



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

Rubina Akhtar Parvin

Nursing Instructor

Nursing & Midwifery College

Dinnajpur, Bangladesh

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.

Keywords: *Breast Cancer, Rural women, Breast-self Exam, Mammography, Sign and Symptoms, Risk factors, BMI status, Treatment*

INTRODUCTION

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).

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 'metastases. 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 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).

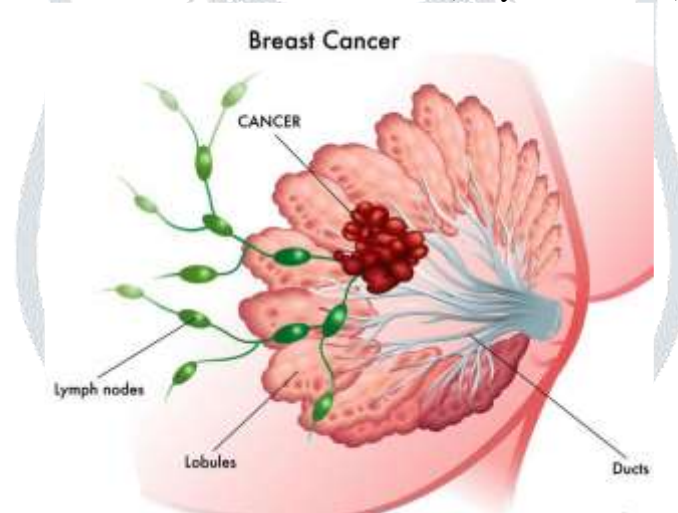


Figure 1: Breast Cancer overview

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).

Anatomy of a Female Breast

A mature human female's breast consists of fat, connective tissue and thousands of lobules - tiny glands which produce milk. The milk of a breastfeeding mother goes through tiny ducts (tubes) and is delivered through the nipple. The breast, like any other part of the body, consists of billions of microscopic cells.

These cells multiply in an orderly fashion - new cells are made to replace the ones that died. In cancer, the cells multiply uncontrollably, and there are too many cells, progressively more and more than there should be. Cancer that begins in the lactiferous duct (milk duct), known as ductal carcinoma, is the most common type. Cancer that begins in the lobules, known as lobular carcinoma, is much less common (Moya *et al*, 2004).

Lymph System of the Breast

The lymph system, which is part of the immune system, is a network of lymph vessels and lymph nodes running throughout the entire body.

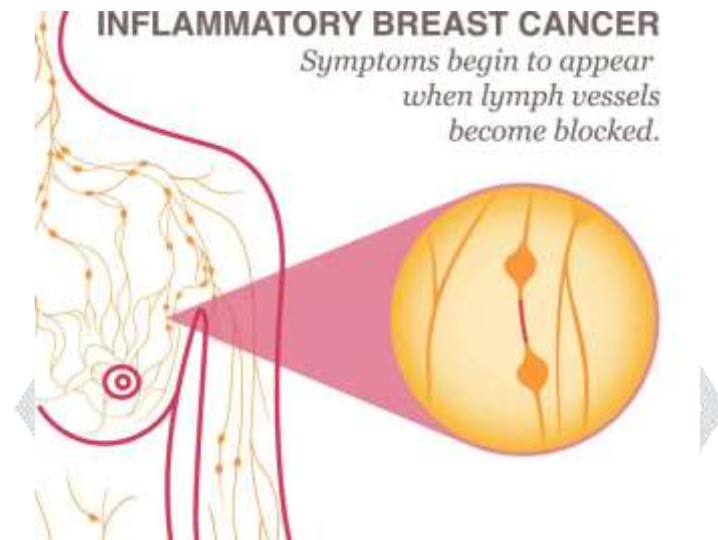


Figure 2: Lymph System of the Breast

Similar to how the blood circulatory system distributes elements throughout the body, the lymph system transports disease fighting cells and fluids. Clusters of bean-shaped lymph nodes are fixed in areas throughout the lymph system and act as filters by carrying abnormal cells away from healthy tissue. The type of breast cancer is generally determined by the origin of the growth of cancer cells, which is almost always in the lobes, lobules, or ducts. When cancer is found in the nearby lymph nodes, it helps doctors identify just how far the cancer has spread. If the nearest nodes contain cancer, additional nodes are usually examined for the presence or absence of cancer cells to understand how far the disease has progressed. If the cancer cells have spread to lymph nodes, there is a higher chance that the cells could have also gotten into the bloodstream and spread (metastasized) to other sites in the body. The more lymph nodes with breast cancer cells, the more likely it is that the cancer may be found in other organs as well. Because of this, finding cancer in one or more lymph nodes often affects the treatment plan. Still, not all women with cancer cells in their lymph nodes develop metastases, and some women can have no cancer cells in their lymph nodes and later develop metastasis (Georgia *et al*, 2008).

OBJECTIVE OF THE STUDY

1. To find out the level of knowledge regarding breast cancer among all kind of women.
2. To find out the presence of risk factors and symptoms associated with breast cancer among them.
3. To find out their habitual patterns that may influence the formation, early diagnosis and prevalence of breast cancer.

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 sample 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 as 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.

RESULTS AND DISCUSSION

The results obtained from the present studies are presented and discussed here. The results are given in broad and detail. The Figures are arranged as per objectives and questionnaire guidelines.

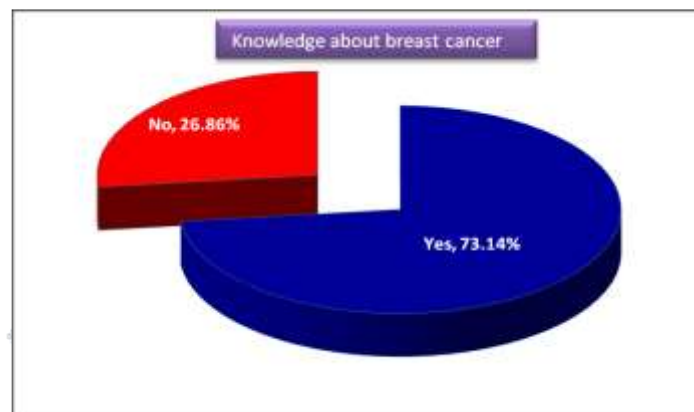


Figure 3: Knowledge about breast cancer among the respondents

Source: Field Survey, 2020

Knowledge about breast cancer among the respondents has shown in the above graph. From the result it was found that 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.

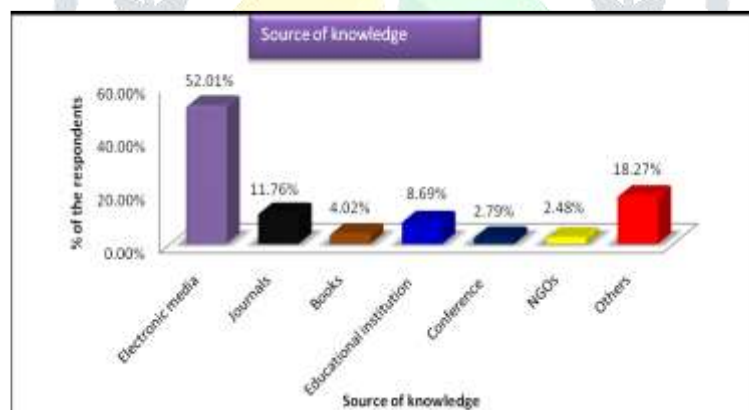


Figure 4: Source of Information about Breast Cancer

Source: Field Survey, 2020

Source of Information about Breast Cancer have shown in the above graph. From the result it was found that 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.

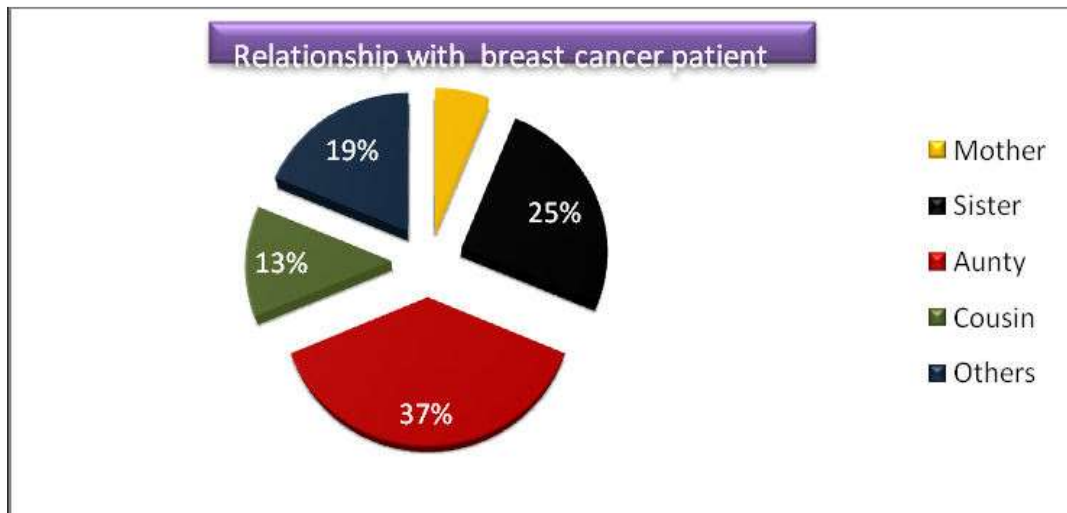


Fig. 5: Relationship with Breast Cancer Patient of the respondents who had family history of breast cancer

Source: Field Survey, 2020

Relationship with Breast Cancer Patient of the respondents who had family history of breast cancer has shown in the above graph. From the result it was found that 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%).

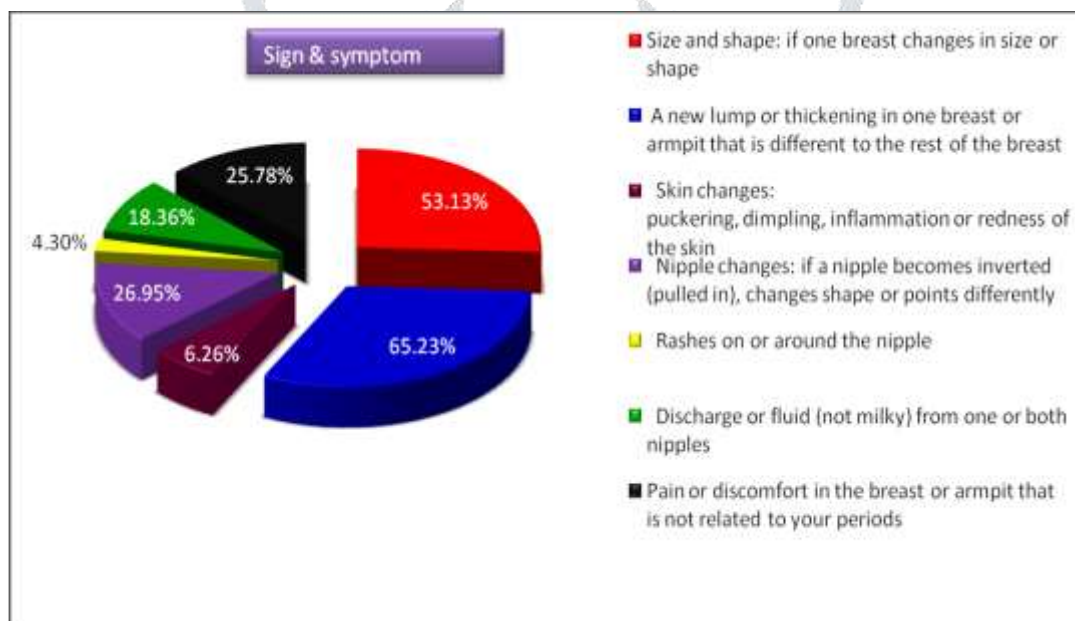


Fig. 6: Knowledge of respondents about Signs and Symptoms of Breast Cancer

Source: Field Survey, 2020

Knowledge of respondents about Signs and Symptoms of Breast Cancer has shown in the above graph. From the result it was found that 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.

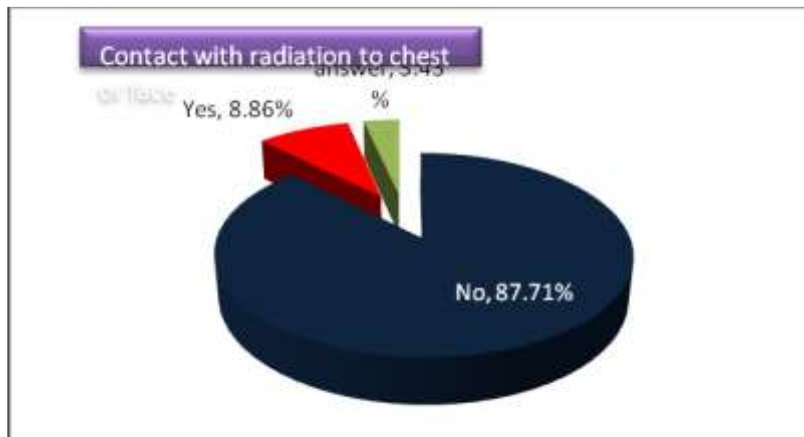


Figure 7: Coming Contact with Radiation to Chest or Face

Source: Field Survey, 2020

Coming Contact with Radiation to Chest or Face has shown in the above graph. From the result it was found that Radiation can cause breast cancer. Among all the respondents, 87.71% had not ever come in contact with radiation to chest or face. Only 8.86% had come in contact with radiation.

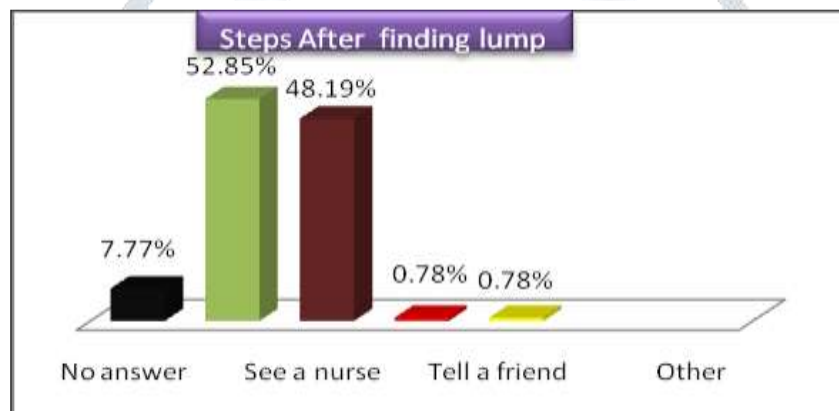


Fig. 8: Measures Taken when Lump in Breast or any Other Symptoms on Breast

Source: Field Survey, 2020

Measures Taken when Lump in Breast or any Other Symptoms on Breast has shown in the above graph. From the result it was found that among all the respondents, 62% do not feel any changes in breasts. Only 37.84% feel the changes. Most of the respondents (52.85%) if find a lump or something, they will see a doctor. Rest of the respondents will see the nurse (48.19%), friends (0.78%) tell family member (0.78%) 7.77% gave no answer.

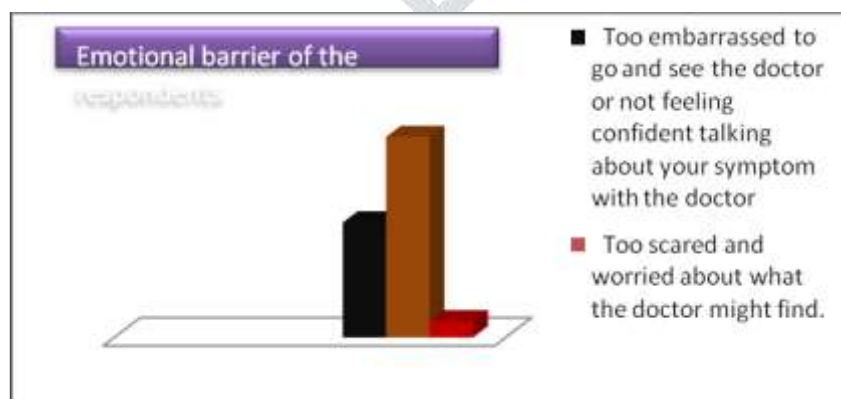


Figure 9: Emotional Barrier of the respondents

Source: Field Survey, 2020

Emotional Barrier has shown in the above graph. From the result it was found that When lump in breast or any other symptoms of breast cancer appears, most of the respondents (53.43%) were scared and worried about what the doctor might find. A few of them (30.57%) felt embarrass to go and see the doctor or not feeling confident talking about their symptoms with the doctor.

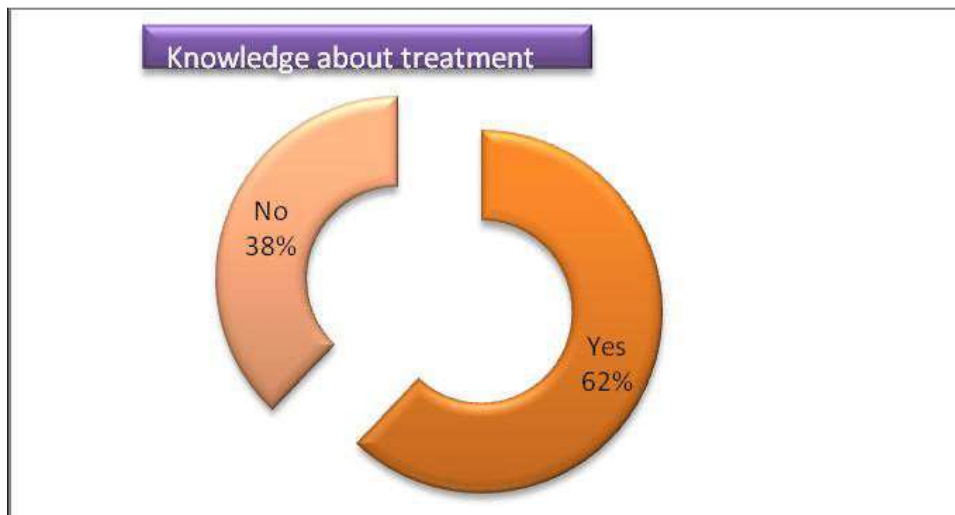


Figure 10: Knowledge about the Treatment of Breast Cancer

Source: Field Survey, 2020

Knowledge about the Treatment of Breast Cancer has shown in the above graph. From the result it was found that among all (73.14%) the respondents, 62% had knowledge about the treatment of breast cancer. 38% had no knowledge about the treatment.

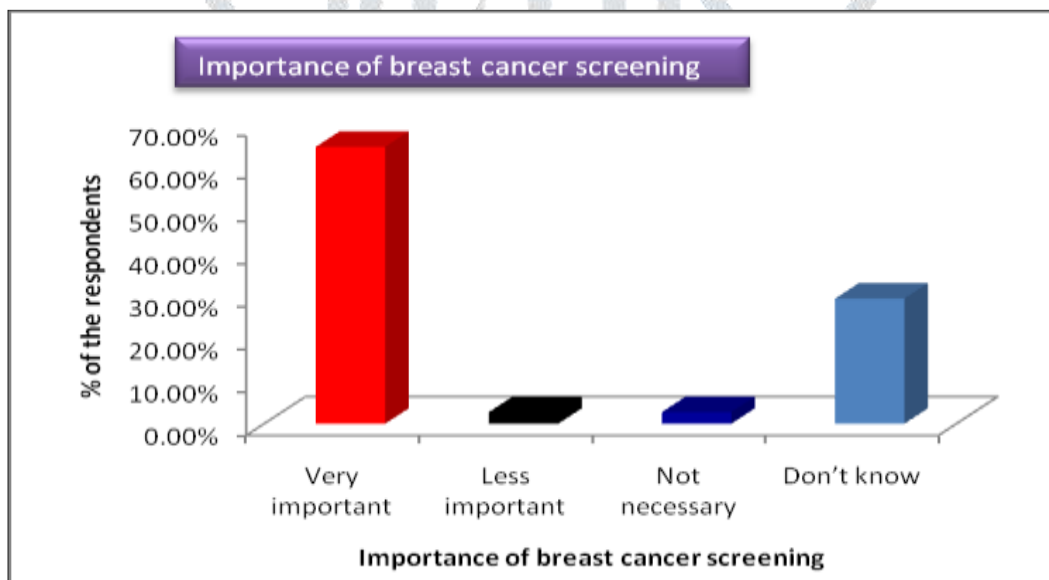


Figure 11: Thinking about the Importance of Breast Cancer Screening

Source: Field Survey, 2020

Thinking about the Importance of Breast Cancer Screening has shown in the above graph. From the result it was found that Breast cancer screening is a very important measure to minimize the risk of breast cancer. Most of the respondents (64.84%) had agreed with this phenomenon. A very few respondents (2.74%) had not felt that it is not at all necessary. A significant number of respondents (29.30%) did not know whether it was necessary or not.

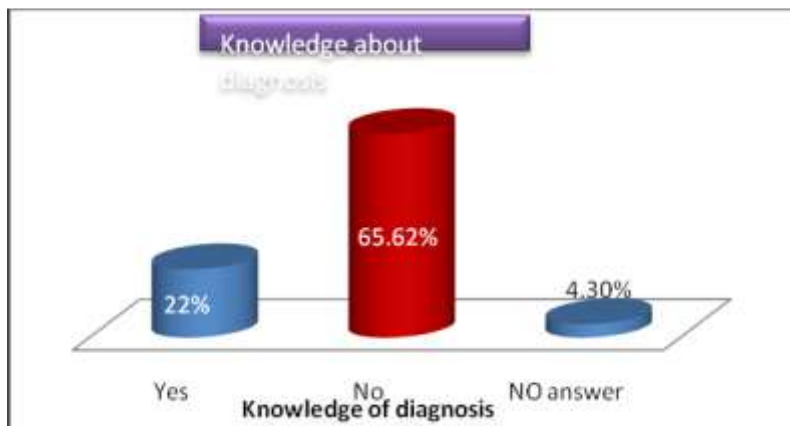


Figure 12: Knowledge about the Diagnosis

Source: Field Survey, 2020

Knowledge about the Diagnosis has shown in the above graph. From the result it was found that it was found that more than half of the respondents (65.62%) had knowledge about the options for diagnosis of breast cancer and 22% did not have any knowledge. Very few (4.30%) did not answer this question.

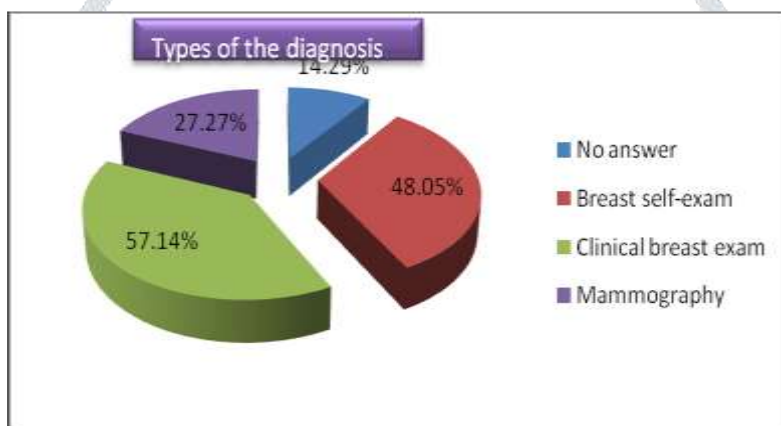


Figure 13: Knowledge about the Type of Diagnosis

Source: Field Survey, 2020

Knowledge about the Type of Diagnosis has shown in the above graph. From the result it was found that among of the respondents (22%) who had knowledge about diagnosis of breast cancer, 57.14% knew about clinical breast exam are the most important type of diagnosis and 48% about breast self-exam. About 27.27% knew mammography for the diagnosis of breast cancer where 10% gave no answer.

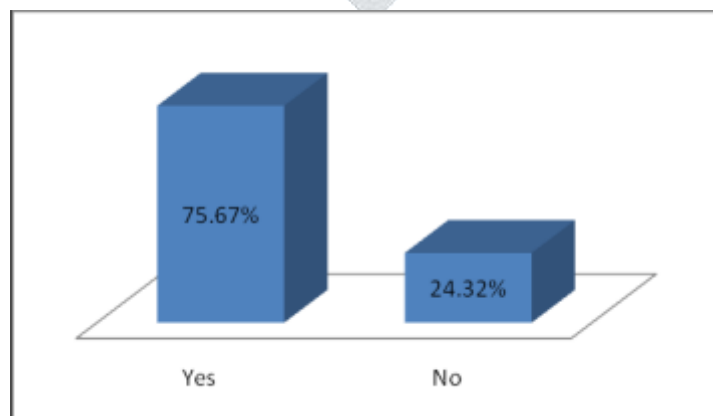


Figure 14: Knowledge about Performing Breast Self-exam

Source: Field Survey, 2020

Knowledge about Performing Breast Self-exam has shown in the above graph. From the result it was found that Breast self-exam helps to minimize the risk of breast cancer. Most of the respondent (75.67%) among the (48%) had knowledge about performing breast self-exam but most of them are wrong. Only a few respondents (24.32%) had no knowledge about this.

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 feed 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 are 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 adapted 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.

REFERENCES

1. Agarwal, G., Pradeep, P., Aggarwal, V., Yip, C. and Cheung, P. (2007). Spectrum of Breast Cancer in Asian Women. *World Journal of Surgery*, [Online], 31(5), pp.1031-1040. Available at: <http://link.springer.com/article/10.1007/s00268-005-0585-9>
2. Assess body weight (2015) Breastcancer.org. [Online], Available at: <http://www.breastcancer.org/assessbodyweight/bmiindex>
3. Bener, A., Alwash, R., Miller, C., Denic, S. and Dunn, E. (2001). Knowledge, attitudes, and practices related to breast cancer screening: a survey of Arabic women. *Journal Cancer Education*, [Online], 16(4), pp.215-20. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/11848670>
4. Boyle, P. and Howell, A. (2010). The globalisation of breast cancer. *Breast Cancer Research*, [Online], 12(Suppl 4), p.S7. Available at: <http://www.breast-cancerresearch.com/content/12/S4/S7>
5. Olumuyiwa, O. and Tayo O. (2001) Breast Cancer Knowledge, Attitudes and Practice in Lagos, Nigeria. *Informa Healthcare*. [Online], 159(12). Available at: <http://informahealthcare.com/doi/abs/10.1080/02841860.152703472>.

6. Vernon, S., Laville, E. and Jackson, G. (2015). Participation in breast screening programs: a review. *US National Library of Medicine National Institutes of Health Search database*, [Online], 30(10), pp.1107-18. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/2194294>
7. Yasmin, N., Alam, K., Lahiry, S., Faruquee, M. and Ahmad, T. (2009). Knowledge, Attitude and Practice Regarding Hospital Delivery among Rural Married Women in Northern Bangladesh. *Ibrahim Medical College Journal*, [Online] 3(1). Available at: <http://www.banglajol.info/index.php/IMCJ/article/view/2914>

