

Nurses Knowledge Regarding Risk Factors and Early Detection of Breast Cancer in Bangladesh

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Abstract

Breast cancer in women is a foremost health problem both in developed and developing countries. Breast cancer is rising at a faster rate in Bangladesh. The study was conducted to find out Nurses Knowledge Regarding Risk Factors and Early Detection of Breast Cancer in Bangladesh among the study population. The study location was Dinajpur district of Bangladesh. Data was collected from (n=350) female persons by a self-administered questionnaire. Majority of them were graduates (34.57 %). Breast cancer was known to 73.14% women (n=350) and 52.01% of them mentioned electronic media as the source of information. Majority (62%) of them had correct knowledge about treatment but only few (22%) knew the diagnosis options. Knowledge about sign and symptoms was very poor among the women. Small portion of them mentioned about risk factors. The study revealed that majority of them is in lower risk condition in terms of normal BMI status (60.29%), proper breast feeding practice (99.43%), lower level of family history and others. Respondents having breast cancer history in family had correct knowledge about it. Results showed that 57.14% heard about breast self exam but only 2.70% women was correctly performing breast self-exam and only 6.49% women had correct knowledge about mammography. Most of the respondents had incomplete or wrong information about breast cancer. The present situation can become more devastating if early attention is not given. So, steps should be taken by policy makers and health professionals to educate the general female population about breast cancer.

Key words: Breast Cancer, Rural women, Breast-self Exam, Mammography, Risk factors.

INTRODUCTION

Cell

Our body is made up of millions of tiny cells and different parts of the body such as organs, bones, muscles, skin and blood are made up from different specialized cells. Nucleus is the centre of most of cells which contains thousands of genes made up from a chemical called DNA. These genes control the functions of the cell. From time to time most types of cell divide and multiply in the body. Old cells are replaced by new cells as old cells become damaged. A normal cell may become abnormal when one or more gene in the cell becomes damaged or altered. Then from the original cells lots of abnormal cells develop to form a group of abnormal cells leading to the formation of tumor. Sometimes tumor may lead to the formation of cancer (Kirkegaard et al., 2010).

Cancer

The word cancer is derived from the Latin word for crab because cancers are often very irregularly shaped, and because, like a crab, they "grab on and don't let go". Cancer is a term used for diseases in which abnormal cells divide without control and are able to invade other tissues. Cancer cells can spread to other parts of the body through the blood and lymph systems. The process of cancer spreading is called 'metastasis'. Growth of cancer cell is different from normal cells. Cancer cells continue to grow and form new abnormal cells instead of dying. Due to the damage of DNA normal cells become cancer cells. DNA is present in every cell and conducts their functions. Normally when DNA is damaged in normal cells they rapidly repair the damage or die but in cancer cells the damaged DNA is not repaired or dies. It produces new cells containing the damage which is not necessary for the body. Thus cancer develops inside the body (Sim, Seah and Tan, 2015).

Cancer types can be grouped into broader categories. The main categories of cancer include:

- **Carcinoma** - cancer that begins in the skin or in tissues that line or cover internal organs. There are a number of subtypes of carcinoma, including adenocarcinoma, basal cell carcinoma, squamous cell carcinoma, and transitional cell carcinoma.
- **Sarcoma** - cancer that begins in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue.
- **Leukemia** - cancer that starts in blood-forming tissue such as the bone marrow and causes large numbers of abnormal blood cells to be produced and enter the blood.
- **Lymphoma and myeloma** - cancers that begin in the cells of the immune system.
- **Central nervous system cancers** - cancers that begin in the tissues of the brain and spinal cord (Chantal and Stephen, 2009).

Breast Cancer

Breast cancer is a kind of cancer that develops from breast cells. Breast cancer usually starts off in the inner lining of milk ducts or the lobules that supply them with milk. A malignant tumor can spread to other parts of the body. Someone with breast cancer may have cancer cells in just one part of the breast, which might be felt as a lump. The cancer can spread throughout one or both breasts. Sometimes breast cancer spreads to other parts of the body, like the bones, the liver, or elsewhere (Moya et al, 2004).

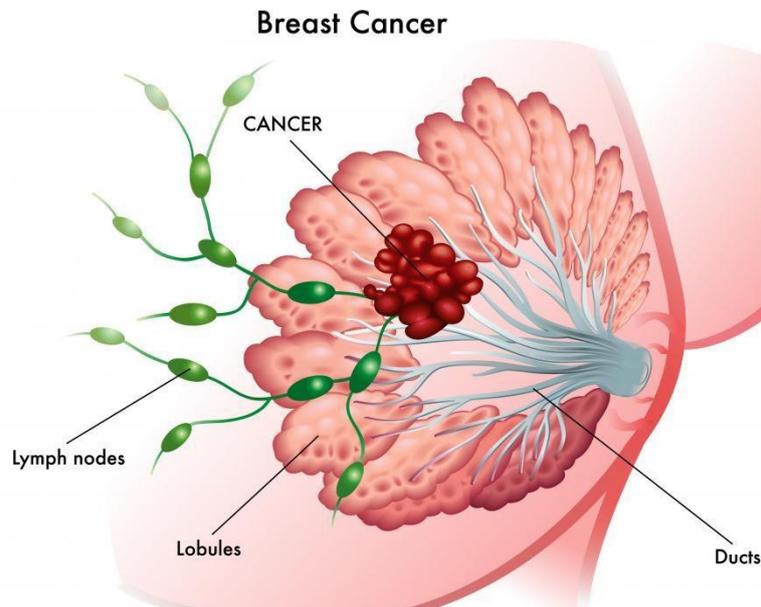


Figure 1: Breast Cancer overview

Tumors in the breast can be benign (not cancer) or malignant (cancer):

Benign tumors: Not harmful to body

- Infrequently assault the tissues surrounding them
- Don't extend to other parts of the body
- Can be removed easily and normally don't grow back

Malignant tumors: May be life threatening

- Easily invade surrounding organs and tissues
- Spread to other parts of the body like bones or liver
- Hardly can be removed but grow back quickly (Peacey et al., 2006).

Breast Cancer: Worldwide Overview

Breast cancer is the most common cancer in women worldwide. It is also the principle cause of death from cancer among women globally. Despite the high incidence rates, in Western countries, 89% of women diagnosed with breast cancer are still alive 5 years after their diagnosis, which is due to detection and treatment (Parkin, 2008). The UK and USA have one of the highest incidence rates worldwide (together with the rest of North America and Australia/New Zealand), making these countries a priority for breast cancer awareness. View the map below to see how which country is impacted by breast cancer (Bray, McCarron and Parkin, 2004)

According to the World Cancer Research Fund which has been analyzing scientific evidence on cancer since 1990, breast cancer rates are highest in Belgium where 109.2 of every 100,000 people develop the disease. The UK has the 11th highest rate of breast cancer worldwide, ahead of other European countries including Italy and Germany. There appears to be a relatively strong correlation between a country's wealth and its breast cancer rates - several countries in Asia and central Africa have some of the lowest rates in the world. Despite this, there is a considerable gap between breast cancer rates in the UK (89.1 per 100,000 women) and in the US (76 per 100,000 women). (Boyle and Howell, 2010)

According to the American Cancer Society, breast cancer is less common at a young age (*i.e.*, in their thirties), younger women tend to have more aggressive breast cancers than older women, which may explain why survival rates are lower among younger women 95% of new cases and 97% of breast cancer deaths occurred in women 40 years of age and older. (Boyle and Howell, 2010)

Table 1: Breast Cancer Survival Rates in the world

Breast Cancer Survival Rates	Percentage
Five years after diagnosis	89%
The years after diagnosis	82%
Fifteen years after diagnosis	77%

Source: American Cancer Society (Boyle and Howell, 2010)

According to the American Cancer Society, white women develop breast cancer at a higher rate than African-American women, but African-American women are more likely to get breast cancer before they are 40, and are more likely to die from it at any age.

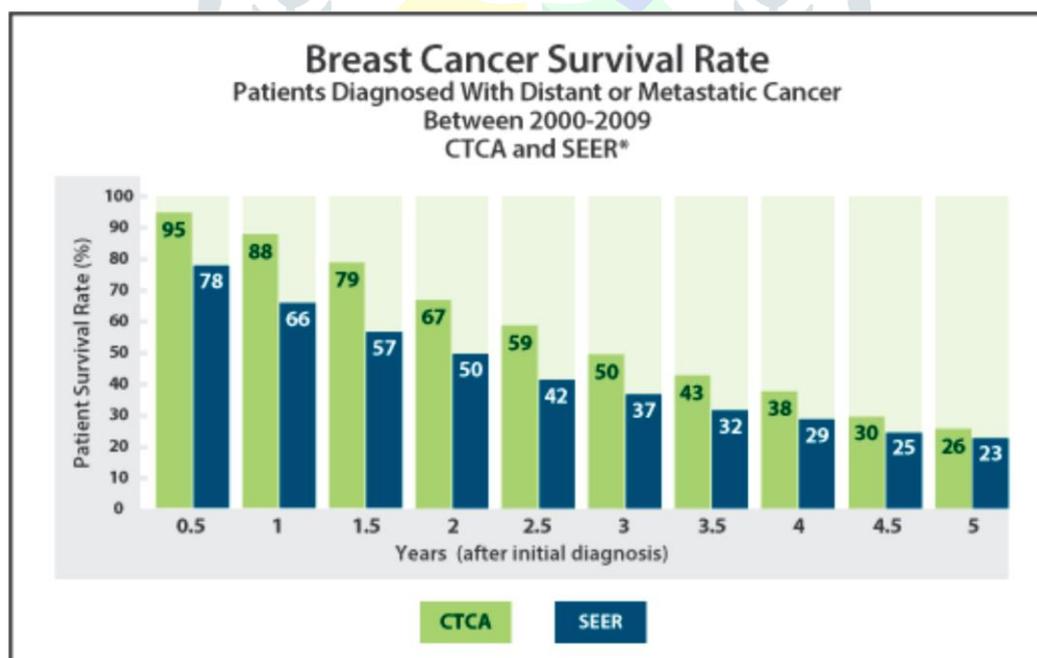
Today, there is no population around the world with a truly low risk of breast cancer and no woman in the world at a truly low risk of developing the disease. The global burden of breast cancer doubled between 1975 and 2000. It seems certain to double again between now and 2030 and the great majority of this burden will fall on low-income and lower middle-income countries, where the resources to deal with the current situation, never mind future increases, are absent to a great degree (Boyle and Howell, 2010).

Table 2: Breast cancer survival rates by stage (Barton et al., 1999)

Stage	5-year Relative Survival Rate
0	100%
I	100%
II	93%
III	72%
IV	22%

CTCA and SEER Survival Analysis

At Cancer Treatment Centers of America, the survival rates of the group of metastatic breast cancer patients reported in the Surveillance, Epidemiology and End Results (SEER) database of the National Cancer Institute. SEER is a source of population-based information about cancer incidence and survival in the United States that includes the stage of cancer at the time of diagnosis and patient survival data. SEER collects information on cancer incidence, prevalence and survival from specific geographic areas that represent 28% of the population of the United States. Therefore, we asked an independent biostatistician to analyze both the survival rates of the group of CTCA patients and the group of patients included in the SEER database. The objective of this analysis was to see how long each group of patients survived after their diagnosis. The results are shown in the chart below (McMenamin et al., 2005)

**Figure 2: CTCA and SEER survival rate (McMenamin et al., 2005)**

In the case of metastatic breast cancer, 79% of CTCA patients who were diagnosed between 2000 and 2009 and/or at least partly treated at our hospitals survived 1.5 years after the initial diagnosis, while 57% of the SEER metastatic breast cancer patients survived for at least that long (McMenamin et al., 2005).

Situation of Breast Cancer in Bangladesh

Breast cancer is most common among women in Bangladesh. About 20,000 women die of breast cancer every year in Bangladesh, according to health experts. It is the 2nd leading cancer in women after cervical carcinoma (Rahim, 1986). Late presentation with advance stage is the common feature of breast cancer patient in Bangladesh, when it is extremely difficult to manage the deadly disease. It is easily understandable that the incidence and mortality of breast cancer is growing at a fast rate.

But as we do not have any cancer registry along with relevant data it is difficult to say the exact situation in Bangladesh. A survey done in 2001 showed that 22000 women were affected every year by breast cancer and 17000 (77%) of them died. However this figure is far more less than the real figure, simply because very few cases is diagnosed and reported. Many patients die with unnoticed cancer. There may be many reasons behind this, but studies in many other countries show that poor or no knowledge, ignorance, lack of awareness and misbelieve is one of the leading cause of this fastest silent killer (Rahim, 1986).

Bangladesh is a Muslim country where more than 80% of the rural women is illiterate, brought up in a conservative Muslim value or old traditional customs, it is not very easy to visit doctor or just informed the guardian either her husband or parents that she got a breast problem. Society is not very friendly and open to discuss about reproductive or and sexually transmitted diseases especially among women. It is clearly understandable why late stage breast cancer is the hall mark presentation in Bangladesh. Health seeking behavior is one of the important aspects of late presentation. Several studies shows that misconception and disbelieve is a significant factor for delayed health seeking behavior in Bangladesh where educational level is low and more than 40% people live below one dollar per day. Further, women are not self dependent and cultural norms and religious values are unfavorable. More over government support is limited there delayed health seeking behavior is quite apparent. Furthermore, a mother or a woman is the sole care taker of the well being of their family and their children, so they can pay less attention to their own health. Most of the women are afraid of cancer. There is a general feeling of hopeless and helpless if they got cancer because they believe this is not curable and there is not much they can do until wait for death (Robert, 2002).

Cancer and particularly breast cancer is on the bottom of their priority list in Bangladesh whether communicable diseases, infectious diseases and chronic diseases is a major health issue and government, non government organization and international partners all are giving their utmost effort to cope with these diseases. That's why there is no much infrastructure and facilities to fight against breast cancer. One Cancer research and treatment institute exists, but it is very limited in contrast to the growing needs. Due to lack of availability of diagnostic tools, cancer chemotherapy agent, modern radiation equipment and palliative care and rehabilitation, the existing institute is not functioning properly. The value of diagnosis of breast cancer at an early stage is well documented.

Early diagnosis not only influence the better prognosis and long term survival, it is also associated with stage of cancer and mode of treatment. Early detection can be successfully achieved through a population based mass screening program. In Bangladesh, there is no population based mammography screening program and it seems that it is not feasible and realistic approach for a limited resource country. However, there should be some sort of awareness program to educate mass people regarding breast cancer sign symptoms and BSE, so that women health seeking behavior can be improved and early diagnosis become possible (Benjamin *et al* 2003; Robert, 2002).

LITERATURE REVIEW

This paper presents a review of the evidence for long-term breast cancer follow up to determine if routine clinical review post treatment for breast cancer has benefits for patients. There is little evidence that clinical review of patients beyond 3 years post diagnosis leads to improved patient survival. Separate to survival there is a dearth of inquiry relating to the value of long-term clinical review of patient in terms of psychological outcomes, quality of life, patient satisfaction, access to specialist advice regarding management of symptoms, and reassurance. Regardless of supporting evidence, most breast units in the UK continue to undertake routine six monthly clinical reviews of patients up to a minimum of 5 years. A literature search for the period 1989 to January 2006 was undertaken using the CINAHL, MEDLINE, and PsychINFO databases. Keywords such as 'cancer follow-up', 'cancer survivorship', and 'psychological outcomes of cancer' were utilized. Hand searching was also undertaken. Overall a paucity of evidence was found in relation to the long-term needs of breast cancer survivors.

Alternatives to hospital-based follow-up are reported such as GP or nurse-led follow-up, but the fundamental question of the importance of follow-up in relation to psychological morbidity and quality of life still remains unanswered. Further research is needed to investigate the importance of follow-up to patient survivorship. Research to explore the concept of point of need access, as well as the qualitative experiences of patients post discharge, informational needs at discharge and on-going psychosocial support is suggested. Ultimately this paper argues for a greater choice and involvement of patients in determining their future follow up needs, providing the patient with a personalized package of care based on risk assessment and subsequent education programs to empower patients towards self-management following discharge (Sheppard, 2007).

Sally, Elizabeth and Gilchrist prepared a review article on Participation in breast screening programs in 2002. They had found that despite recommendations by the American Cancer Society and other organizations for use of screening mammography, data on reported utilization of this procedure by American women show that these guidelines were not being met. They reviewed published studies that reported participation rates or that examined factors associated with participation in selected breast screening programs. In general, women at high risk due to age and family or personal history of breast disease were not more likely to participate in breast screening programs than women without those risk factors. The one group of variables that was fairly consistently associated with participation was the practice of other preventive health behaviors. Women who expressed more concern about their health and who were more knowledgeable about breast cancer screening and its benefits also were more likely to complete mammography. Approaches to increasing participation are discussed in the context of the literature on this subject (Vernon, Laville and Jackson, 2015).

Madanat H. and Merrill R. performed a breast cancer awareness study of women in Jordan in 2002. This study used data from 163 nurses and 178 teachers surveyed in Amman to determine 2 dimensions of breast cancer awareness: general breast cancer awareness, defined as knowledge of risk factors associated with the disease and breast cancer screening awareness, defined as knowledge of breast self-examination and mammography. The survey instrument was based on 2 previously validated knowledge based questionnaires in the literature (Breast Cancer Knowledge Test and the Comprehensive Breast Cancer Questionnaire). Analysis of covariance indicated that family history was associated with general breast cancer awareness. Profession, age, and

family history significantly influenced breast cancer screening awareness. The average percentage of correct responses to general breast cancer awareness was adjusted for select covariates (adjusted means). The adjusted mean general awareness score for nurses was not significantly different from that of teachers ($P = .8470$). Nurses were more aware than teachers of the importance of breast cancer screening and its techniques. The adjusted mean screening awareness score for nurses was 88.3%, compared with 73.1% for teachers. These results provide important information about the level of breast cancer awareness among women nurses and teachers in Jordan and may be useful for developing future prevention and screening education programs (Madanat and Merrill, 2002).

METHODOLOGY OF THE STUDY

In a broader sense of the term, methodology considers all techniques, strategies, approaches to be applied at every phases of conducting the research, especially, in collecting, processing and analyzing information. Methodological consideration also involves the reliability and validity of techniques and findings. Documentary analysis has used for the study. Data are facts, figures and other relevant materials, past and present, serving as the bases for study and analysis.

Study Design

It was a cross-sectional study. A cross-sectional study was a descriptive types of study in which exposure the present status is measured simultaneously in a given population.

Study Area

The study was conducted in Dinajpur Medical College & Hospital.

Study Population

All those breast cancer women who come for treatment from Dinajpur District in Bangladesh during the study period constituted the study population.

Sampling Method and Technique

The study population was 300 respondents were selected through purposive sampling from selected sampling area.

Selection Criteria

- A. **Inclusion criteria of the respondents:** All those breast cancer women from Dinajpur District.
- B. **Exclusion criteria:** Unwilling to participate in the study.

Data Collection Tools

Questionnaires were used as a form of collecting data. A self administered structured questionnaire was prepared in the light of objectives. Data were collected through appropriate questionnaire which was prepared for the study. Closed-ended questions were used in the questionnaire. A questionnaire in English was developed and finalized through pre-test and used for data collection. A partially structured questionnaire, which was duly pre-tested, was used to collect data from the respondents.

Development of Questionnaire

Before preparation of questionnaire, secondary have been reviewed and drafted the initiation questionnaire. Later on after field test it has been finalized.

Data Collection Procedure

Data was collected from primary Sources. The data was collected purposively selected respondent for Pregnancy, Childbirth, Birth preparedness and safe delivery. 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. All the data obtained from secondary sources were analyzed and eventually a conclusion is drawn resulting in incorporating our ideas and experiences.

Methods of Data Collection

Data was collected through interview method, i.e. Interviewers collect data from the respondents through administered questionnaire by face - to - face interview.

Quality Control Method

Data quality controlled was through tools verification (compare to standard tools) questionnaire, check editing, data entry, entry and minimizing response errors through prove question. Here, we use the data collected from dependable sources. Supervisor was checked our filed work for quality.

Data Processing and Data Analysis

The data analysis stage was really an attempt to answer the relevant research questions by examining and assessing the collected information to identify patterns and meanings. The gathered data was interpreted and analyzed. After proper verification, data were coded and entered into the computer by using SPSS/ PC programme. After entire collecting data, it was computerized using suitable data entry software, such a SPSS; MS. Excel etc. Data were analyzed according to the objectives of the study by using SPSS/PC+ software computer programme. Descriptive variables were explained with mean and standard deviation. Statistical significance was found by applying relevant statistical tests at appropriate probability level ($p = 0.05$ or $p = 0.01$). Statistical analysis was performed by using SPSS (Statistical Package for Social Sciences) for windows version 16. Table and graphs and statistical analysis were done by adequate tables and graphs. After the data had been collected, analyzed and interpreted, the final report was then written.

RESULT AND DISCUSSION

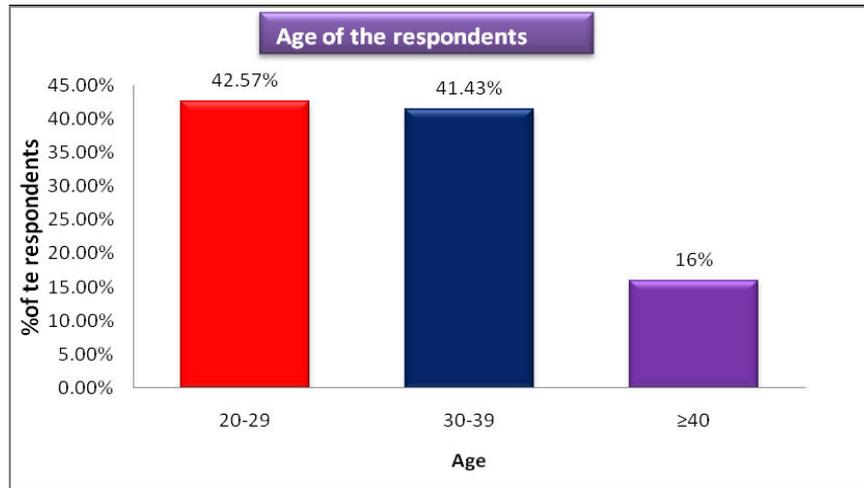


Figure 3: Age of the female respondents

Most of the respondents were aged between 20 to 29 years (42.57%). Almost 41.43% of the respondents were aged between 30-39 years. On the other hand only 16% subjects were aged above 40 years.

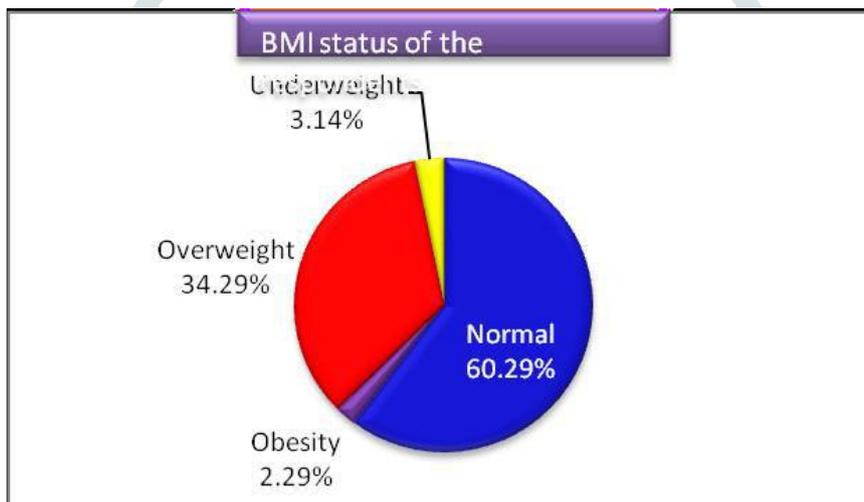


Figure 4: BMI Status of the respondents

The body mass index (BMI) is a measure of relative weight based on an individual's mass and height. It is defined as the individual's body mass divided by the square of their height – with the value universally being given in units of kg/m².

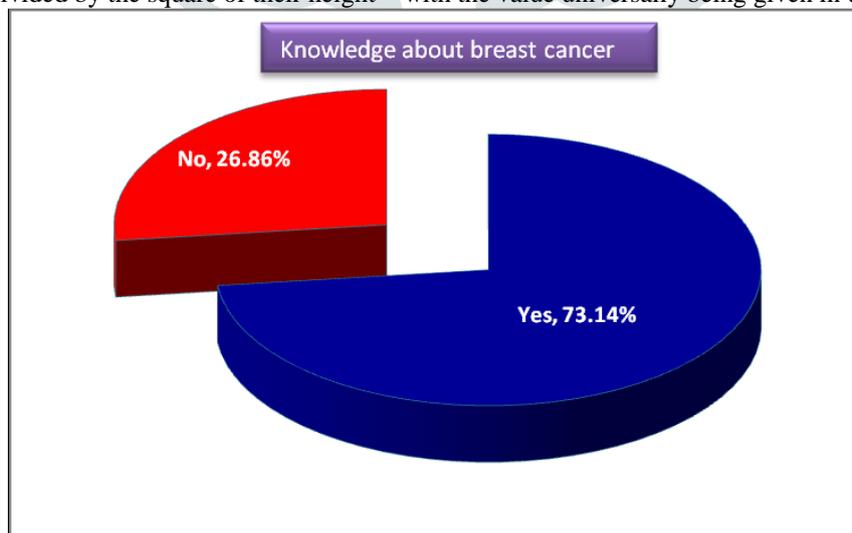


Figure 5: Knowledge about breast cancer among the respondents

Majority of the respondents (73.14%) have knowledge about breast cancer. On the other hand, around 26.86% respondents were unknown to breast cancer. Rest of the study conducted on the 256 respondents.

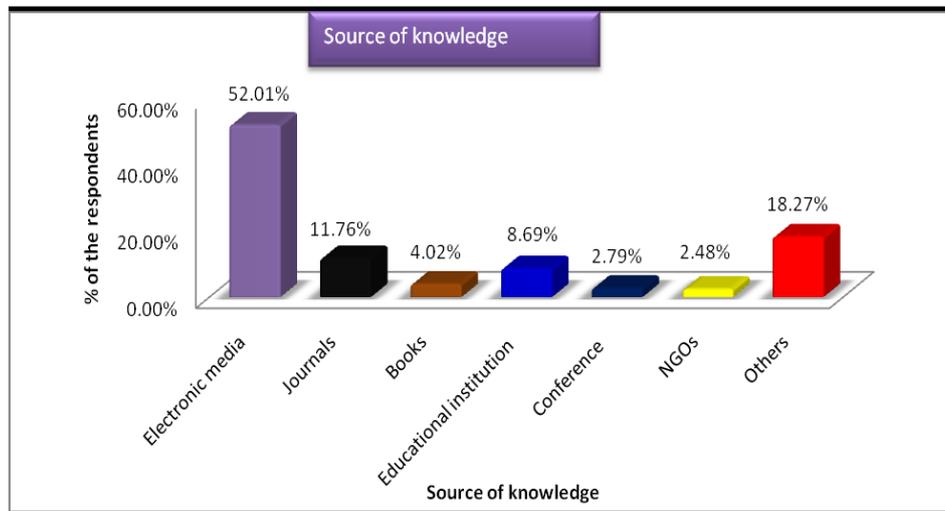


Figure 6: Source of Information about Breast Cancer

Most of the respondents had been informed about breast cancer from electronic media (52.01%). As the source of this information, other sources (18.27%) such as relatives, neighbors, colleagues and so on were the second highest one.

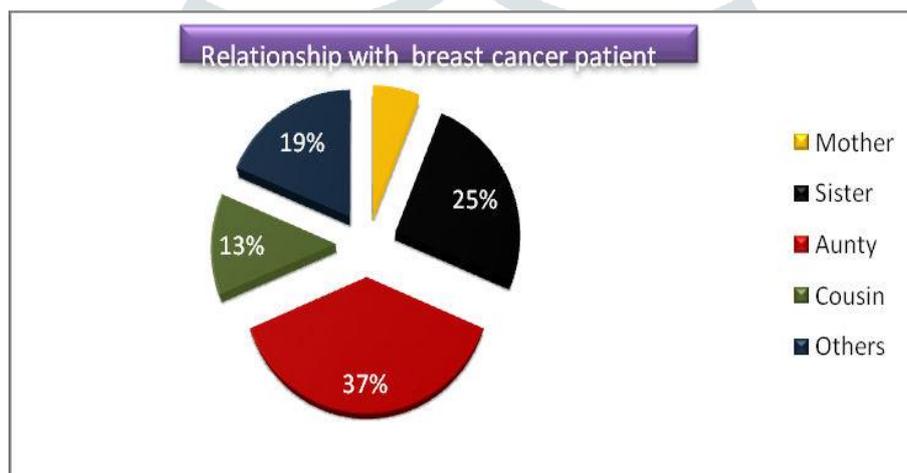


Figure 7: Relationship with Breast Cancer Patient of the respondents who had family history of breast cancer

Among the respondents who had family history of breast cancer (8.29%), their relatives having breast cancer were their aunty (37%) and sister (25%), other relatives (19%), mother (6%) and cousin (13%).

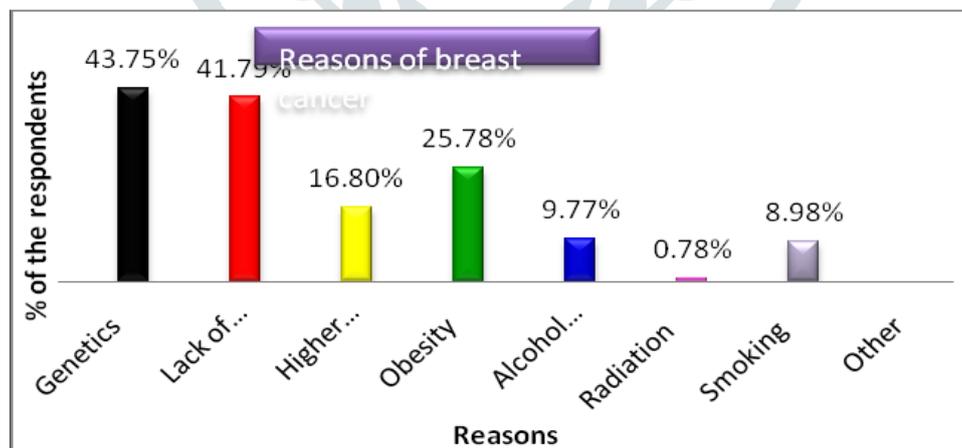


Figure 8: Knowing the Reason behind Breast Cancer

Most of the respondents (43.75%) knew that genetics is the main risk factor. and lack of breast feeding (41.79%) were one of the main causes of breast cancer. Obesity was said by 25.78% and 16.80% said that higher level of certain hormone can also lower the risk. It had been found that least respondents knew that alcohol consumption (9.77%) smoking (8.98%) and radiation (0.78%) can also cause breast cancer.

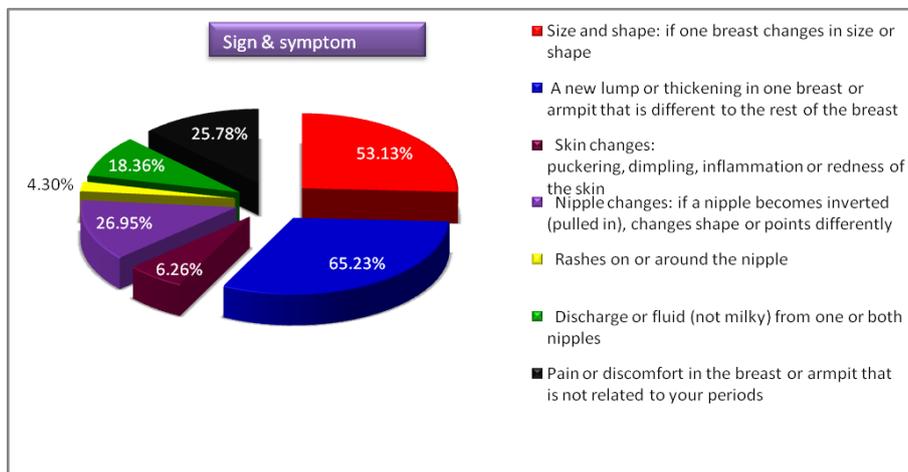


Fig. 9: Knowledge of respondents about Signs and Symptoms of Breast Cancer

A painless breast lump, lump under the armpit and nipple discharge is most frequently identified symptoms of breast cancer. Among the respondents most of them identified a new lump (65.23%) size, shape (53.13%) nipple changes (26.95%) and pain (25.78%). Discharge or fluid (9.20%) and 6.83% mentioned rashes on or around the nipple. This study represents more than 100% results because the respondents said more than one sign and symptom.

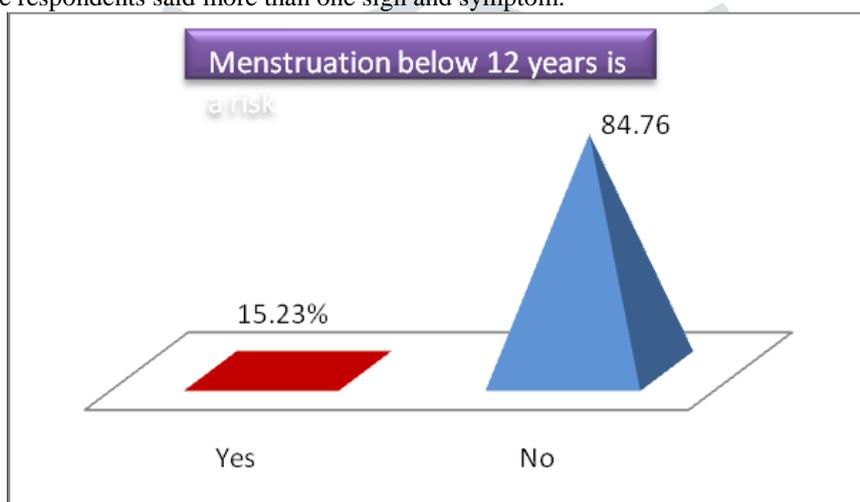


Figure 10: Knowledge of Starting Menstruation Younger than Age 12 has a Higher Risk of Breast Cancer

Starting menstruation younger than age twelve has a higher risk of breast cancer. It had been found that most of the respondents (84.76%) had no idea about this.

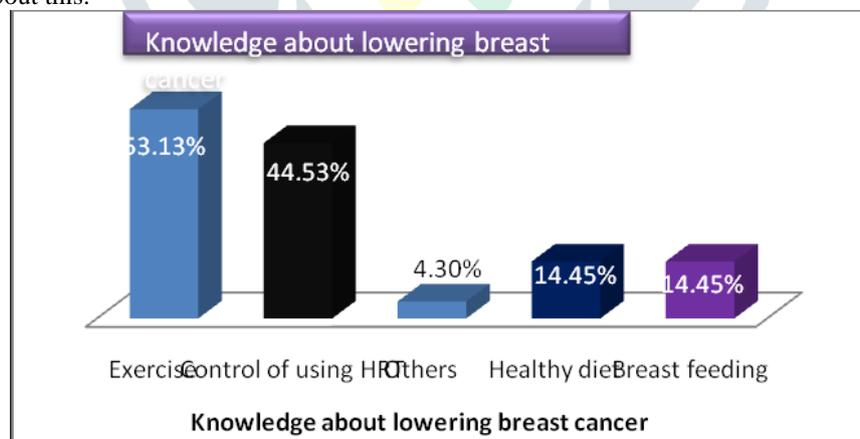


Figure 11: Knowledge of Lowering the Risk of Breast Cancer

Most of the respondents (53.13%) knew that exercise can lower the risk of breast cancer. Other respondents (44.53%) think that control use of Hormone Replacement Therapy (HRT) and about 14.45% respondents said breast feeding and healthy diet can lower the risk of breast cancer. This study represents more than 100% because the respondents said more than one reason.

DISCUSSION

Using a structured questionnaire, this study was conducted on (n=350) rural women from three districts of Bangladesh. The women were selected randomly for the survey. It had been found that 256 respondents (73.14%) heard about breast cancer. Assessment of knowledge and awareness about breast cancer, practice of breast self exam and other healthy habits were done by continuing the study on these respondents only. According to our study, 52.01% of the respondents had come to know about breast cancer from electronic media which is similar to the observation of Moya *et al* where the main source of knowledge about breast cancer was television (72%) among 85% western population.

Although they were highly educated (69%) than our respondents most of who were graduates (34.57 %) (Moya et al, 2004). Among all (350) the respondents, majority (83%) were married and 85.96% of them had children. In most (72.91%) cases the number of children is more than one and almost all the respondents (99.43%) breast fed their children for more than 6 months although only 14.45% knew the role of breast feeding in lowering the risk of breast cancer. Others (only 0.57%) could not breast fed properly due to lack of milk excretion. Having more than one child could also play a role in lowering their breast cancer occurrence risk (Cuzick, J. 2010).

There are several signs and symptoms of breast cancer. Virtually, all of the respondents were known to the sign and symptom of breast cancer. Among those the common responses were a new lump (65.23%), size and shape (53.13%), pain or discomfort (25.78%). Only few people knew about changes in nipples and discharge or fluid from nipple as indicator of breast cancer.

According to our study most of our respondents (29.40%) knew that family history or genetics reason is the main cause of breast cancer. Only 8.29% respondents had family history of breast cancer among who most was their aunty (37%) or sister (25%). A similar result was found in the study conducted by Chantal and Stephen's in which 45% knew that family history was a risk factor for breast cancer (Chantal and Stephen, 2009). Our second majority respondents (28.08%) indicated lack of breast feeding as one of the main risk factors of breast cancer. Although a significant number of respondents (84.76%) had no idea that start of menstruation at less than 12 years age is another risk factor of breast cancer, majority of them are in lower risk condition as 72% had their first menstruation at 12 years or older age.

According to the respondents, control use of hormone replacement therapy (44.53%) is the best option to lower the risk of breast cancer. Only 38.17% knew the role of nutritious food in lowering the risk but majority of them (48%) takes those often which is a promising sign. Although only 35.13% identified that regular exercise can lower the risk of breast cancer but most of them (32%) often perform exercise without knowing its usefulness. For these practice their BMI status is normal (60.29%) which lowers their risk of breast cancer (Cuzick, J. 2010).

It was found that most of the respondents (62%) had knowledge about the treatment options of breast cancer and they correctly identified surgery (38.01%), chemotherapy (39.58%), hormone medical therapy and radiation. In the study of Moya *et al*, they found that knowledge of treatment was good overall almost 83% (Moya *et al*, 2004).

In our study only 22% respondents knew about the diagnosis options of breast cancer. After 20 breasts self exam is recommended to perform once in every month (Gore, Gregori and Porter, 2014). Though all the respondents were aged 20 years or above, only 48% knew about breast self-exam and 75.67% had knowledge about how to perform it but only 2.70% were correct whereas 53% asian women regularly perform breast self-examination (Sim and Seah, 2009). On the other hand, from the age of 40 years mammography is recommended to perform once in every three years. Among the study subjects 16% were aged 40 years and above but only 5 respondents (6.49%) had known correctly about the age and frequency to perform mammography while 57% asian women aged 40 years and above had gone for a screening mammogram (Sim and Seah, 2009). None of the respondents had any detailed knowledge about clinical breast exam but 57.14% had heard of it.

Knowledge about breast cancer screening was high (64.84%) in the study population. But only 37.84% respondents feeling breast for changes most of them (53.43%) were scared and worried about what the doctor might find; a few of them (30.57%) felt embarrassed to go and see the doctor or not feeling confident talking about their symptoms with the doctor. 8.86% respondents came in contact of radiation to chest or face. 67.3% of female health workers in Esanland had never been screened for breast cancer (Uhunmwagho *et al*, 2013).

CONCLUSION

Throughout the world as well as our country, number of breast cancer patient is increasing day by day. Breast cancer in women is a major health burden in Bangladesh. Results of this study showed that all of the women from Rajshahi Division of Bangladesh heard about breast cancer but they did not have proper knowledge. Respondents were found having a low level of knowledge scores on the sign and symptoms, diagnosis and treatment of breast cancer. Knowledge about importance of screening and practice of it was also very low. But they are less risky position because without knowing they practice some factors such as breast feeding, physical exercise, intake of nutritious food etc. which lower the risk of breast cancer. Nevertheless, policy makers and health professionals are not that much concern about this alarming condition.

This study recommends a greater focus on breast cancer education program to improve the knowledge and change misconceptions, as these are the basis for sound attitudes and behaviors of participants towards breast cancer awareness.

RECOMMENDATIONS

1. Breast cancer awareness and access programs need to be prioritized – through innovative approaches tailored to local conditions – for the early detection of and screening for breast cancer.
2. Collaborative efforts are necessary to integrate existing community-based primary healthcare services for breast cancer management.
3. Government has to devise a strategy for cost-effective chemotherapy drugs for cancer patients. Developing countries alone cannot solve this problem without support from the international community.
4. Good referral systems and guidelines must be established for women in whom cancer is detected.

5. Effective leadership is lacking in developing countries. In fact, this is the key to establishing effective collaboration across health sectors and overcoming existing mismanagement and complicated bureaucratic systems.

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