

Research Article

# A Study to Assess the Awareness and Knowledge Related to Breast Cancer among Females in a Selected Area of Delhi

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## I N F O

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## A B S T R A C T

*Introduction:* Breast cancer begins with uncontrolled breast cell growth and is classified by the type of cells involved. It usually starts in the breast ducts and can spread to other organs through blood or lymphatic vessels.

*Methodology:* This study used a quantitative approach with a descriptive survey research design. 100 women were chosen as subjects. A structured questionnaire was used to collect primary data through Google Forms. Descriptive statistics was employed to analyse the data.

*Result:* Results showed that 53% of the women didn't know about the most prevalent cancer leading to death in women. The symptoms like palpable but painless breast lump, swelling under the armpit, and pain in the breast were reported by 77%, 65%, and 63% of subjects respectively. A total of 59% of subjects stated that breast cancer occurs in men as well and various risk factors mentioned by the participants were early menopause (36%), elderly primigravida (26%), changes in menstrual cycle (47%), etc. 99% did not know about the need of mammography after 40 years of age. An equal number of subjects were unaware of breast self-examination. Only 35% knew about chemotherapy and 73% about surgery as the treatment of cancer. None of the participants knew about radiation therapy. Post-survey, all women were educated about breast self-examination through lecture cum demonstration.

*Conclusion:* The study highlights a lack of breast cancer awareness, stressing the need for regular health education. Breast health programs can empower women to recognize risks and symptoms, leading to early detection and treatment of breast cancer.

**Keywords:** Breast Cancer, Breast Self-Examination, Cancer, Knowledge About Cancer, Cancer Awareness

## Introduction

Cancer is an abnormal growth of cells that initially remains localised. It spreads over time, becoming a malignant tumour.<sup>1</sup> When both sexes are taken into account, breast cancer comes as second overall and the most common cancer among women. It accounts for 14% of female cancer deaths.<sup>2</sup>

Breast cancer is a disease in which the breast cells multiply uncontrollably. Breast cancer has various varieties. Each breast cancer is determined by type of the cancer-forming cells of the breast.<sup>3</sup> The ducts or lobules are where most breast cancers begin. Blood vessels and lymphatic vessels are two routes by which breast cancer can spread outside the breast. Metastasis is known to occur when breast cancer propagates in other organs of the body.<sup>3</sup> Breast cancer mostly affects women beyond 50 years of age. However intriguing, men can likewise have breast cancer. Breast cancer affects 2,600 men annually, or less than 1% of all cancer cases in the United States. Transsexual women are more prone to have breast cancer in contrast with cisgender men. Additionally, transgender men are less likely than cisgender women to develop breast cancer.<sup>4</sup>

In India, annually around 1.45 lakh new cases of breast cancer are diagnosed with around 70,000 deaths. These numbers of new cases and deaths are higher than cancer of any other site in both males and females.<sup>5</sup> The main risk factors for women to acquire breast cancer include certain inherited genetic abnormalities, personal or family history of breast cancer, and hyperplasia which is biopsy-confirmed.<sup>6</sup> Small tumours are more likely to be in the early stages of breast cancer since the illness progresses slowly, and early screening increases the likelihood that therapy will be more effective and the prognosis will be better.<sup>7</sup>

Early detection of cancers is possible with breast cancer screening programmes. The majority of women diagnosed with early-stage disease exhibit a favourable prognosis, with high 5-year survival rates ranging from 80% to 90%. The difficulty lies in establishing and maintaining effective breast cancer awareness and screening programs that facilitate quicker access to appropriate treatment and lower barriers to care, particularly in areas where resources are limited.<sup>8</sup>

In light of the aforementioned facts and figures, a survey was conducted to assess awareness about breast cancer. The goal of the current study was to determine how well-informed was female population on various elements of breast cancer in Delhi, India. Post survey, all the women were taught about breast self-examination through lecture cum demonstration.

## Background

A few existing studies showed that many women had lesser knowledge regarding breast cancer and very few knew and could perform breast self-examination.<sup>9-14</sup>

A study was done in Mumbai among 480 women between the ages of 18 and 55 years. Quantitative data on awareness, symptoms, and indicators of breast cancer was gathered using a structured questionnaire. Nearly half (49%) had breast cancer awareness. Out of all females who had heard about cancer of the breast, 56% regarded discomfort in one breast and 57% regarded changes in the size and shape of the breasts as the most significant and typical symptoms. Early menstruation (5.6%), delayed menopause (10%), hormone therapy (13%), late pregnancy (15%), and obesity (19%) were the precursors for cancer of the breast that were mentioned by the women who knew about the disease. In conclusion, fewer females in the community had information about the warning signs and risk factors for breast cancer.<sup>9</sup>

A hospital-based survey was conducted in Bangladesh, and 500 females who were beyond 18 years of age were enrolled in it. The participants' significant ignorance, lack of information about cancer of the breast, and perceived hurdles to screening were observed. The main identified hurdles were shyness, fear, ignorance, and inadequate awareness programmes. It was concluded that by addressing hurdles related to breast cancer among women, educational interventions and suitable, relevant, and socially acceptable awareness programmes would assist in improving knowledge and awareness about breast cancer.<sup>10</sup>

A survey was created evaluating the effect of the Breast Care International (BCI) programme on women from rural areas in Ghana about their knowledge, attitude, and practice concerning breast cancer. 232 women were questioned in June 2011. 131 samples came from the group which had the BCI programme implemented before the survey (the intervention group), and the other 101 samples came from a different group that had the programme implemented after the survey. Participants who took part in the programme before the survey had more knowledge about breast cancer than those who did not. Compared to 82.3% of participants in the intervention group, only a percentage of 53.5 of individuals in the other group were aware of breast cancer. Conclusively, the knowledge, attitude and practice for breast cancer have increased because of the BCI programme.<sup>11</sup>

In research conducted in an urban neighbourhood in Mumbai, India, women's health-seeking behaviours and breast cancer awareness were evaluated. A postal survey was conducted. The majority of women were aware of cancer, but a few were familiar with the signs and symptoms of the condition. Those who scored higher on awareness ratings were more likely to seek medical assistance. Higher awareness was linked to higher income, but this did not transfer to higher levels of health-seeking activity. There is a need for organised initiatives that provide comprehensive

knowledge on breast cancer and its symptoms, as well as for the encouragement of women from all socioeconomic groups to make good changes in their health-seeking behaviours. It is required to conduct more in-depth research on the obstacles to accessing health care in India.<sup>12</sup>

In collaboration with the Indian Cancer Society (ICS), Delhi, a survey was performed to assess females' awareness of several components of breast cancer in Delhi, including perception, its signs and symptoms, prevention, screening etc. Before the workshop, self-administered questionnaires in the local language were provided to women attending to gauge their level of literacy. 53.4% of women were generally knowledgeable about different breast cancer (BC) issues. 73.9% felt pain to be a primary symptom of BC, and 49.1% thought the disease was incurable. Breast self-examination (BSE) was only conducted by 34.9% of women, while clinical breast examination/ mammography was only completed by 6.9% of women. Women had poor knowledge about breast cancer, which correlated with lower socioeconomic status and level of education. The first move recommended in fighting against BC was an enhancement in information and awareness through community engagement and the use of the media.<sup>13</sup>

To evaluate females' knowledge, awareness, and variables in Buraimi, Oman with regard to practising breast self-examination a two-day health expo was held in a polyclinic in the Al-Buraimi governorate. The cross-sectional study was conducted to gauge their understanding, awareness, and practice related to breast cancer, and for this, a pretested questionnaire was employed. Out of a total of 189 participants, 80% knew something about breast cancer. Participants knew more about symptoms, but less about risk factors. Only 43% of those subjects reported performing BSE, and only 21% reported doing it regularly on a monthly basis. The fear related to breast cancer (9%), medical suggestions (6%) and media information (5%), were the primary causes of regular monthly BSE. It

revealed a lack of understanding in various areas pertaining to the signs, symptoms, and related risk factors showing a detrimental impact of inadequate understanding on the application of BSE. Therefore, it is crucial to emphasise educational initiatives in order to give thorough knowledge on breast cancer.<sup>14</sup>

## Methodology

A quantitative research survey was used to evaluate the awareness of breast cancer among the women in the community in Delhi. The study was conducted over a period of 1 month and 10 days. Non-probability sampling was used through purposive sampling technique. The sample comprised 100 women above 18 years of age. A structured questionnaire was used as a tool to assess the knowledge of women about breast cancer. After the survey, a lecture cum demonstration of breast self-examination was undertaken for all the subjects. Administrative approval and consent were secured, with all ethical considerations carefully taken into account. Informed consent from each subject was taken and confidentiality of responses was assured. Knowledge was assessed using a structured knowledge questionnaire comprising six sections. After preparing the questionnaire, it was given to 5 subject experts for content validation and the suggestions given by them were incorporated in the questionnaire. These all suggestions were minor in nature. The first section included demographic variables, the second section included 6 items for assessing the symptoms, the third section had 9 items for assessing causes of breast cancer, the fourth section had 3 items pertaining to the diagnosis of breast cancer, the fifth section included 6 items for prevention and the sixth section had 3 items based on knowledge about treatment of breast cancer. Data were analysed using descriptive statistics.

## Results

Section I: This section deals with findings related to the description of demographic characteristics of women.

**Table I. Frequency and Percentage Distribution of Demographic Characteristics of Participants**

(N = 100)

| S. No. | Variables                        | Frequency | Percentage |
|--------|----------------------------------|-----------|------------|
| 1      | <b>Age (in years)</b>            |           |            |
|        | 18–35                            | 57        | 57         |
|        | 36–50                            | 30        | 30         |
|        | > 50                             | 13        | 13         |
| 2      | <b>Educational qualification</b> |           |            |
|        | Illiterate                       | 35        | 35         |
|        | 1st–5th class                    | 14        | 14         |
|        | 6th–10th class                   | 24        | 24         |
|        | 11th–12th class                  | 20        | 20         |
|        | Graduation                       | 7         | 7          |

| 3 | Religion                    |    |    |
|---|-----------------------------|----|----|
|   | Hindu                       | 92 | 92 |
|   | Muslim                      | 5  | 5  |
|   | Other                       | 3  | 3  |
| 4 | Occupation                  |    |    |
|   | Housewife                   | 90 | 90 |
|   | Working                     | 10 | 10 |
| 5 | Monthly family income (INR) |    |    |
|   | < 5000                      | 10 | 10 |
|   | 5001–10000                  | 22 | 22 |
|   | 10001–15000                 | 39 | 39 |
|   | ≥ 15001                     | 29 | 29 |

Findings shown in Table 1 revealed that women were in the age group of 20–80 years with the majority, i.e. 57% in the category of 18 to 35 years. 35% of the women were illiterate and 7% were graduates leaving the rest (58%) of the subjects' education varying from class 1 to class 12. Most (92%) of the participants belonged to the Hindu religion. Out of all the subjects, 90% were housewives and the monthly family income of most of the women (39%) was in the range of INR 10001–15000.

Section II: This section deals with the findings related to the awareness of breast cancer in terms of knowledge among women in the community.

Regarding the knowledge of the type of cancer resulting in

maximum deaths among women, 53% of the participants answered that they did not know which cancer was responsible for most deaths among females; 26% stated cervical cancer and only 14% mentioned breast cancer (Table 2).

The majority of participants were unaware of the breast cancer symptoms and indicators. Signs and symptoms such as breast tumours that are painless, palpable swelling in the armpit, and pain in the breast were reported by 77%, 65%, and 63% of participants, respectively. Additionally, abrupt changes in the size of the breast, change in the nipple, and discharge from the nipple were considered to be the signs and symptoms by only 39%, 20%, and 18% of the participants, respectively (Table 3).

**Table 2. Frequency and Percentage Distribution of Knowledge regarding Maximum Death Causing Cancer in Women**

(N = 100)

| S. No. | Maximum Death Causing Cancer in Women in World | Frequency | Percentage |
|--------|--|-----------|------------|
| 1.     | Breast cancer                                  | 14        | 14         |
| 2.     | Cervical cancer                                | 26        | 26         |
| 3.     | Oral cancer                                    | 6         | 6          |
| 4.     | Lung cancer                                    | 1         | 1          |
| 5.     | Don't know                                     | 53        | 53         |

**Table 3. Awareness of Participants about Breast Cancer Symptoms, Risk Factors, Screening Techniques, Prevention and Treatment**

(N = 100)

| S. No. | Awareness  | Yes | No |
|--------|--|-----|----|
| 1.     | Symptoms related to breast cancer                    |     |    |
|        | Feeling of a hard painless lump in the breast        | 77  | 23 |
|        | Discharge of dirty blood-like fluid from the nipples | 18  | 82 |
|        | Change in breast size                                | 39  | 61 |
|        | Lump or swelling in the side of the breast           | 65  | 35 |
|        | Any change on the nipple                             | 20  | 80 |
|        | Pain in the breast                                   | 63  | 37 |

| Causes/ risk factors of breast cancer |   |    |     |
|---------------------------------------|---|----|-----|
| 2.                                    | Age > 55 years                                      | 27 | 73  |
|                                       | Only women get breast cancer                        | 41 | 59  |
|                                       | Early onset of menstruation                         | 36 | 64  |
|                                       | Having your first child after 35 years of age       | 26 | 74  |
|                                       | Change in menstruation                              | 47 | 53  |
|                                       | Family history                                      | 53 | 47  |
|                                       | Poor lifestyle                                      | 23 | 77  |
|                                       | Unbalanced diet                                     | 35 | 65  |
|                                       | Excessive alcohol consumption                       | 40 | 60  |
| Breast cancer screening               |   |    |     |
| 3.                                    | Mammogram   | 1  | 99  |
|                                       | In case of family history, breast exam every 3 year | 11 | 89  |
|                                       | Breast self-examination                             | 1  | 99  |
| Breast cancer prevention              |   |    |     |
| 4.                                    | Eating outside fried food                           | 8  | 92  |
|                                       | Consumption of alcohol or smoking                   | 11 | 89  |
|                                       | Do physical exercise regularly                      | 71 | 29  |
|                                       | Eating the contraceptive pill                       | 13 | 87  |
|                                       | Include maximum fruits and vegetables in food       | 92 | 8   |
|                                       | Drink 8 to 10 glasses of water daily                | 94 | 6   |
| Breast cancer treatment               |   |    |     |
| 5.                                    | Chemotherapy  | 35 | 65  |
|                                       | Radiation   | 0  | 100 |
|                                       | Surgery   | 73 | 27  |

Most of the participants were uninformed of the causes/ risk factors connected to breast cancer. Only a tiny percentage of responders were aware of breast cancer risk factors. Only 59% stated that breast cancer occurs in men as well. Early menopause (36%), elderly primigravida (26%), changes in menstrual cycle (47%), family history (53%), unhealthy lifestyle (23%), unbalanced diet (35%), excessive consumption of alcohol (40%) were other risk factors associated with breast cancer.

Related to diagnostics, 99% did not know about the initiation of mammography after 40 years. Among the participants, 99% were unaware of BSE and 89% were unaware that a breast cancer examination should be done in 3 years if family history is present.

Regarding the prevention of breast cancer, it was found that participants are aware of various preventive measures: 92% are aware of the importance of avoiding oily food, 89% are aware of the risks of smoking, 71% recognized the importance of exercise, around 87% are aware of the recommendation to avoid contraceptive pills after the age of 35 years, 92% understand the benefits of eating green leafy vegetables, and 94% are aware of the need to drink 8–10 glasses of water.

Regarding the treatment of breast cancer, only 35% knew about chemotherapy and 73% about surgery. None of the participants knew about radiation therapy.

## Discussion

The knowledge and perceptions of women in the community around breast cancer were examined in the present research study. The participants' awareness of breast cancer's risk factors, symptoms, and indicators was generally low (around 53% were not aware). The awareness of signs and the related symptoms like palpable breast lump which is painless, swelling in the armpit, and pain in the breast were reported by 77%, 65%, and 63% of the participants, respectively which is in congruence with the results of a study conducted by Prusty et al. in Mumbai among 480 females age ranging from 18 to 55 years. 49% of the women in the research had information about cancer of the breast. Females who had heard about cancer of the breast regarded discomfort in one breast (56%) and changes in the size and shape of the breasts (57%) as the most significant and typical symptoms.<sup>9</sup>

Between May 2013 and March 2014, a community-wide survey was carried out in partnership with the Indian Cancer



Society (ICS)<sup>13</sup>, Delhi to assess women's knowledge of breast cancer beliefs, symptoms, risk factors, prevention, screening, and treatment in Delhi. 53.4% of women said they had a general understanding of various BC concerns. BSE was only conducted by 34.9% of women, while clinical breast examination/ mammography was only completed by 6.9% of women which was in contrast to the present study as 53% were unaware of breast cancer being the most fatal cause in women and the majority of the participants, i.e. 99%, were unaware about breast self-examination and 99% didn't know about mammography should be initiated after 40 years.

In India, women's status and their decision-making authorities are undermined most of the time, if not always. Women's health is another aspect which takes a lower seat on the pedestal of priorities. Generally, in India acting on primary levels of prevention, is superseded by curative/secondary and tertiary levels of prevention aspects of health care. These all are the potential factors associated with lower levels of awareness about breast cancer. Vagueness in signs and symptoms of breast cancer also hinders or delays the diagnosis and screening for breast cancer. Sometimes, women prefer to ask their friends and family members about any untoward symptoms of breast cancer such as a lump in or discharge from the breast. It is seen that for lumps instead of consulting a health professional, which may be stigmatised or a culturally sensitive affair, women go for hot fomentation or taking painkillers.

Poor general awareness about breast cancer could be attributed to a few other determinants such as subjects' i.e., women's lower literacy levels, lower economic status and lack of informative material about cancer prevention. Poor availability, accessibility, and negative attitudes and lack of trust towards healthcare facilities also play pivotal roles in poor awareness and knowledge about breast cancer in women. On the other hand, healthcare providers also do not play a proactive role in imparting education to women who come to them for any of their health-related issues or accompany someone else for vaccination, etc.

### Conclusion

It was seen that only a few women in the community are aware of breast cancer. It is required to ensure that they receive certain health education or information regarding breast cancer from competent health personnel at regular intervals. Techniques such as breast self-examination can be taught to women on every visit to the hospital. More awareness campaigns by way of health camps, exhibitions, rallies and awareness walks could help in increasing awareness related to cancer of the breast for females.

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