Original Article

Determinants of Awareness and Practice of Breast Self Examination Among Rural Women in Trichy, Tamil Nadu

Hemalatha Kumarasamy, A. M. Veerakumar, S. Subhathra, Y. Suga, R. Murugaraj

Department of Community Medicine, Chennai Medical College Hospital and Research Centre, Trichy, Tamil Nadu, India

ABSTRACT

Introduction: Breast cancer is the most common cancer among women worldwide, and it can be detected at an early stage through self-examination which increases the chance of survival. This study aimed to assess knowledge and practice of breast self-examination (BSE) among females in a rural area of Trichy district. **Methodology:** This community-based, cross-sectional study was carried out among a total sample of 200 women in rural area of Trichy. The participants were interviewed using a structured interviewer-administered questionnaire to obtain information on their sociodemographic characteristics, awareness on breast cancer, and knowledge, attitude, practice of BSE. Data were entered into MS Excel and analyzed using SPSS version 20.0. Spearman correlation and Chi-square test were used to analyze the association between the variables. **Results:** The mean age of the study group was 36.9 ± 8.8 years. Eighty percent were literates. Most of the women 178 (89%) were aware of breast cancer. Only 26% of the women were aware of BSE. Only 18% of the females had ever checked their breast and 5% practiced it regularly. Awareness of BSE was found to be significantly associated with age and educational attainment. **Conclusion:** The level of knowledge and practice of BSE among females are unacceptably low. Efforts should be made to increase level of knowledge and practice of BSE through health education programs.

KEYWORDS: *Awareness, breast self-examination, determinants, rural, women*

INTRODUCTION

Over the past few decades, there is reduction in the occurrence of various communicable diseases and the world is now in the era of noncommunicable diseases (NCDs). India is not an exemption for this epidemic. Since the prevalence of NCDs is increasing, they are gaining importance as a public health problem in both developed and developing countries. Increase in life expectancy increases the chance of survival and thereby increases the number of older adults, thus increasing the prevalence of NCDs.

Breast cancer is the second most common cancer worldwide and is the most common cause of cancer among women both in developed and also in developing countries. Total number of new cases was estimated to account for 25% of all cancers globally. From 2008 to 2012, globally, there was a striking increase in the occurrence of breast cancer. Incidence has increased by 20% and mortality has increased by 14%. Breast cancer was the fifth most important cause of mortality due to cancer and is the most common cause of death due to cancer among women.[1]

Breast cancer is a nonexistent entity for a majority of population until their closed ones are affected. Screening is the alien word for most people. Hence, naturally, this results in most people presenting only when the disease becomes symptomatic, and on an

Access this article online

Quick Response Code:

Website: www.jmidlifehealth.org

DOI: 10.4103/jmh.JMH_79_16

Address for correspondence: Dr. Hemalatha Kumarasamy, Department of Community Medicine, Chennai Medical College Hospital and Research Centre, Trichy - 621 105, Tamil Nadu, India.
E-mail: drkhemalatha@gmail.com

How to cite this article: Kumarasamy H, Veerakumar AM, Subhathra S, Suga Y, Murugaraj R. Determinants of awareness and practice of breast self examination among rural women in Trichy, Tamil Nadu. J Mid-life Health 2017;8:84-8.

average, most "symptomatic" cancers are stage 2b and beyond. Breast cancer patients do not tend to survive for a longer time if the cancer is detected at a late stage because the tumor size at the time of diagnosis has a significant impact on survival rate even with effective treatment.[2] Frequent breast self-examination (BSE) has been shown to have favorable clinical outcome among breast cancer patients.[3]

The reasons for late detection of breast cancer includes low awareness, presence of stigma, fear about pain during screening and fear about the disease, gender inequity, lack of screening test and infrastructure, low literacy, and low-income levels.[4,5] One potentially important strategy in reducing breast cancer mortality is the use of screening methods such as BSE, clinical breast examination, and mammography for early detection.[6] Early detection helps in the treatment before metastasis and associated with excellent prognosis. Breast cancer screening was found to reduce the risk of mortality by 20%.[7] Despite the presence of various screening methods, majority of breast cancer cases are detected by women themselves, stressing the importance of BSE.

Although BSE is not proven as an effective breast cancer screening method,[8] BSE can be used to as a measure to improve self-care among women. It is shown to increase the awareness regarding breast abnormalities and risk factors for breast cancer. Low awareness regarding breast cancer is one of the factors which reduce the effective use of screening tests.[9] Raising awareness may also empower women to follow healthy behaviors and health promotion activities. Health motivation and improving confidence are two important factors which improve preventive health behaviors.[10]

BSE is considered to be a simple, inexpensive, quick, noninvasive, nonhazardous intervention. This could be a useful measure for early identification of breast cancer in resource-poor countries where accessibility to better screening methods is less. The sensitivity of the test was found to be 78%.[11] BSE also encourages women to take an active responsibility in preventive health. In addition, it helps to overcome the fear, stigma, and taboos. However, correct and thorough BSE technique has to be ensured and prompt and adequate medical need should be available when needed.

Objectives

1. To identify the knowledge about breast cancer among rural women
2. To find out the knowledge, attitude, and practice of rural women toward BSE.

Methodology

A community-based, cross-sectional study was conducted for 3 months from November 2015 to January 2016 in the Rural Health Training Centre (RHTC) service area of the Chennai Medical College Hospital and Research Centre. Adult females aged above 20 years residing in RHTC area were included in the study. After obtaining informed written consent, a pretested, structured, interviewer-administered questionnaire was used to obtain information about the knowledge of breast cancer and knowledge, attitude, practice of BSE. A total of 200 women were interviewed. Participants were interviewed in their house, and complete privacy was maintained throughout the interview. Indian standard classification of education was used to classify education status of the study participants.[12] Occupation was categorized using nation classification of occupations.[13] Each correct response for questions on knowledge about breast cancer and BSE was given a score of 1 and incorrect response was given a score of 0. The total score was calculated by adding all the scores. Maximum attainable score was 36 and minimum attainable score was 0. The total score was divided into four categories. The scores were categorized into poor (0–9), fair (9–18), good (19–27), and excellent (28–36). The collected information was entered in MS Excel and analyzed using IBM Statistical Package for Social Sciences version 22.0. Spearman correlation and Chi-square test were used to analyze the association between the variables and $P < 0.05$ was taken as statistically significant.

Results

Mean age of the study group was 36.9 ± 8.8 years. Majority (94.5%) belonged to reproductive age group. Eighty percent of the study participants were literates. Majority (50%) of the women were homemakers and 23% of the women were employed in elementary occupations. The mean per capita monthly income was Rs. 2010 and 50% of the women belonged to class IV socioeconomic class based on modifi ed BG Prasad's classifi cation [Table 1].[14]

Knowledge about breast cancer

Most of the women 178 (89%) among the total 200 have heard about breast cancer, and the rest 22 (11%) did not know what breast cancer is. Sixty-four percent of the women said that most common age of the occurrence of breast cancer was between 35 and 50 years. Nearly one-third of the women (31.5%) knew that early menarche is a risk factor for developing breast cancer. Similar proportion of women said that breast cancer is not related to age of menarche and another 34% did not have any idea about this biological relation.

Table 1: Sociodemographic characteristics of the study subjects (*n*=200)

	Frequency (%)
Age (years)	
20-29	65 (32.5)
30-39	62 (31)
40-49	62 (31)
50-59	11 (5.5)
Education	
Illiterate	40 (20)
Primary and upper primary	54 (27)
Secondary and senior secondary	67 (33.5)
Undergraduate, postgraduate, and diploma	39 (19.5)
Occupation	
Professionals and associate professionals	21 (10.5)
Clerks, service, and sales workers	10 (5)
Skilled agricultural workers	12 (6)
Craft and related workers	7 (3.5)
Elementary occupation	46 (23)
Workers not classified by occupation	104 (52)
Socioeconomic status	
I (5571 and above)	6 (3)
II (2786-5570)	25 (12.5)
III (1671-2785)	34 (17)
IV (836-1670)	98 (49)
V (below 836)	37 (18.5)
Total	200 (100)

Thirty-four percent of the participants replied that late menopause is related to the high risk of occurrence of breast cancer. Thirty-seven percent of the respondents agreed that prolonged intake of oral contraceptive pills increases the risk of developing breast cancer. Almost one-fourth of the respondents said that women who have their first pregnancy beyond 30 years of age would have increased risk of developing breast cancer and 34% of the study participants did not have any idea regarding the relation between delayed first pregnancy and breast cancer. Positive family history of breast cancer was present in 8.5% of the families. Lump in the breast was the most common sign (65%) known to the respondents. Presence of nipple discharge (42%), pain (25.5%), and nipple retraction (1%) were the others signs they were aware of. However, 22.5% of the women did not have any idea about even one single sign of breast cancer. Television was the most common mass media through which 52% of the women received awareness regarding breast cancer. Radio (10%), posters (5.5%), and pamphlets (3%) also served as source of information.

Clinical examination as a method to identify the presence of breast abnormalities was known to 36.5% of women. Other procedures such as BSE, ultrasonogram, mammography, and biopsy were known to 26%, 24.5%, 12.5%, and 12% of the participants. Nearly one-fourth of the respondents did not have any idea about these procedures.

Knowledge about breast self-examination

Only 14% of the women were aware that BSE has to be done once a month. Major proportion of the participants (71.5%) had no idea about the time interval for consecutive BSEs and 14.5% said that BSE has to be done once in a year. While 14% said that BSE has to be performed once in a month, only 10% knew that it has to be done during postmenstrual phase of each cycle. Most of the participants (83%) did not know how frequently BSE has to be done in postmenopausal women. Half of the participants did not know about the changes to be observed in the breast during BSE. When the respondents were asked about the posture for BSE 58% had no idea about it; standing, lying down, and sitting were replied by 27%, 11%, 4% of the participants. Majority (62.5%) of women had no idea about the procedure of BSE. Thirty percent of women agreed that they should be undressed up to waist during BSE. When breast examination is done in front of a mirror, 11.5% agreed that hands have to be clasped behind the head and pressed forward and 10% agreed that hands have to be pressed firmly on the hip to look for changes in the breast. 14.5% had opined that nipple has to be squeezed gently to look for discharge. Using pads of fingers for examination of breast tissue and area between breast and underarm was known only to 9.5% and 4.5% of the participants, respectively. Another 12.5% mentioned that BSE can be done under shower. Health-care workers were the source of information for BSE in 31% of the participants.

When the scores were calculated, the maximum attained score was 23 and the minimum score was 0. The median score was 7. Most of the participants (69%) had poor knowledge (score of 0–9) regarding breast cancer and BSE. Twenty-seven percent and 4% of the respondents scored fair and good knowledge, respectively. None of the participants had excellent knowledge (score of 28–36). Age of the women had a significantly negative correlation with knowledge score. As age increased, knowledge regarding breast cancer and BSE decreased with r value of -0.16 and $P = 0.02$. Knowledge score increased with increase in education status which was statistically significant [Table 2]. There was no statistically significant difference between employed and unemployed women in their knowledge score [Table 3].

Attitude towards breast cancer and breast self-examination

One hundred and ninety-five women (97.5%) were willing to approach a doctor in case of presence of

Table 2: Association between education status and knowledge on breast cancer and breast self-examination

	Frequency (%)			
	Poor knowledge	Fair knowledge	Good knowledge	Total
Illiterate, primary	55 (88.7)	6 (9.7)	1 (1.6)	62 (100)
Upper primary, secondary, senior secondary	49 (69)	20 (28.2)	2 (2.8)	71 (100)
Undergraduate, postgraduate, diploma	34 (50.7)	28 (41.8)	5 (7.5)	67 (100)
Total	138 (69)	54 (27)	8 (4)	200 (100)

χ^2=22.22, P<0.001

Table 3: Association between occupation and knowledge on breast cancer and breast self-examination

	Frequency (%)			
	Poor knowledge	Fair knowledge	Good knowledge	Total
Employed	66 (68.7)	26 (27.1)	4 (4.2)	96 (100)
Unemployed	72 (69.2)	28 (26.9)	4 (3.8)	104 (100)
Total	138 (69)	54 (27)	8 (4)	200 (100)

χ^2=0.015, P=0.99

lump/abnormality in their breast. Eighty-three percent of the study participants were willing to do BSE regularly if they are taught about the technique. Others (17%) were either not interested, thought it to be unnecessary, or were hesitating to do BSE. Just above 50% of the women were willing to discuss breast cancer and BSE among neighbors, friends, and relatives.

Practice of breast self-examination

Only 18% of the participants practiced BSE. Although BSE was practiced by 18% women, only 5% of the total participants practiced it regularly every month. Rest of them practiced BSE occasionally [Figure 1]. Positive family history was the important factor which sustained the practice of BSE. Most of the respondents (92%) have not discussed regarding breast cancer with their relatives and friends so far. Only 8% of the women had some conversation regarding the issue with neighbors and family members.

Discussion

BSE is an inexpensive, simple, noninvasive method for early detection of breast tumors. Thus, knowledge about the procedure and consistent practice could protect women from severe morbidity and mortality due to breast cancer. This study assessed the knowledge and practice of BSE among rural women in Trichy district. Mean age of the study group was 36.9 ± 8.8 years and literacy rate was 80%. The literacy rate of the study population was high compared to the state average which was 73.8% in the year 2011.[15] Higher level of literacy rate would have been due to noninclusion of elderly women in the study. Eleven percent of the

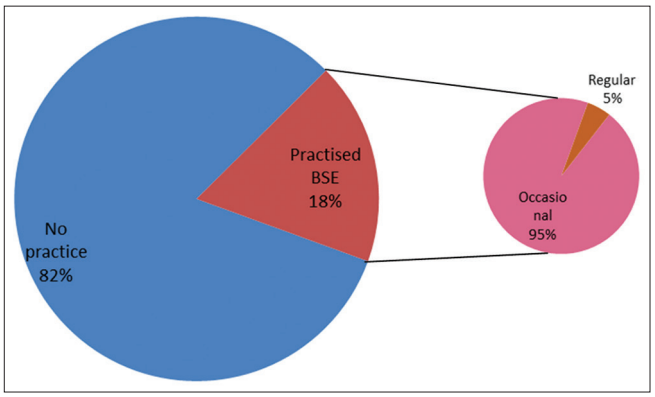

Figure 1: Practice of breast self-examination among study participants

women participated in this study did not know about breast cancer, which is one of the most important cancer among women. More than 60% of the women said that breast cancer will occur beyond 35 years of age. This showed that these women had a belief that breast cancer will occur only in elderly women and young women will not be affected. Only one-third of the respondents knew that early menarche and late menopause are risk factors for breast cancer. A little above one-third knew that prolonged intake of oral contraceptive pills can act as a risk factor for breast cancer. Presence of a lump in the breast was the most common sign of breast cancer known to the participants in the present study, followed by nipple changes and pain. Similar results were obtained by Nafissi *et al*., where 60% of the women were aware of painless mass.[16] Proportion of women who had correct knowledge on signs of breast cancer was less when compared to other studies.[17,18] This could be due to the differences in culture, health beliefs, education status, and health services and policies. More than 50% of the women received health information regarding breast cancer through television. Hence, mass media can be targeted as a means to spread and inculcate knowledge regarding breast cancer and BSE.

Nearly one-fourth of the respondents (26%) were aware of BSE. This proportion was almost close to the results reported by other studies.[16,19]

In the present study, age of the women had a negative correlation with knowledge. This was in contrast to a study from rural Guntur where knowledge increased with increase in age.[19] Women with higher level of education had better knowledge regarding breast cancer and BSE than women with low education status. This was concordant with the reports presented by other studies.[19,20]

In the present study, proportion of women who practiced BSE regularly was 5% which was low compared to the observations made by Parsa and Kandiah.[18] Another South Indian study has also reported lower practice of BSE than the present study.[21] Positive relation between knowledge and practice of BSE has already been described.[22] Hence, improving knowledge regarding the importance of BSE at community level would help sustaining the practice.

Conclusion

This study showed that level of awareness and practice of BSE among women were low. Mass media mainly television should be used to disseminate information on BSE. Health workers should intensify health education on the importance of BSE when they come in contact with women during antenatal and immunization clinic sessions. Some of these women could also be trained to act as peer educators for the other women.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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