeping system for the patients of both private and public hospitals is often incomplete and unsystematic. There are only two specialized hospitals (one private) dedicated to cancer treatment in Bangladesh. Besides, oncology units of public medical teaching hospitals and a few private hospitals also provide services, including diagnosis and treatment for all cancer patients. As there are no nationally applicable standard protocols or guidelines for managing breast cancer in Bangladesh, the quality of treatment varies widely. Only a few patients have the opportunity to get treatment at well-equipped private hospitals that use international standard protocols. Also, affluent people often prefer to travel to neighboring countries – including Singapore, Thailand, and India – to seek high-quality treatment. Compromises are made at every step-in breast cancer care, including the appropriate diagnosis, surgical treatment, and multimodal therapy, considering various factors such as financial ability, tolerance, and nutritional status. To ensure quality care for breast cancer patients, multidisciplinary efforts are prerequisites. They require a team consisting of a pathologist, (plastic) surgeon, radiologist, radiation and medical oncologists, oncology nurses, and counselors. However, such multidisciplinary teams are not available in all hospitals. In Bangladesh, there are around 120 oncologists who offer both radiation and medical oncology services [11].

Justification of the Study

Although Bangladesh has made enormous progress in the healthcare sector – mostly related to infectious diseases, as recently highlighted by Lancet, cancer is given lower priority at both policy and research levels [12]. 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 are mostly unknown. However, according to GLOBOCAN estimates based on Indian data's extrapolation, 14,836 new breast cancer cases were diagnosed in 2012, with an age-standardized incidence rate (ASR) of 21.4 per 100,000 [1]. This figure is likely to be underestimated since many cases are missed due to lack of Awareness, low education level, misconceptions, poor socioeconomic status, and insufficient access to health care and poor governance [9].

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 a 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). [13] Since there is a lack of studies in Bangladesh on breast cancer awareness / so this study is justified

OBJECTIVES

- To find out breast cancer awareness among nursing students in a nursing college of Dhaka, Bangladesh
- To describe the sociodemographic characteristics of the study respondents
- To assess the knowledge on symptoms and risk factors of breast cancer
- To assess Awareness on Breast self-examination and practice of BSE among the respondents
- To find out the association between sociodemographic characteristics and breast self-examination

OPERATIONAL DEFINITION

Breast Cancer

Breast cancer is a malignant (cancerous) growth that begins in the tissues of the breast. Cancer is a disease in which abnormal cells grow in an uncontrolled way. Breast cancer is the most common cancer in women, but it can also appear in men. In the U.S., it affects one in eight women.

Breast cancer is a cancer that develops from breast tissue. Signs of breast cancer may include a lump in the breast, a change in breast shape, dimpling of the skin, fluid coming from the nipple, or a red scaly patch of skin. In those with distant spread of the disease, there may be bone pain, swollen lymph nodes, shortness of breath, or yellow skin.

Breast Cancer Awareness

Breast cancer awareness is an effort to raise Awareness and reduce the stigma of breast cancer through education on symptoms and treatment. Supporters hope that more excellent knowledge will lead to earlier detection of breast cancer associated with higher long-term survival rates. Money raised for breast cancer will produce a reliable, permanent cure.

Breast Self-examination

A procedure by which breasts and accessory anatomic structures are observed and palpated to detect changes or abnormalities that may indicate the presence of malignancy. It is recommended that women undertake breast self-examination once a month. Nurses and other health care professionals play an essential role in teaching women to perform this procedure correctly.

Mammography

Mammography is the process of using low-energy X-rays (usually around 30 kVp) to examine the human breast, which is used as a diagnostic and screening tool. Mammography's goal is the early detection of breast cancer, typically through the

detection of characteristic masses and microcalcifications.

Radiotherapy

Radiation therapy or radiotherapy, often abbreviated RT, RTx, or XRT, is therapy using ionizing radiation, generally part of cancer treatment to control or kill malignant cel.

Radiotherapy means the use of radiation, usually X-rays, to treat illness. X-rays were discovered in 1895, radiation has been used in medicine for diagnosis and investigation (X-rays) and treatment (radiotherapy).

Chemotherapy

Chemotherapy, or chemical treatment, has been around since the days of the ancient Greeks. However, chemotherapy for the treatment of cancer began in the 1940s with the use of nitrogen mustard. Since then, in an attempt to discover what is useful in chemotherapy, many new drugs have been developed and tried.

Sometimes referred to only as chemo, chemotherapy is used most often to describe drugs that kill cancer cells directly. These are sometimes referred to as anti-cancer drugs or antineoplastics. Other chemo drugs, such as biologic response modifiers, hormone therapy, and monoclonal antibodies, which work in different ways to treat cancer, are included in this website. Today's therapy uses more than 100 drugs to treat cancer. There are even more chemo drugs still under development and investigation.

HRT

Hormone replacement therapy (HRT) is a treatment for women who have reached or passed menopause, which often is referred to as the change of life. HRT involves taking small doses of one or two female hormones, estrogen and progesterone.

Menopause

Menopause is an ordinary condition that all women experience as they age. The term 'menopause' can describe any changes a woman goes through either just before or after she stops menstruating, marking the end of her reproductive period.

Menarche

Definition: Menarche is the medical term for first-time menstruation that occurs in girls. Girls typically experience menarche -- their first period -- a few years after the first sign of breast development begins.

LITERATURE REVIEW

A lot of research has been carried, which aims to explore breast cancer knowledge and the attitudes and beliefs regarding its screening practice among

women in different parts of the world. To review literature, more focused studies have been documented, beginning with studies conducted in the western world and then moving on to those carried out in Middle Eastern and Southeast Asian countries.

In their paper in the American Journal of Preventive Medicine in 1994, Friedman, Nelson et al. noted that. In contrast, over 90% of women were aware of breast self-examination (BSE) practice, and a mere 27% perform BSE monthly. They found that a majority of their subjects knew about most of the recommended BSE steps. The most frequently endorsed barrier was forgetting or being too busy. On the other hand, in our study, BSE's overall performance was relatively low, with only 12 out of 80 or 15% women reporting a once a month performance, and 23% reported performing BSE irregularly. The most common reason for nonperformance stated by women in our study did not know the correct method of achieving it while being too busy was the second most important reason [14]. McDonald, Thorne, and co-workers of the Howard University Cancer Centre, Washington, in their paper published in the 1999 winter issue of Ethnicity and Disease, reported their findings in a group of 120 randomly selected African American women who were interviewed to determine their perceived severity of breast cancer, perceived barriers to breast cancer screening, and perceived benefits of Mammography. Additionally, knowledge about breast cancer causes, risk factors, symptoms, and screening were also assessed. The authors concluded that even though 75.8% of women performed BSE, breast cancer knowledge was insufficient. On the contrary, in our study, we found that only 12 % of women performed BSE regularly. In comparison, an additional 23% were irregular performers, and the overall Awareness about breast cancer was moderate at 52%. Whereas McDonald *et al.* conducted their study based on the Health Belief Model, ours did not incorporate this model [15].

In another study on breast cancer detection practices of 57 South Asian women aged 40 years and over, residing in Toronto, Canada, Chaudhury, and Srivastava (10) who's paper was published in Oncology Nursing Forum in November 1998 and founded that only 12% of the participants practiced BSE monthly. A majority (i.e., 54%) said that they did not know much about breast cancer. Our study revealed a similar percentage of BSE performers (12% claimed they were regular while 23% were irregular performers) and an overall breast cancer awareness level of 52% [16].

Another Turkish study led by Yaren, Ozkilinic *et al.* was published in the May 2008 issue of the European Journal of Cancer Care regarding Awareness of breast and cervical cancer risk factors and screening behaviors among nurses in a rural region Turkey. Researchers utilized a self-administered questionnaire

for investigative purposes and concluded that the risk factors and symptoms of breast cancer were generally well known except for early menstruation and late menopause. Additionally, women identified BSE as a beneficial method of breast cancer screening [17].

Soyer *et al.* of Ege University, Turkey, aimed to identify the level of breast cancer knowledge and BSE practice knowledge among primary health care nurses. Also, they sought to investigate the frequency of BSE practice and evaluated the effects of an in-service training program about breast cancer and BSE practice. They published their findings in the Journal of Clinical Nursing in April 2007 and concluded that the in-service education improved breast cancer knowledge and BSE among the nurses [18].

Jahan, Al Saigul, and Abelgadir carried out a cross-sectional survey amongst 300 female patients between 20 and 70 years of age attending Primary Health Care Centers in the Quassim region of Saudi Arabia to explore their level of knowledge regarding breast cancer and attitudes towards BSE. The authors' work was published in the Saudi Medical Journal on November 27, 2006, and noted that the level of knowledge about breast cancer and BSE practice was low, with as many as 69.7% of the women had never heard of BSE and 18.7% reporting to have ever practiced BSE [19].

At the Iranian Centre for Breast Cancer, Tehran, another cross-sectional study was conducted by Haji Mahmoodi and others. Their report was published in The Breast Journal in July 2002. Their research aimed to examine breast cancer knowledge, attitudes towards BSE, and its practice among a sample of 410 female health care workers from seven health centers. Haji and co-workers used a purposed questionnaire and concluded that whereas 75% of the women knew about breast cancer prevalence and 63% claimed to know how to examine their breasts, only 6% of them practiced BSE monthly. The authors concluded that the respondents' knowledge about breast cancer risk factors was not satisfactory. They also inferred that BSE's practice was significantly associated with age, education level, and a personal history of breast problems [20]. In the August 2002 issue of the Cancer Nursing Journal, Madanat H and Merrill RM reported a study on breast cancer risk factors and screening awareness among women nurses and teachers in Jordan. As our research, they used data to determine two dimensions of breast cancer awareness; the knowledge of risk factors associated with disease and BSE and Mammography knowledge. Their survey tool was the Breast Cancer Knowledge Test and Comprehensive Breast Cancer Questionnaire. They found that profession, age, and a family history of the disease significantly influenced breast cancer screening awareness [21].

In another Jordanian cross-sectional descriptive study, Petro Nustus and Mikhail BI (25) aimed to investigate factors and beliefs related to BSE's practice. Their sample consisted of 519 women, of whom 64% were graduate and undergraduate students, and their study instrument was an adapted version of the Champions Revised Health Belief Model Scale. Their results were analyzed using the Chi-square test and stepwise multiple regression. Their findings indicated that even though 67% of the women had heard or read about BSE, only a quarter of them reported that they had ever practiced BSE in the past 12 months, and only 7 % performed it regularly. Women's age, level of education, having heard or read about breast tumors, and a personal history of breast tumors were found to be significant predictors of BSE practice [22].

One study conducted on 175 women of reproductive age showed that 41% of the participants had not even heard of breast cancer. About 94% of them mentioned that breast cancer is not a disease of old age. This perception might have been acquired because most of the breast cancer cases in Bangladesh occur at a relatively young (premenopausal) age. Most of the respondents (about 77%) were unaware of breast cancer screening methods, and more than 96% of them were unfamiliar with breast self-examination [23]. However, it is encouraging that nearly 92% of the women interviewed would not hesitate to seek medical help from a physician when there are problems associated with their breast. Another survey – conducted mostly on educated (65% > 12 years of school) women, with 50% representing faculty members of a university – has shown that higher education is positively correlated with breast cancer screening practices and Awareness [24]. Another survey – conducted mostly on educated (65% > 12 years of school) women, with 50% representing faculty members of a university – has shown that higher education is positively correlated with breast cancer screening practices and Awareness [25]. Because of the low level of understanding in the population, the appearance of a mass or visible sore is usually considered non-life-threatening at the initial stage of breast cancer and is ignored. Moreover, other factors – including the high cost of treatment, fear of social stigmatization, inadequate diagnostic facilities, and lack of trust in existing healthcare systems – might be barriers to women's decisions to seek medical help.

A study was done among women on Knowledge, Attitude, and Practices of Women towards Breast Cancer in Benin City, Nigeria, where it was found out that 90.5% (314/347) knew about breast cancer. Still, only about 49.71% (172/347) knew up to 3 breast cancer risk factors. A total of 65.2% (226/347) could identify up to two breast cancer signs and symptoms. While about 56.5% (195/347) knew at least one early detection strategy, it was only approximately

17.73% (61/347) that regularly practiced at least one of the first detective procedures. The practice of early detection strategies was significantly associated with knowledge ($P = 0.01$, respectively)[26].

Another study was done to determine nursing student knowledge, behavior, and beliefs for breast cancer and breast self-examination receiving courses with two different approaches where it was found out the mean knowledge score following the traditional lecturing method increased from 9.32 ± 1.82 to 14.41 ± 1.94 ($P < 0.001$) and it increased from 9.20 ± 2.33 to 14.73 ± 2.91 after training with the Six Thinking Hats Method ($P < 0.001$). It was determined that there was a significant increase in pre- and post-training perceptions of perceived confidence in both groups. There was a statistically significant difference between pre-training and 15 days and three months post-training BSE frequency in the students trained according to STHM ($p < 0.05$). On the other hand, there was a statistically significant difference between pre-training and three months post-training BSE frequency in the students trained according to TLM. Another study was done among Breast self-examination among nurses and midwives in the Odemis health district in Turkey. The results of the study indicated that 52% of the sample performed BSE. Approximately 35% of those who performed BSE reported that they acquired BSE information during their work experience. A significant relationship was found between higher levels of work experience and BSE practice. Except for age, no significant relation was found between the sociodemographic factors and BSE practice. The sample showed a strong belief in the breast lump being the cause of breast cancer, and it had a significant correlation with BSE practice. A study was done to assess Awareness and attitudes regarding breast cancer and breast self-examination among female Jordanian students. Where it was found out, the overall response rate was 93.3%. Approximately half of the respondents, 435 (51.8%), were aware of breast cancer. Of these, 99 (22.7%) believed that it was caused by a medical condition, followed by old age (71; 16.4%), lack of breastfeeding (58; 13.3%), heredity (56; 12.8%), late marriage (44; 10.3%), pregnancies in older women (33; 7.5%), the use of brassieres (18; 4.1%), excessive breastfeeding (17; 3.9%), being unmarried (14; 3.2%), and spirituality (11; 2.6%). Overall, 152 participants (34.9%) were aware of BSE, but only 93 (11%) had performed it [27].

A study done female medical students in Lagos concluded that 97.3% had heard of breast cancer and breast self-examination. 54.8% of the respondents heard of breast cancer from television/ radio. Most of the respondents, 85.8%, knew how to perform breast self-examination correctly. Only 65.4% of the respondents thought that breast self-examination was necessary. 43.5% of the respondents said that they performed breast self-examination less than a year ago

the last time they performed breast self-examination [28]. Majority of the respondents, 69.6%, preferred to perform breast self-examination in the morning while 47.7% of the respondents preferred to carry out breast self-examination in front of the mirror. Conclusion: There was a high level of Awareness of breast cancer and breast self-examination among the respondents. Their attitude towards breast cancer and breast self-examination was fair though the practice was flawed. Therefore, many studies have been conducted the world over which are centered around the understanding of breast cancer awareness levels and the adherence to recommended screening methods for its early detection in different groups of women, and we have attempted at highlighting a few such studies that we felt were comparable with us [29].

RESEARCH METHODOLOGY

In research, different methods are used to make a study fruitful to the planners and the reviewer. The selection of the procedure depends on the area of research and the topic. Methods are selected here in this study the following way:

Study Design

The study was a descriptive type of cross-sectional study.

Study Site

The study was conducted at Anwer Khan Modern Nursing College and Green Life Nursing College, Dhaka, Bangladesh.

Target Population

The target population of the study was of nursing students in Dhaka.

Study Sample

The sample was taken from Anwer Khan Modern Nursing College and Green Life nursing College Dhaka Bangladesh nursing students.

Study Period

The study duration was three months, from January to March 2015.

Sampling Technique

Purposive sampling technique was applied during data collection

Inclusion Criteria

Only female nursing students were willing to participate in the study.

Exclusion Criteria

Male nurses were excluded from the study.

Study Period

The study duration was three months, from January to March 2015.

Sampling Technique

Purposive sampling technique was applied during data collection

Sample Size

The sample was obtained from the study population. Sample size, $n = Z^2 QP/d^2$. Due to limited time and funds, the calculated value may be difficult to achieve at the stipulated time. Therefore, 90 were taken as a sample size, which was achieved.

Tools

A semi-structured questionnaire was developed after doing an extensive literature review on the subject. It was comprised of three parts, sociodemographic factors, and knowledge about risk factors on breast cancer, and Awareness on Breast self-examination (BSE).

Data Collection Method

Data were collected by face-to-face interviews with the use of a pretested semi-structured questionnaire.

Data Processing and Analysis

After collection, the data checked & verified daily an audited for errors and inconsistencies. All the results were calculated with the help of a computer by using the SPSS-16 program. Descriptive statistics were used to describe the work. Bivariate analysis was used to see the association between sociodemographic characteristics and knowledge and practice on BSE.

Quality Control and Quality Assurance

All interviews were conducted in the local language to ensure accuracy and consistency. Questionnaires were frequently checked after completing the interview. The data was noted very carefully and systemically. The privacy of the respondent was strictly maintained. The questionnaire was formed in the English language because I collect data.

Ethical Consideration

WHO and BMRC guideline of ethical consideration and also the proper review committee of Daffodil International University?

Inform decision making consent was taken before the interview. The interview was carried out separately for each respondent. No, any force was applied to respondents to participate in this study. Data were collected using the appropriate method

Limitation of the Study

The study was conducted in a selected hospital of Dhaka City, so the result of the course may not be representative and reflect the actual situation of the country. Due to time and resource constraints, the selection of the sample was purposive and sample size

limited. There may be a lack of perfection in interpreting some of the responses because of subjective and variable nature.

RESULTS

A total of 90 nurses were interviewed. Results are given in the form of tables and presented below.

Table-1 reveals the Sociodemographic characteristics of nursing students who participated in the study.

Table 1 shows that the majority of the respondents, 45(50%), were from the age group 17-19 years, 44(48.9%) from the age group 20-23 years, and 1(1.1%) were >23years. The mean age of the respondents is 19.57, with a standard deviation of 1.1. The majority of the respondents, 61(67.8%), were of the

religion of the Muslim, 19(21.1%) of the religion of the Hindu, 9 (10.0%) of the religion of the Christian, 1 (1.1%) of the religion of the Buddhist. Majority 40(44.4%) had income in the range 10001-20,000, 37(41.1. %) earned <10,000 tk and 13(14.4%) earned >20,000 tk. About 69 (76.6%) were from nuclear families, and 21 (23.3%) were from joint family. 56(62.2%) lived in rural areas, whereas the remaining 34(37.8%) lived in urban areas. Among all, 69 (76.7%) said that there was no family history of cancer, but 21 (23.3%) said they had a family history of cancer. Maximum students, 42 (46.7%) were from 1st year of nursing students, 32(35.6%) from 2nd year, and 16 (17.85) were from 3rd year. The majority of students, 68 (75.6%), were in diploma course in nursing, and 22(24.4%) were in the Basis BSC course

Table-1: Sociodemographic characteristics of respondents (n=90)

Variable	Frequency	Percentage
Age category		
17-19 yrs	45	50
20-23 yrs	44	48.9
> 23 years	1	1.1
Religion		
Muslim	61	67.8
Hindu	19	21.1
Christian	9	10.0
Buddhist	1	1.1
Monthly Income		
<10,000	37	41.1
10,001-20,000	40	44.4
>20,000	13	14.4
Family Type		
Nuclear	69	76.6
Joint	21	23.3
Residential Status		
Rural	56	62.2
Urban	34	37.8
Family history of cancer		
Yes	21	23.3
No	69	76.7
Year of Nursing		
First-year	42	46.7
Second-year	32	35.6
Third-year	16	17.8
Course of nursing		
Diploma	68	75.6
Basic BSC	22	24.4

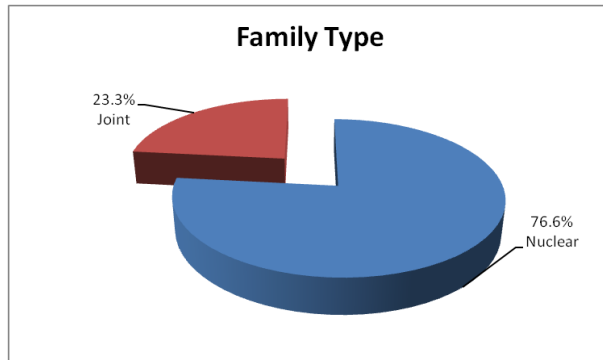


Fig-1: Distribution of the respondents according to family type

Figure 1 showed that Nuclear (76.6%), Joint (23.3%)

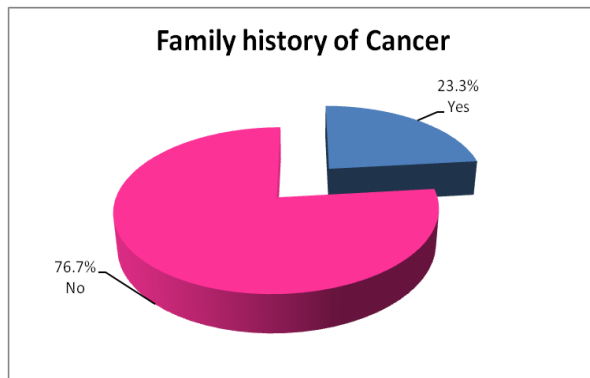


Fig-2: Distribution of respondents according to a family history of cancer

Figure 2 showed that Yes (23.3%), no. (76.7%)

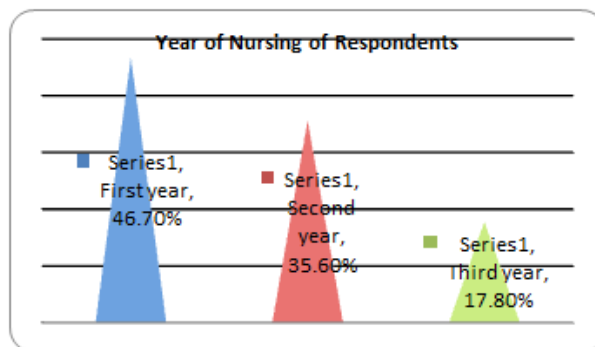


Fig-3: Distribution of respondents according to the year of Nursing

Figure 3 showed that the first year (46.70%), Second year (35.60%), and Third year (17.80%).

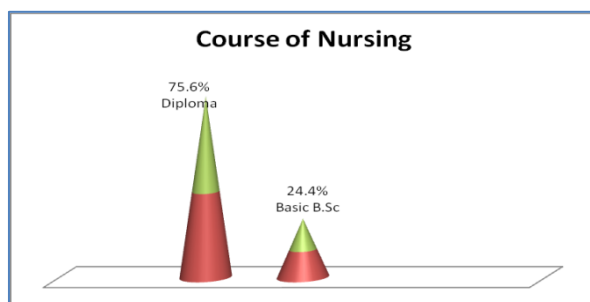


Fig-4: Distribution of respondents by their Course of Nursing

Figure 4 showed that Diploma (75.6%) , Basic b.sc (24.4%)

Table 2 describes the knowledge of breast cancer symptoms.

Among the respondents, all 90 (100%) replied that they know about breast cancer. Regarding the symptom, 72 (80%) said lump, 14 (15.6%) said

bleeding & discharge from the nipple, 80 (88.9%) said Pain in the breast, 68 (75.6%) said the change in shape size of the breast and 30 (33.3%) said Retraction of Nipple.

Table-2: Distribution of respondents according to Knowledge on Breast cancer (n=90)

Variable	Frequency	Percentage
Do you know what breast cancer is?		
Yes	90	100
Symptoms of Breast cancer		
Lump		
Yes	72	80
No	18	20
Bleeding & discharge from the nipple		
Yes	14	15.6
No	76	84.4
Pain in breast		
Yes	80	88.9
No	10	11.1
Change in shape size of the breast		
Yes		
No	68	75.6
Retraction of Nipple		
Yes	30	33.3
No	60	66.6

Table 3 indicates the perceived risk factors for breast cancer.

Following were perceived as the risk factors of breast cancer by the respondents, family history 51

(56.7%), advanced age 33 (36.7%), early menarche 25 (27.8%), late menopause 31 (34.4%), nonlactating 74 (82.2%), use of HRT 43 (47.8%) and, obesity and less exercise 39 (43.3%).

Table-3: Perceived risk factors for breast cancer among respondents (n=90)

Variable	Frequency	Percentage
Family history	51	56.7
Advanced Age	33	36.7
Early Menarche	25	27.8
Late Menopause	31	34.4
Non- lactating	74	82.2
Use of HRT	43	47.8
Obesity and less exercise	39	43.3

Multiple responses Question

The nursing student's Awareness of early detection & treatment of breast cancer is shown in Table 4. Among the respondents, 68 (75.6%) said that breast cancer is detected by breast self-examination, 75 (83.3%) by clinical breast examination, 68 (75.6%) noted by breast USG, 41 (45.6%) said Mammography

should detect it. Of all, 65 (72.2%) believed that breast cancer is curable. The majority of respondents, 63 (70%), said that it could be cured by combination therapy, 15 (16.7%) said Surgery, 11 (12.2%) said chemotherapy, and only (1.1%) were in favor of radiotherapy.

Table-4: Awareness of early detection & treatment of breast cancer

Variable	Frequency	Percentage
How BC is detected		
Breast self-examination	68	75.6
Clinical breast examination	75	83.3
Breast USG	68	75.6
Mammography	41	45.6
The curability of breast cancer		
Is it curable?		
Yes	65	72.2
No	25	27.8
Treatment of Breast cancer		
Radiotherapy	1	1.1
Chemotherapy	11	12.2
Surgery	15	16.7
Combination	63	70.0

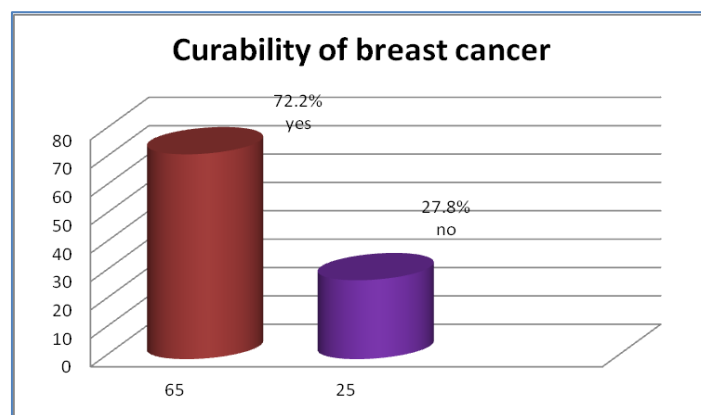


Fig-5: Distribution of the respondents according to curability of breast cancer

Figure 5 showed that curability of breast cancer: Yes (72.2%), No (27.8%)

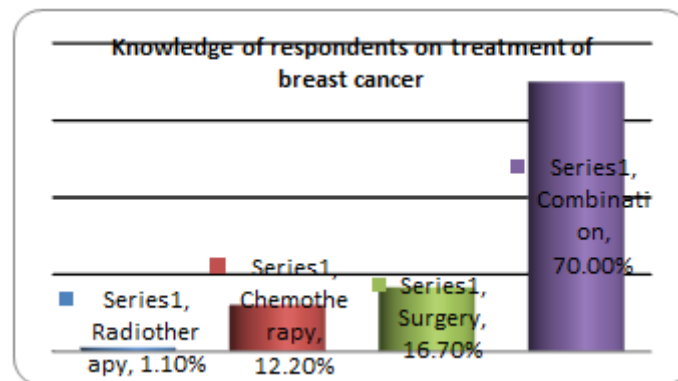


Fig-6: Distribution of respondents according to knowledge of the treatment of breast cancer.

Figure 6 showed that Radiotherapy (1.10%), Chemotherapy (12.20%), Surgery (16.70%), Combination (70.00%).

Source of Information

There are many ways by which nursing students can get information on breast cancer. In this study, it was seen that 61(67.8%) said that they had information about breast cancer from an academic background, 72(80%) said from media, 67(74.4%)

noted from family & friends, 65 (72.2%) acknowledged from health personnel.

Table 5

Elaborates Awareness and practice of Breast Self-Examination (BSE). Out of 90 respondents, 58(64.4%) knew about breast self-examination, whereas the rest 32(35.6%) had no idea about it. Those who knew about BSE also thought this needed to be performed regularly. When the respondents were asked whether they perform BSE, only 25(43.1%) said they

perform it, but the rest 33(56,8%) said they did not complete it. Among those who performed BSE, 11(44%) did it as an advice from a health worker, another 11(44%) did it as a part of a routine medical examination, 2(8%) did it as they noticed a lump, and one of them did it as she had a family history of breast cancer, Regarding the frequency of doing BSE, 17 (68%) said they do it irregularly 4 (16%) weekly,2 (8%) yearly and 2 (8%) monthly. About 21 (84%) did it

anytime they felt convenient,2 (8%) performed it before menstruation, and another 2(8%) after menstruation. The method of performing BSE was a pad of finger 15 (60%), the palm of hand 5 (20%), whole hand 5 (20%). About 33 respondents did not perform BSE. Among them, 15 (45.45%) did not know how to do it, 12 (36.36%) did not think it necessary, 6 (18.18%) fear of lump, and 9 (27.2%) did not find it convenient.

Table-5: Awareness and practice of breast self-examination (BSE) (n=90)

Variable	Frequency	Percentage
Do you know what BSE is?		
Yes	58	64.4
No	32	35.6
Do you think BSE should be performed routinely?		
Yes	58	64.4
No	32	35.6
Do you perform BSE(n=58)		
Yes	25	43.10
No	33	56.8

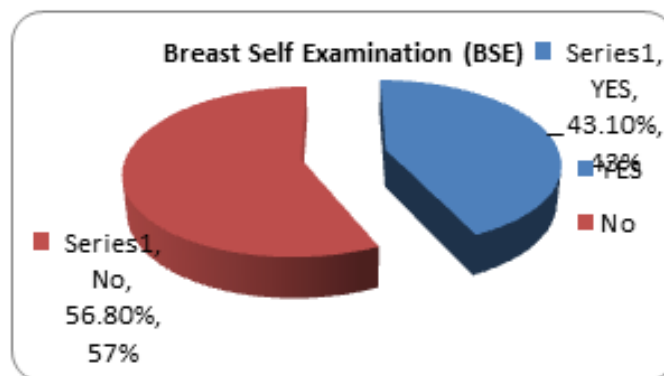


Fig-7: Distribution of respondents according to the performance of BSE

Figure 7 showed that Yes (43.10%), No (56.80%).

Table-6: Association between Sociodemographic characteristics and knowledge on Breast Self-Examination (BSE)

Variable	Do you know what BSE is?		P-Value*
	Yes	No	
Age category			0.002
17-19 years	21	24	
20-23 years	36	8	
23 years and above	1	0	
Year of Nursing			0.000
First-year	10	32	
Second-year	32	0	
Third-year	16	0	
Course of Nursing			0.001
Diploma	51	17	
Basic BSC	7	15	

χ^2 test was used. The level of significance at $\alpha = 0.05$

From Table 6, it is seen that age category, year of nursing, the course of nursing was significantly

associated with knowledge of Breast self-examination (BSE) (P<0.05).

Table-7: Association between Sociodemographic characteristics and Practice of Breast Self-examination (BSE)

Variable	Do you perform BSE		P-Value*
	Yes	No	
Age category			
17-19 years	4	17	0.014
20-23 years	20	16	
23 years and above	1	0	
Year of Nursing			
First-year	3	7	0.000
Second-year	6	26	
Third-year	16	0	
Religion			
Muslim	8	24	0.005
Hindu	9	8	
Christian	7	1	
Buddhist	1	0	

From Table 7, it is seen that age category, year of nursing, religion was significantly associated with the Practice of Breast self-examination (BSE) ($P < 0.05$)

DISCUSSION

This Descriptive Study entitled "Breast cancer awareness and BSE among female nursing students of a nursing college in Dhaka, Bangladesh." was carried on 90 female nursing students who had come from Green Life Nursing College & Anwer Khan Modern Nursing College. The most important findings of the study are discussed. The majority of 45 (50%) were in the age group of 17-19 years. The Mean Age of the respondents of this study was 19.57 ± 1.1 . A survey was done among Saudi female nursing students; the mean age of the participants was 19.2 years (± 0.69), which is similar to my research. Most of the participants (76.7%) did not know of a relative suffering from breast cancer in my study. But the survey of female Saudi nurses showed that 69.3% did not have any family history of breast cancer, which is dissimilar to my research.

In a study of Breast cancer awareness among Turkish nursing students, about 81.1% of nursing students had academic information about breast cancer. In the current study, 67.8% had the source of data from an educational background. In a study Awareness and Practice of Breast Cancer and Breast-self Examination among University Students in Yemen, about 347(81.6%) university students had information from Mass media about breast cancer. In contrast, in the current study, 72(80%) had a source of information from media. In the course, 77(18.1%) of University students had heard from health personnel about breast cancer, whereas in the current study, 65(72.2%) said from health personnel. In this study, 16 (3.8%) respondents said it is curable. Still, my survey whether breast cancer is repairable or not, a majority of the 72.2% said it is fixable regarding breast cancer risk factors. In a study Breast Cancer Awareness among Saudi Nursing Students, about 27(82%) said about age. Still, my study, 33(36.7%) respondents said about Age, Saudi Nursing Students about 23(70%) respondents said

from family history. Always, my review, 51 (56.7%) respondents said from family history. In this study, 10(30%) respondents said from early menarche. Still, my review, 25(27.8%) respondents said from early menarche. In this study, 7(21%) respondents said from late menopause. Still, my study 31(34.4%) noted from late menopause. In this study, 27(82%) respondents said from obesity, but my research 39(43.3%) said from obesity; in this study 29(88%) respondents said from HRT, but my study 43(47.8%) respondents said from use of HRT.

My study shows that Only 58 (64.4%) of those aware of breast cancer knew of BSE as a method for detecting breast cancer, and out of 90 respondents, only 25 (43.4%) had ever performed it. This is slightly higher than a study done on Awareness, Knowledge, and Practice of Breast self-examination among groups of Female nursing students, Riyadh, Kingdom of Saudi Arabia, where only 30% of them performed BSE. But in my study, 68% did it irregularly, and 84% did not follow the appropriate time of performing BSE. In contrast, in Riyadh, 6 % did it irregularly, and 78% did not follow the proper time, which is better than my study.

CONCLUSION AND RECOMMENDATIONS

In contrast to western nations, most patients in developing countries, including Bangladesh, present with an advanced cancer stage, when little or no benefit can be derived from therapy. This study's findings are in keeping with previous research in which breast cancer awareness is low among women in developing countries. This study demonstrates that although nurses know breast cancer screening behavior, such as BSE, performance rates are not adequate. This study's findings suggest several avenues for future research and could contribute to the development of preventative and screening programs for breast cancer across the population. This study emphasizes the need to raise breast cancer awareness and teach individuals about the importance of early detection techniques, such as BSE,

which will enable breast cancer to be detected at a previous stage.

- Therefore, it is recommended that to increase rates of regular breast cancer screening behavior, mass health-protective programs be conducted, especially for female nursing students who undertake the responsibility of raising breast cancer prevention and awareness in society.
- In this manner, nurses can perform breast cancer screening regularly and periodically. Appropriate educational interventions are urgently required to encourage nurses to engage in regular BSE.
- Interventions should be developed to provide information and services for all age groups, educational levels, cultures, and social strata. To improve nurses' Awareness and knowledge of breast cancer, it is crucial to initiate interventions that seek to provide health education and encourage preventive healthcare behaviors.

REFERENCES

1. Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., & Bray, F. (2015). Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *International journal of cancer*, 136(5), E359-E386.
2. Leong, S. P., Shen, Z. Z., Liu, T. J., Agarwal, G., Tajima, T., Paik, N. S., & Foulkes, W. D. (2010). Is breast cancer the same disease in Asian and Western countries?. *World journal of surgery*, 34(10), 2308-2324.
3. Shetty, P. (2012). "India faces growing breast cancer epidemic," *Lancet*.
4. Naila, K., Simeen, M. (2004). "Globalization, gender and poverty: Bangladeshi women workers in export and local markets," *Journal of International Development Studies*.
5. Hussain, S.A., Sullivan, R. (2013). "Cancer control in Bangladesh," *Jpn J Clin Oncol*.
6. Key, T.J., Verkasalo, P.K. Banks, E. (2001). "Epidemiology of breast cancer", *Lancet Oncol*.
7. Oezaras, G., Durualp, E., Civelek, F.E., Gul, B., Uensal, M. (2010). "Analysis of breast selfexamination training efficiency in women between 20–60 years of age in Turkey", *Asian Pac J Cancer Prev*.
8. Mohiuddin, M., Gafur, M. A., Karim, M. R., Khan, S. A., Hoque, M. M., Islam, M. S., & Ali, M. S. (2012). Clinicopathological stages of carcinoma breast patient. *Mymensingh medical journal: MMJ*, 21(2), 238-245.
9. Agarwal, G., Pradeep, P. V., Aggarwal, V., Yip, C. H., & Cheung, P. S. (2007). Spectrum of breast cancer in Asian women. *World journal of surgery*, 31(5), 1031-1040.
10. Ahmed, S. M., Hossain, M. A., RajaChowdhury, A. M., & Bhuiya, A. U. (2011). The health workforce crisis in Bangladesh: shortage, inappropriate skill-mix and inequitable distribution. *Human resources for health*, 9(1), 3.
11. Uddin, A. K., Khan, Z. J., Islam, J., & Mahmud, A. M. (2013). Cancer care scenario in Bangladesh. *South Asian journal of cancer*, 2(2), 102.
12. Das, P., Horton, R. (2013). "Bangladesh: innovating for health", *Lancet*.
13. NIRCH. (2013). *Cancer Registry Report National Institute of Cancer Research and Hospital 2008–2010*.
14. Friedman, L. C., Nelson, D. V., Webb, J. A., Hoffman, L. P., & Baer, P. E. (1994). Dispositional optimism, self-efficacy, and health beliefs as predictors of breast self-examination. *American Journal of Preventive Medicine*, 10(3), 130-135.
15. McDonald, P. A., Thorne, D. D., Pearson, J. C., & Adams-Campbell, L. L. (1999). Perceptions and knowledge of breast cancer among African-American women residing in public housing. *Ethnicity & disease*, 9(1), 81.
16. Choudhry, U. K., Srivastava, R., & Fitch, M. I. (1998, November). Breast cancer detection practices of south Asian women: knowledge, attitudes, and beliefs. In *Oncology Nursing Forum* (Vol. 25, No. 10, pp. 1693-1701).
17. Yaren, A., Ozkilinc, G., Guler, A., & Oztop, I. (2008). Awareness of breast and cervical cancer risk factors and screening behaviours among nurses in rural region of Turkey. *European Journal of Cancer Care*, 17(3), 278-284.
18. Soyer, M. T., Ciceklioglu, M., & Ceber, E. (2007). Breast cancer awareness and practice of breast self examination among primary health care nurses: influencing factors and effects of an in- service education. *Journal of Clinical Nursing*, 16(4), 707-715.
19. Jahan, S., Al-Saigul, A. M., & Abdelgadir, M. H. (2006). Knowledge, attitudes and practices of breast self-examination among women in Qassim region of Saudi Arabia. *Saudi Med J*, 27(11), 1737-1741.
20. Haji- Mahmoodi, M., Montazeri, A., Jarvandi, S., Ebrahimi, M., Haghghat, S., & Harirchi, I. (2002). Breast Self- Examination: Knowledge, Attitudes, and Practices Among Female Health Care Workers in Tehran, Iran. *The breast journal*, 8(4), 222-225.
21. Madanat, H., & Merrill, R. M. (2002). Breast cancer risk-factor and screening awareness among women nurses and teachers in Amman, Jordan. *Cancer Nursing*, 25(4), 276-282.
22. Petro- Nustus, W., & Mikhail, B. I. (2002). Factors associated with breast self- examination among Jordanian women. *Public Health Nursing*, 19(4), 263-271.

23. Chowdhury, S., & Sultana, S. (2011). Awareness on breast cancer among the women of reproductive age.
24. Rasu, R. S., Rianon, N. J., Shahidullah, S. M., Faisel, A. J., & Selwyn, B. J. (2011). Effect of educational level on knowledge and use of breast cancer screening practices in Bangladeshi women. *Health care for women international*, 32(3), 177-189.
25. Azubuike, S. O., & Okwuokei, S. O. (2013). Knowledge, attitude and practices of women towards breast cancer in Benin City, Nigeria. *Annals of medical and health sciences research*, 3(2), 155-160.
26. Karadag, M., Iseri, O., & Etikan, I. (2014). Determining nursing student knowledge, behavior and beliefs for breast cancer and breast self-examination receiving courses with two different approaches. *Asian Pac J Cancer Prev*, 15(9), 3885-90.
27. Ertem, G., & Kocer, A. (2009). Breast self-examination among nurses and midwives in Odemis health district in Turkey. *Indian journal of cancer*, 46(3), 208.
28. Suleiman, A. K. (2014). Awareness and attitudes regarding breast cancer and breast self-examination among female Jordanian students. *Journal of basic and clinical pharmacy*, 5(3), 74.
29. Iruhe, N. K., Olowoyeye, O. A., Arogundade, R. A., Bassey, R. B., & Onajole, A. T. (2010). Knowledge, attitude and practice of breast Self-Examination among female medical students in the University of Lagos.