

The Disease of “Maybe” – Awareness among Urban Women on Breast Cancer in India’s Silicon Valley

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Abstract

Introduction: Breast cancer is the most common type of cancer in women throughout the world. However, in comparison with Western women, it presents relatively early in women of Asian ethnicity. Early menarche, late menopause, use of oral contraceptives (OCPs), family history of benign or malignant breast disease, exposure to radiation, and body mass index in the underweight range are well-known risk factors for the development of breast cancer in premenopausal women. Early detection with the use of breast self-examination (BSE) and breast cancer screening programs can lead to a reduction in the mortality rates due to breast cancer. The aim of our study was to assess the knowledge levels for breast cancer among young women and to emphasize the importance of early screening among them.

Materials and Methods: We conducted a cross-sectional study among consenting women working in the information technology sector in Bengaluru, India, using a self-administered questionnaire. Data were collected over a period of 1 month (February 2019). A total of 147 young women consented to participate and successfully completed the survey.

Results: Of the 147 women, from 20 to 62 years of age were included in the study, out of which 67.1% said that they definitely knew or may have known someone who had breast cancer. However, only 10 (6.8%) had ever attended an awareness camp on breast cancer and only 8 (5.5%) knew how to perform a BSE on themselves. Moreover, almost all questions related to the signs and symptomatology of breast cancer led to no definite answers, majority in the bracket of “I don’t know.”

Conclusions: Even though the WHO says that there is no evidence on the effect of screening through BSE, the practice of BSE has been seen to empower women, taking responsibility for their own health. Educational programs to create awareness regarding breast cancer and its occurrence, risk factors, screening including BSE, symptoms, need for early help-seeking practices, diagnosis, and treatment modalities are the need of the hour.

Key words: Breast, Cancer, Women

INTRODUCTION

In the US in 2019, there will be an estimated 268,600 new cases of invasive breast cancer diagnosed in women [Figure 1]; 2,670 cases diagnosed in men; and an additional 62,930 cases of *in situ* breast lesions (ductal carcinoma *in situ* or lobular carcinoma *in situ*) diagnosed

in women. An estimated 42,260 breast cancer deaths (41,760 women and 500 men) will occur in 2019. The female breast cancer death rate peaked at 33.2 (per 100,000) in 1989, then declined by 40% to 20.0 in 2016. This progress reflects improvements in early detection (through screening, as well as increased awareness of symptoms) and treatment and translates to an fewer breast cancer deaths than would have been expected if the death rate had remained at its peak.^[1]

Extrapolating that to India, we do not have any such data to rely on but breast cancer is the most common cancer in women in India and accounts for 14% of all cancers in women^[2] 2018 saw 1,62,468 new registered cases and 87,090 deaths. The incidence rates in India begin to rise in

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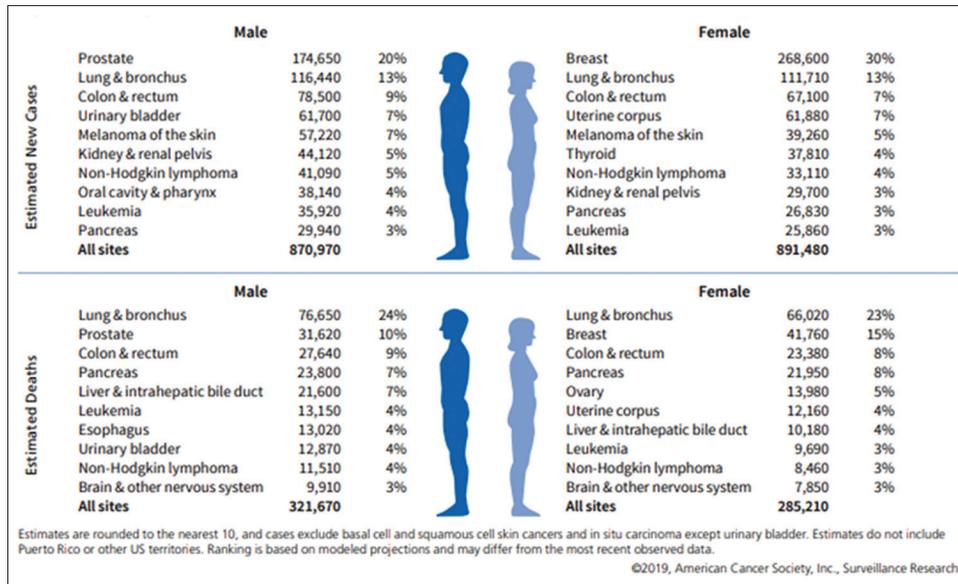


Figure 1: Leading sites of new cancers and deaths in the world – 2019 data estimates^[1] (courtesy: American Cancer Society, Inc., Surveillance Research)

the early thirties and peak at ages 50–64 years.^[3] Overall, 1 in 28 women is likely to develop breast cancer during her lifetime. In urban areas, 1 in 22 women is likely to develop breast cancer during her lifetime as compared to rural areas where 1 in 60 women develops breast cancer in her lifetime.^[4]

It would suffice to say that India is witnessing a soaring increase in the number of patients being diagnosed with breast cancer at a young age. The age-adjusted incidence rate of carcinoma of the breast was found as high as 41/100,000 women for Delhi, followed by Chennai (37.9), Bengaluru (34.4), and Thiruvananthapuram (33.7). There has been a significant increase in the incidence of breast cancer over the years and it continues to rise steadily.^[5]

Early detection plays a pivotal role in the prevention of breast cancer. The 5-year survival rate has reached approximately 85% with early detection, where in contrast, late detection has decreased the survival rate to 56%.^[6] Breast cancer is made distinct from other types of cancers by the fact that it occurs in a noticeable organ and can be detected and treated at an early stage.^[7] Most of the breast tumors diagnosed in an early stage have been self-discovered.^[8]

Recommended precautionary techniques to reduce breast cancer morbidity and mortality include breast self-examination (BSE), clinical breast examination (CBE), and mammography.^[9] However, the latter two require a visit to the doctor and use of specialized equipment. BSE is an easy, quick, convenient, private, cost free, and safe practice that require no paraphernalia.

Despite being an old technique, BSE is not frequently practiced or has been practiced incorrectly for many reasons. Previous studies show that the primary barriers for the poor practicing of BSE were forgetfulness, lack of time, ignorance, fear/anxiety, and low level of education.^[10-13] It is therefore important to determine the level of knowledge regarding BSE.

Furthermore, Bengaluru is home to over 900 information technology (IT) companies with numerous female employees. The idea behind choosing them was that they come from an educated background, are more likely to be acquainted with the subject, have easy access to more information regarding breast cancer, have access to medical advice, and at the same time, have risk factors for breast cancer. Hence, this study was undertaken with the objectives to assess the practice of BSE among the IT professionals and to assess their existing knowledge levels and their attitude and willingness to participate in awareness programs and to seek medical opinion when in doubt.

MATERIALS AND METHODS

A cross-sectional descriptive study was conducted among 147 female IT professionals aged 18 years and above. The study was carried in February 2019. Ethical clearance was obtained from the Institutional Ethical Committee. Written informed consent was obtained from the participants. Anonymity and confidentiality of the responses were assured to the women taking part in the study. The sample size was calculated based on a previous study conducted among dental students in Hyderabad.^[14]

A pre-tested, close-ended questionnaire was employed to review the knowledge, attitude, and practice of BSE in these women. The questionnaire comprised 34 questions – 5 on participant profile, 9 on probable predisposing factors, 8 on attitude, and 12 on knowledge. Categorical response of Yes/No/Maybe was used to answer knowledge-based questions. A 5-point Likert scale (strongly agree/agree/neutral/not agree/strongly disagree) was used knowledge opinion.

RESULTS

A total of 147 women filled out the questionnaire of whom 66.5% were married and 52.1% had children (of this 1 had more than 2 children). About 70 had breastfed their children and of these 24 had breastfed for ≥ 2 years. 38 women (26%) had never breastfed their children. As for personal habits, 58.2% were non vegetarian and 46.2% consumed alcohol (1.4%, 11%, and 33.8% consumed more than once a week, less than once a week, and less than once a month, respectively).

82.9% had sought medical opinion for breast pathology at least once in the past and approximately 126 women (86.3%) believed that they had a breast problem at the time of the survey for which they had not sought medical opinion yet.

While trying to understand their attitude to awareness camps and educative programs, we realized that although 67.1% said that they definitely knew someone or may have known someone with breast cancer, only 115 stated that they would definitely attend a breast cancer awareness camp while 17 (11.6%) participants believed that these awareness programs did not help. 109 women (75.1%) had heard of BSE but only 8 (5.5%) knew how to examine themselves. About 45% had never checked their breasts for any abnormality and only 33 (22.6%) checked themselves once a month in whatever way they thought appropriate. 72 (49.3%) were aware that a mammogram was an X-ray while the rest did not know what it was. Furthermore, 39.7% were unsure if getting a mammogram could have an effect on them developing a breast malignancy. On further questioning, a third of the women who thought they needed to see a doctor put it off because they were unable to make time for it while almost another third were hesitant about seeing a doctor of the opposite gender. Other reasons ranged from embarrassment to a feeling of wasting the doctor's time to sheer hesitation.

Knowledge-based question results are as shown in Table 1. A large number of answers fell in the category of "maybe/unsure."

Table 1: Knowledge assessment questions

| S. No. | Question | Yes | No | Maybe |
|--------|--|------|------|-------|
| 1 | Do you think a change in the position of your nipple could be a sign of breast cancer? [Explanation]: such as pointing up or down or in a different direction to normal | 31.7 | 15.2 | 53.1 |
| 2 | Do you think pulling in of your nipple could be a sign of breast cancer? [Explanation]: where the nipple no longer points outwards, but into the breast | 29.7 | 29 | 41.4 |
| 3 | Do you think pain in one of your breasts or armpit could be a sign of breast cancer? | 55.5 | 11 | 33.6 |
| 4 | Do you think puckering or dimpling of your breast skin could be a sign of breast cancer? [Explanation]: like a dent or orange peel appearance | 43.2 | 8.9 | 47.9 |
| 5 | Do you think discharge or bleeding from your nipple could be a sign of breast cancer? | 53.4 | 10.3 | 36.3 |
| 6 | Do you think a lump or thickening in your breast could be a sign of breast cancer? | 76.6 | 2.1 | 21.4 |
| 7 | Do you think a nipple rash could be a sign of breast cancer? | 22.9 | 28.5 | 48.6 |
| 8 | Do you think redness of your breast skin could be a sign of breast cancer? | 20.8 | 26.4 | 52.8 |
| 9 | Do you think a lump or thickening under your armpit could be a sign of breast cancer? | 64.1 | 6.2 | 29.7 |
| 10 | Do you think changes in the size of your breast or nipple could be signs of breast cancer? | 39.7 | 21.9 | 38.4 |
| 11 | Do you think changes in the shape of your breast or nipple could be signs of breast cancer? | 40.7 | 18.6 | 40.7 |
| 12 | Can it be cancer if there is no swelling? | 27.4 | 8.2 | 64.4 |

Furthermore, when asked about what may cause breast cancer, 98 women (71%) believed that a strong family history was the most important cause. Other causes in descending order of importance as given by the women are stress (47.1%), an ill-fitting bra (43.5%), hormonal treatment (38.4%), not breastfeeding (36.2%), smoking (34.8%), and drinking alcohol (29.7%). The least importance was given to not having children (10.1% believed so).

DISCUSSION

For every 2 women newly diagnosed with breast cancer, one woman dies of it in India.^[2] Breast cancer is the most common type of cancer in women throughout the world. However, in comparison with Western women, it presents relatively early in women of Asian ethnicity. Early menarche, late menopause, use of oral contraceptives (OCPs), family history of benign or malignant breast disease, exposure to radiation, and body mass index in the under-weight range are well-known risk factors for the development of breast cancer in premenopausal women.

Non-communicable diseases are the new epidemics affecting women of all socioeconomic strata. Primary prevention seems to be the governing factor for the control of diseases like cancer, a common non-communicable disease. One interesting finding of this study is that all women were aware of breast cancer. This could probably be attributed to their education level and social circles. Early detection in these women with the use of BSE and breast cancer screening programs can lead to a reduction in the mortality rates due to breast cancer.

The knowledge, attitude, and practice scores obtained from this study are higher than previously ascertained levels among dental students in Hyderabad, India.^[14] The mean age of the participants in our study (32.459 ± 9.321) is much above that of study conducted among the dental students (19.6 ± 1.38). The reason could be older women have been through pregnancies, breastfed their children, and hence may be more familiar with matters concerning BSE.

In comparison to a study conducted in a suburban area of Terengganu, Malaysia,^[15] the awareness among urban Indian women is depressing, this may be attributed to breast cancer screening policies in Malaysia which mandate that every woman between the age of 20 and 39 years must undergo CBE once in 3 years and women >40 years must undergo it every year. These features might have contributed to better attitude outcome.

The documented studies and published data highlight the insufficiency in the levels of knowledge, attitude, and especially the practice of BSE across the globe and hence an urgent need for health education programs on this subject. Many more women need to be aware and motivated to practice BSE. The knowledge and practice of BSE are largely correlated as established by this study. Knowledge directly affects practice by improving practice levels among women who already have a good attitude toward BSE.

Our study demonstrates that although there was a decent and appreciable level of knowledge among the women

who participated, the willingness of preparedness to actually perform a self-breast examination or to approach a doctor for any doubt was very low. This can be attributed to deep-rooted inhibitions, taboos, and misconceptions about breast cancer and the breast, in general, among older women. Societal setting in our country does not appear to be conducive for effective communication and education regarding one's own body and its changes. The positive, however, was that the subjects expressed a sense of eagerness to learn.

One of the most notable findings was the hesitance expressed in going to a doctor to discuss something as serious as the possibility of cancer. The reasons expressed ranged from not finding the time to the downright silly excuse of "I don't want to waste the doctor's time". Others included fear, hesitation, a doctor of the opposite gender. These reasons stated by some of the most educated women of the country are a little upsetting and disturbing to a certain extent. This is in contrast to a study conducted by Gilani *et al.* in Rawalpindi, Pakistan, where more than half the participants were aware of the risk factors of breast cancer and had knowledge about breast cancer symptoms, diagnostic modalities, and treatment and its relationship with outcome, and hence, a majority (>90%) had a positive attitude and intended to see a doctor immediately if they ever felt a breast lump but had poor (28.3%) practices regarding BSE.^[16]

CONCLUSIONS

Diagnosing breast cancer in younger women (under 40 years old) is more difficult and may be more aggressive and less likely to respond to treatment. Younger women who have breast cancer may ignore the warning sign such as a breast lump or unusual discharge because they believe that they are too young to get breast cancer. This stems from the lack of knowledge.

In comparison, in the US, nearly 80% of young women diagnosed with breast cancer find their breast abnormality themselves.^[17] The incidence of metastatic breast cancer at the time of initial diagnosis is apparently rising in women under the age of 40.^[18] Because breast cancer occurs at a much lower rate among young women than in our older counterparts, they remain under-represented in many research studies.^[19,20]

This study highlights the need for educational programs to create awareness regarding breast cancer and its occurrence, risk factors, screening including BSE, symptoms, need for early help-seeking practices, diagnosis, and treatment modalities. Even though the WHO says that there is no evidence on the effect of screening through BSE, and the practice of BSE has

been seen to empower women, taking responsibility for their own health. Educational programs to create awareness regarding breast cancer and its occurrence, risk factors, screening including BSE, symptoms, need for early help-seeking practices, diagnosis, and treatment modalities are the need of the hour.

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