

# Breast Cancer Awareness in South India

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## Abstract

**Background:** Breast cancer is the most frequent cause of cancer death in women in both the developed and developing countries. Breast cancer accounts for 34% of all cancer cases among women in India. There is an increase in the incidence of breast cancer over the past decade. Early breast cancer in the developing countries constitutes only 30% compared to 60–70% in the developed countries.

**Aim:** The aim of this study is to assess the awareness about risk factors, screening, diagnosis, and treatment among the general public in South India.

**Methods:** We used a questionnaire from AJCC website translated to Tamil. It is a cross-sectional study covering 1000 people involving the general public and health workers.

**Results:** More than 90% of the population believe that breast cancer is hereditary and had little knowledge about other risk factors. Majority of the people are not aware that breast cancer can be cured if detected early. Although 80% of the population believe that self-breast examination helps in early detection, <50% of them are practicing it regularly. <2% of the population are aware of the mammogram and the treatment modalities.

**Conclusion:** Sociodemographic factors such as level of education, income, and marital status influence the percentage of people practicing self-breast examination. People with a family history of breast cancer and higher levels of education had better knowledge about the diagnostic methods and treatment modalities.

**Key words:** Breast cancer awareness, Breast cancer screening, Breast self-examination

## INTRODUCTION

Breast cancer is the most prevalent condition of cancer death in both the developing and developed countries.<sup>[1]</sup> Breast cancer contributes to 10.4% of the global burden. According to the National Cancer Registry, breast cancer is the most frequent cancer among women in Delhi, Mumbai, Kolkata, Ahmedabad, and Trivandrum.<sup>[2,3]</sup> Moreover, data from National And Regional Cancer Registries from 1984 to 2002 show that breast cancer is significantly increasing and found to be gradually overtaking carcinoma of the uterine cervix. Early breast cancer constitutes only 30% of breast cancer cases in India, whereas it represents

60–70% of cases in the developed countries.<sup>[4]</sup> Mortality due to breast cancer is found to be high in the developing countries because they seek medical attention at advanced stages due to the lack of awareness and low socioeconomic status.<sup>[5]</sup> The American Cancer Society insists creating breast awareness and early detection, and effective treatment reduces the mortality. The Government of India initiated a national program for the prevention and control of cancers (breast and cervix), diabetes, cardiovascular diseases, and stroke (NPCDCS) during 2010–2011 after integrating the National Cancer Control Programme with national program for the prevention and control of diabetes, cardiovascular, and stroke. The primary focus of NPCDCS is on the promotion of healthy lifestyles, screening, early diagnosis, and treatment.

After the establishment of NCD clinic at primary health centers, district hospital, and tertiary hospitals, we have conducted this study to know the level of breast cancer awareness, breast changes, and knowledge about the treatment. As there is no uniform information education

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and communication policy for breast cancer prevention and there is no acceptable strategy for cancer prevention throughout the nation,<sup>[6]</sup> we decided to know the level of awareness in our region through a questionnaire in the regional language.

### Aim

The aim of this study is to assess the awareness levels regarding breast cancer risk factors, screening methods available, inheritance pattern, and treatment modalities and also to evaluate the level of awareness regarding breast self-examination (BSE) and its practice among women.

## MATERIALS AND METHODS

The study population included a total of 730 people (both men and women) between the age group of 18 and 65 years. The study population consisted of persons who accompanied the patients attending our oncology outpatient department, students in educational institutions, women self-help groups, and the general public.

The data were collected using a structured questionnaire developed by the investigator in Tamil. The participants were requested to fill out the questionnaire face to face with the authors of the study after getting their willingness to participate through a written informed consent. The questionnaire sought sociodemographic information such as age, marital status, education, and family history. The survey aimed to measure the knowledge, risks, etiology, and symptoms. Furthermore, we asked the participants whether they knew about BSE and how frequently performed it. On completion of the questionnaire and interactive session, investigators of the study demonstrated the correct method of BSE performance. We computed knowledge score by totaling the number of correct responses.

## RESULTS

We gave the questionnaire to 979 people including both males and females between the age group of 15 and 65 years. Of these, 33% included urban population, and 67% contained rural community. Among this, 32% of them were college students, 33% were the general public, 5% were office staffs, and 3% were women self-help groups. Totally, 66% of the study group were married, and 34% were unmarried. Nearly 8% of the study group had the family history of breast cancer. Only 30% of the study population know that cancer incidence is high above 50 years of age. More than 50% are doubtful about male breast cancer, and only about 15% were sure about its occurrence. About 43% are aware of risk factors such as smoking, alcohol, unhealthy

diet, and lack of exercise. The majority (64%) of our study group are not aware of the genetic association of breast cancer. The majority do not know the incidence about the maternal side inheritance. 92% of the study population know that all breast lumps are not malignant and knew the breast changes related to cancer.

When questioned about BSE, nearly 78% of the study group are aware that BSE helps in early detection. Only 36% have answered about mammogram as a screening method [Figure 1].

Married people, those with the family history of breast cancer and graduates, have better knowledge about BSE [Figure 2 and 3].

Although majority were aware of BSE, <40% were practicing it. Women residing in the urban area, married women, and those with family history performed BSE more regularly than others [Figure 4 and 5].

The NCD program aims to propagate the knowledge about breast cancer and attitude regarding its screening practice in different parts of India. Only 43% of the study group believe that breast cancer is curable. 85% of the study group is confident that early diagnosis increases longevity. Nearly half of the study group are aware of the treatment modalities such as surgery, radiotherapy, and chemotherapy [Figure 6].

## DISCUSSION

In our study, the overall awareness about the risk factors was low. In July 2002 issue of the Saudi Medical Journal, Alam published a survey to assess the knowledge of breast cancer and its risk factors among women in Riyadh and concluded that knowledge about risk factors was moderate and varied according to the level of education and marital status.<sup>[7]</sup> The results of the study are more similar to study regarding risk factors. In our study, 20% of women felt that smoking was a risk factor which means that they linked the carcinogenic effect of smoking to multiple types of cancer. It is important to teach women about the risk factors and emphasize the importance of healthy lifestyle. Knowledge about the genetic association of breast cancer will help to identify the high-risk group and initiate screening procedures earlier than the low-risk group.

BSE is one where women examine their breast once every month. A study by Hackshaw and Paul showed that BSE is not effective in reducing mortality.<sup>[8]</sup> However, the current research has shown that the sensitivity and specificity of BSE have improved over a decade.<sup>[9]</sup> Women should know how their breast usually feels and should be able to make out the difference associated with breast cancer to make BSE useful

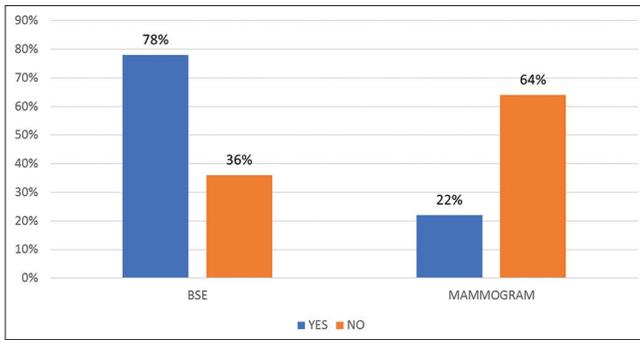


Figure 1: Awareness about screening methods

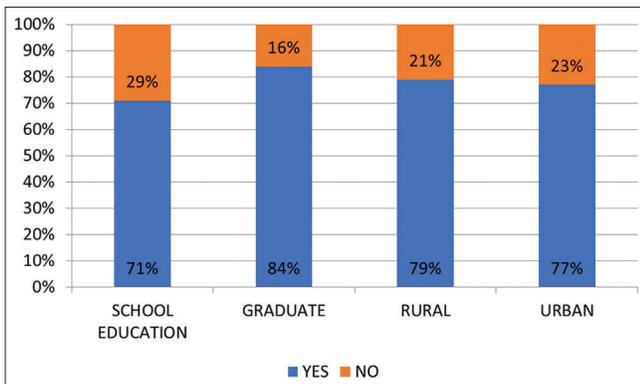


Figure 2: Relation between awareness about breast self-examination and sociodemographic factors

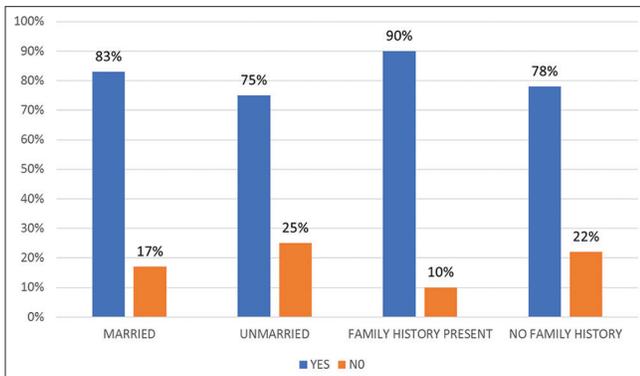


Figure 3: Relation of breast self-examination awareness to marital status and family history

(Zhao and Kanda, 2000). Friedman and Nelson *et al.*, in their paper in the American Journal of Preventive Medicine in 1994, noted that, whereas over 90% of women were of BSE practice, a mere 27% perform BSE monthly.<sup>[10]</sup> Chaudhury *et al.* published a study on South Asian women aged above 40 years, residing in Toronto, Canada, in the Oncology Nursing Forum in November 1998. They found that only 12% of the participants practiced BSE monthly, and a majority (54%) said that they did not know much about breast cancer.<sup>[11]</sup> Our study results were consistent with these studies. In another Jordanian cross-sectional study, women's age, level of education, and family history of breast cancer correlated with BSE performance.<sup>[12]</sup>

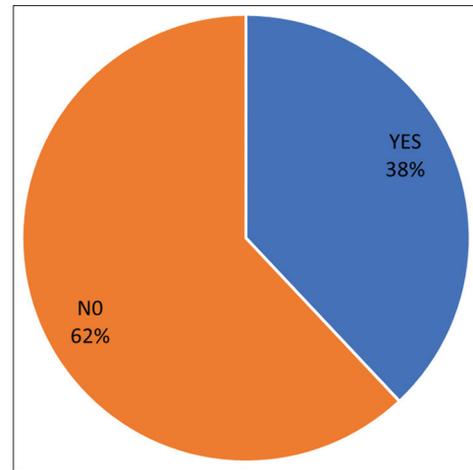


Figure 4: Percentage of people performing breast self-examination

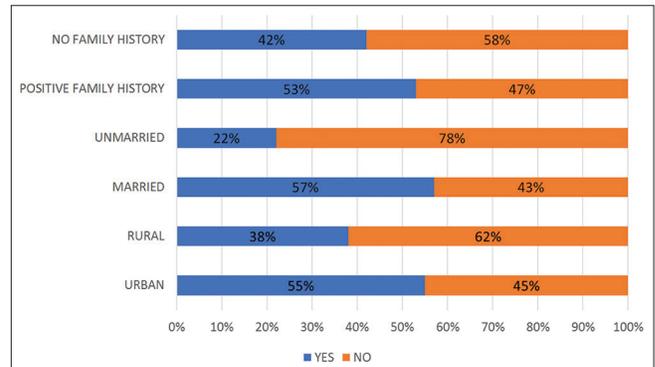


Figure 5: Relation of sociodemographic factors to performance

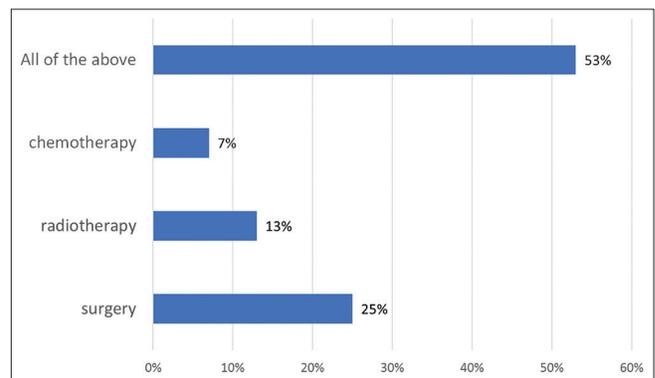


Figure 6: Awareness about treatment modalities

Our study outcome on BSE performance associated with this study. Among the screening procedures, mammography is the most efficient way since it helps in diagnosing cancer at the asymptomatic stage. A survey by Drukteinis *et al.* found that the mortality due to breast cancer decreased by 15% due to mammography screening.<sup>[13]</sup> The mammogram has grown a step forward from plain-film to digital mammography which has improved sensitivity for dense breasts.<sup>[14]</sup> Literature has shown that awareness about screening mammography is

higher in urban population compared to rural counterparts (Leung *et al.*, 2014). In our study, most people are unaware of the term mammogram but are familiar with ultrasonography of breast. Breast ultrasound computer-aided diagnosis system can be incorporated in community screening as a clinical diagnostic tool which will help the radiologist's accuracy.<sup>[15]</sup> The sociodemographic factors did not have an impact on the awareness about the mammogram. Through NCD programs, most women have become aware of BSE. It is equally essential knowledge about the necessity for regular mammograms, especially for the high-risk groups.

There are many barriers to breast cancer screening, and they are related to knowledge, income, education, culture, psychosocial attributes, social factors, and language barriers.<sup>[16]</sup> Knowledge regarding the breast cancer symptoms and screening procedures is an important element influencing mammography use and BSE.<sup>[17]</sup> Higher levels of education, income, marital status, and employment are positive predictors of participation in screening programs.<sup>[18]</sup> Fear of results, fear of treatment, and fear of test itself were other highlighted barriers.<sup>[19]</sup> Influence of family, friends, or patients with breast cancer is significant for participation in screening.<sup>[20]</sup>

A personal history of breast cancer was a factor studied by many researchers in various studies worldwide. Madanat and Merrill and Petro-Nustus *et al.* of Jordan, as well as Haji-Mahmoodi *et al.* of Tehran, Iran, all concluded that awareness about breast cancer and the practice of BSE significantly associated with a personal history and a family history of breast tumors.<sup>[21,22]</sup> Our study also showed that persons with the family history had better knowledge about breast cancer regarding risk factors, screening procedures, and treatment modalities. Learning about the treatment modalities helps to alleviate the fear about breast lump and will increase the level of confidence. This will alter the health-seeking behavior of the population.

## CONCLUSION

To deal with the arising epidemic of breast cancer, it is the responsibility of health professionals to make available information about breast cancer, risk factors, warning signs, and management. Breast cancer awareness was moderate in our study which substantiates the need to spread knowledge through mass media since it is available to a large number of people. The most frequently mentioned reason for not performing BSE was not knowing how to perform BSE. The NCD staffs must play an active role in demonstrating the

proper method of BSE. Improving social support networks will create the more positive attitude toward screening.

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