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Original Research Article

Knowledge and practice of breast self-examination among women of reproductive age group in Palakkad district of Kerala: a cross-sectional study

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ABSTRACT

Background: In India, non-communicable diseases (NCDs) are estimated to be 63% of all deaths, and cancer is one of the leading causes (9%). In 2022, there were 2.3 million women diagnosed with breast cancer and 670,000 deaths globally. Breast cancer mortality rates are primarily due to inadequate knowledge about the disease's risk factors, warning signals, and breast self-examination (BSE).
Methods: A Hospital-based cross-sectional survey was conducted among 106 reproductive age group women excluding those diagnosed with breast cancer by nonprobability sampling. A structured questionnaire was used to assess the knowledge of breast cancer and BSE. Data was analyzed using SPSS 20 with inferential statistics using chi-square test.
Results: Breast cancer knowledge was good in 70 (66%). 79 (74.5%) of the respondents had heard about BSE and out of them only 31 (29.2%) of respondents had practiced BSE. Not knowing the correct method was the most frequently reported reason for non-performance in 59 (55.7%). Only 8 (7.5%) of the women had received information about breast cancer from health professionals while a majority 53 (50%) stated that their source of information was family and friends. Higher educational level was found to be significantly associated with knowledge of breast cancer (p=0.003). A significant association was observed between knowledge and practice of BSE. (p=0.003).
Conclusions: A two third of the Participants had good knowledge of breast cancer; however, the practice of BSE is still lacking. Therefore, BSE practice needs to be promoted among women for early detection of breast cancer and prompt management.

Keywords: Breast self-examination, Breast cancer detection, Knowledge, Practice, Reproductive age group women

INTRODUCTION

In India, non-communicable diseases (NCDs) are estimated to be 63% of all deaths, and cancer is one of the leading causes (9%).[1] Breast cancer is one of the most common cancers in women in both the developed and developing countries. In 2022, there were 2.3 million women diagnosed with breast cancer and 670,000 deaths globally. Breast cancer occurs in every country of the world in women at any age after puberty but with increasing rates in later life.[2] In India, breast cancer ranked fourth on the list during the 1990s and has now become the most prevalent of all cancers among women.[3,4]

Ageing, obesity, heavy alcohol consumption, radiation exposure history, family history of breast cancer, reproductive history (including age at first pregnancy and menstruation onset), tobacco use, and postmenopausal hormone therapy are some of the factors that raise the risk

of breast cancer. Other than age (over 40) and gender (female), women without any other known breast cancer risk factor account for about half of all cases of breast cancer. A family history of the disease also increases the risk of breast cancer.[2]

Breast cancer is metastatic in nature. Hence, early detection of breast cancer aids in early treatment and thereby reducing cancer related mortality. The screening methods for breast cancer include: breast self-examination (BSE), clinical breast exam and mammography.[5,6]

BSE is a screening method that people perform the procedures on their own in an attempt to detect early breast cancer. Even though examination is inexpensive and simple to conduct, These days, the frequency of breast self-examination practice is low. Research has highlighted that the reasons for the low practice of breast self-examination results from insufficient investigation, ignorance of breast self-examination, insufficient time, lack of self-confidence in their ability to perform the technique, anxiety over the potential discovery of a lump, as well as the embarrassment associated with handling of the breast.[7]

Breast cancer mortality rates are primarily due to inadequate knowledge about the disease's risk factors, warning signals, and breast self-examination (BSE). So, Insufficient awareness regarding breast cancer plays a significant role in discouraging women from going to screening centres, undergoing breast self-examination (BSE), and delaying treatment.[8]

So, this study aims to assess the knowledge and practice of breast self-examination, and its determinants among women of Palakkad District, Kerala.

METHODS

A hospital-based cross-sectional survey was conducted for two months from 1st September to 31st October 2024.

The study population consisted of women of reproductive age group who attended various outpatient and inpatient departments of our Medical College Hospital during this period and consented for participation. Reproductive women without a previous history of breast cancer who consented were enrolled in the study through consecutive sampling.

Written informed consent for the interview was obtained from each participant. The study protocols were reviewed and approved by the Institutional Human Ethics Committee (EC/New/INST/2022/3060).

A pretested self-administered questionnaire assessed the knowledge of breast cancer and BSE.

The questionnaire included questions on Socio-demographic information relating to age, educational status, occupation and marital status; knowledge of the risk factors of breast cancer, common symptoms and signs of breast cancer and early diagnostic procedures and treatment available for the disease; as well as knowledge and practices of breast self-examination (BSE).

The participants response to each question relating to knowledge regarding breast cancer was allotted a score of 1 for at least one factor response. The knowledge score of the study participants was thereby calculated to be mean total of correct responses and ranging from a minimum score of 0 to a maximum score of 5.

The questionnaire was originally prepared in English after an exhaustive review of the literature and subsequently was translated into the local language, Malayalam through a back-and-forth translation process.

Data was analyzed using SPSS version 20.00. Mean score was calculated to know the average knowledge level. Chi-square test and Fisher's exact test was used to assess relationship between knowledge and socio-demographic variables. Variables considered for the analysis of knowledge included age, religion, marital status, education level, occupation, socioeconomic status and family history of breast cancer.

RESULTS

Data collected from 106 participants. Out of these respondents, 47 (44.3%) were employee, 33 (31.1%) were house wife and 26 (24.5 %) were housewife.

The socio-demographic information of 106 participants is presented in Table 1.

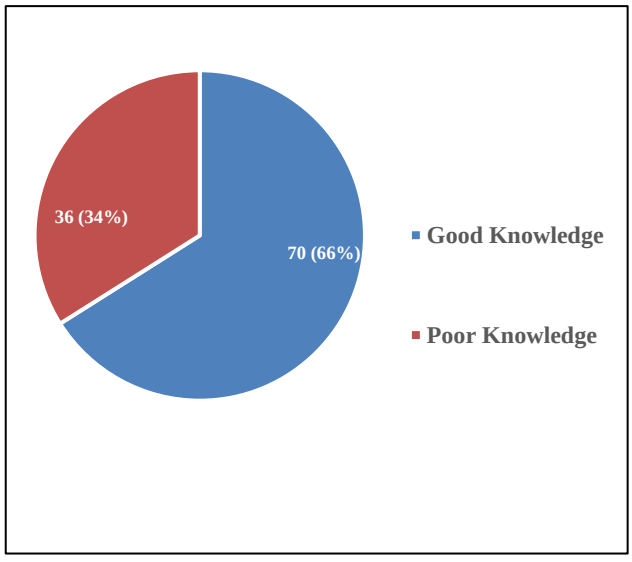

Figure 1: Distribution of study participants according to knowledge regarding breast cancer (n=106).

Table 1: Distribution of study participants according to socio-demographic characteristics (n=106).

Variable	Frequency	Percentage
Age distribution (years)		
≤30	56	52.8
>30	50	47.2
Religion		
Hindu	63	59.4
Muslim	30	28.3
Christian	9	8.5
Others	4	3.8
Marital status		
Single	32	30.1
Married	73	68.8
Widowed	1	0.9
Education		
High school	15	14.2
Higher secondary	30	28.3
Graduate	46	43.4
Postgraduate	15	14.2
Occupation		
Student	26	24.5
Working women	47	44.3
House wife	33	31.1
Socioeconomic classification (SES)*		
I (upper class)	31	29.2
II (upper middle class)	50	47.2
III (middle class)	8	7.5
IV (lower middle class)	7	6.6
V (lower class)	10	9.4

*As per Modified BG Prasad's Classification Updated January 2024 Classification.

More than half of the women were in the age group ≤ 30 years (56, 52.8%). The mean age was found to be 30.57±7.74 years, with the minimum age being 16 years and the maximum age 48 years. Over half of the participants (59.40%) were Hindus. More than 50% women were married (68.8%). Around half of them were graduates (43.4%). Around half of population (47.2%) belonged to upper–middle class socioeconomic status according to modified BG Prasad's Classification. Regarding the family history of breast cancer, 24.4% of them had a family history of breast cancer.

Knowledge about breast cancer among participants

Majority of the respondents (93.4) had heard of breast cancer.

Most of them 90 (84.9%) reported that breast cancer can be cured if it is detected early and 71.7% of them think that breast cancer affects only females. The major source of information on breast cancer for most of the respondents was family and friends 53 (50.0%), followed by social media 23 (21.7%), health workers 8 (7.5%) and books and articles 6 (5.7%). The mean knowledge score of the study participants was 3.65±0.12.

Knowledge and practice of BSE among participants

Majority of the respondents, 79 (74.5%) had heard about BSE.

Among 106 respondents, only 31 i.e. 29.2% had ever performed BSE. Respondents who didn't ever perform BSE gave the reasons like they didn't know how to do it (55.7%); they didn't know what it is (22.6%), too busy (17.9%) and being afraid to discover a lump (3.8%). Most of them had no idea of the correct timing for BSE as only 21 (19.8%) knew it was a few days after menstruation. More than half of them, 59 (55.7%) knew that BSE should be performed once a month.

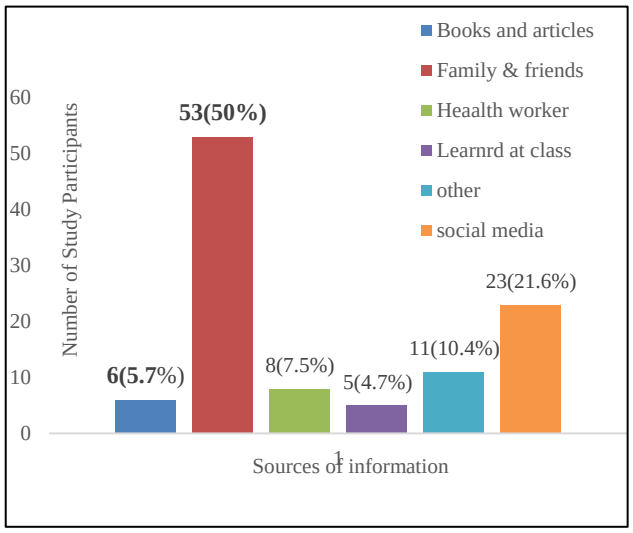

Figure 2: Distribution of study participants according to source of information of breast cancer (n=106).

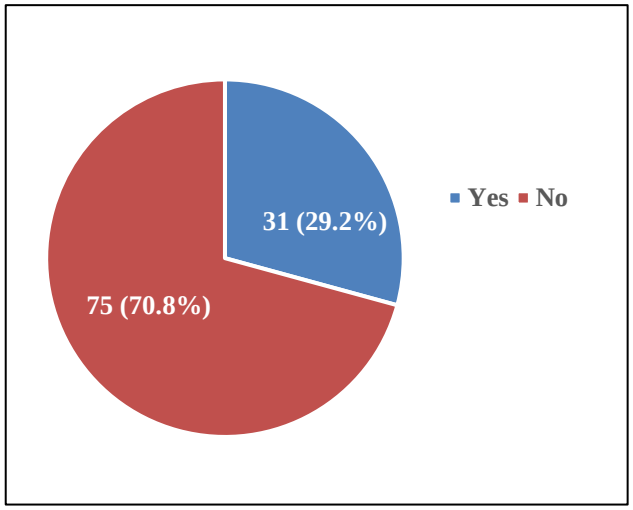

Figure 3: Distribution of study participants according to Practice of breast self-examination (n=106).

Table 2: Distribution of study participants according to knowledge on different aspects of breast cancer (n=106).

Knowledge of Breast Cancer	Frequency	Percentage
Mentioned at least one risk factor Knowledge on risk factor of breast cancer* **		
Positive family history of breast cancer	38	35.8
Smoking	41	38.7
Nulliparity	16	15.1
Life style factors	71	67
No Breast feeding	10	9.4
Not aware of any risk factors	24	22.6
Knowledge on signs and symptoms of breast cancer * **		
Mentioned at least one signs or symptoms		
Lump in the breast	82	77.4
Pain in the breast or nipple	55	51.9
Dissimilarity in size of breast or nipple	24	22.6
Discharge from the breast or nipple	18	17.0
Inverted nipples	15	14.2
Not aware of any risk factors	16	15.1
Knowledge on early detection method		
Mentioned at least one method		
Self-breast examination (SBE)	46	43.4
Clinical breast examination (CBE	44	41.5
Mammography	1	0.9
Biopsy	4	3.8
USG	0	0
Knowledge on treatment		
Surgery	52	49.1
Radiation	55	59.1
Chemotherapy	16	15.1
Not aware of any treatment	22	20.8
Knowledge on breast self-examination		
Yes	79	74.5
No	27	25.5

****Multiple choices allowed

The association between the socio-demographic characteristics of the respondents including their knowledge of BSE and their knowledge of breast cancer and practice of BSE is shown in Tables 4 and 5.

There was significant association of good knowledge and higher education (0.001), upper middle class (0.008) and family history of Breast cancer (0.012). BSE and was a significant association was observed between knowledge and practice of BSE (p=0.003).

Knowledge and practice of BSE among respondents are shown in the Table 2 and 3.

Table 3: Distribution of study participants according to practice of BSE (n=106).

Practice of BSE	Frequency	Percentage
Practice		
Ever performed BSE		
Yes	31	29.2
No	75	70.8
Reasons for no practice		
Didn't know correct method	59	55.7
Didn’t know what it is	24	22.6
Too busy	19	17.9
Being afraid to discover a lu mp	4	3.8

Table 4: Association between knowledge of breast cancer and socio-demographic factors (n=106).

Variables	Knowledge status		Total	P value
	Good knowledge	**Poor knowledge**		
Age distribution (Years)				
≤ 30	37 (66.1%)	19 (33.9%)	56	0.994
> 30	33 (66.0%)	17 (34.0%)	50	
Marital status				
Single	21 (65.6%)	11(34.4%)	32	0.953
Married	49 (66.2%)	25(33.8%)	74	
Education level				
High School	4 (26.7%)	11(73.3%)	15	0.000***
Higher secondary/diploma	18 (60.0%)	12 (40.0%)	30	
Graduates and above	48 (78.7%)	13 (21.3%)	46	
Occupation				
Student	18 (69.2%)	8 (30.8%)	26	0.903
Working women	31 (66.0%)	16 (34.0%)	37	
Housewife	21 (63.6%)	12 (36.4%)	33	
Family history of breast cancer				
Yes	31 (81.6%)	7 (18.4%)	38	0.012***
No	39 (57.4%)	29 (42.6%)	68	

***Statistically significant at 95% level of confidence.

Table 5: Association between knowledge of breast cancer and practice of BSE (n=106).

Variables	Practice of BSE		Total	P value
	Yes	**No**		
Good knowledge	27 (38.6%)	43 (61.4%)	70	0.003*
Poor knowledge	4 (11.1%)	32 (88.9%)	36	

*Statistically significant

DISCUSSION

Breast cancer is one of the leading causes of death as it is detected in the late stages in India. Lack of awareness regarding the risk factors and breast self-examination acts as the causing factor for late diagnosis.

Knowledge of breast cancer, breast awareness and breast self-examination could improve the health seeking behaviour of women leading towards early reporting of symptoms, screening for breast cancer and increase chances of survival. Awareness deficit in breast cancer is associated with delayed reporting and higher mortality.

In our study, majority of the respondents (93.4) had heard of breast cancer. Most of them 90 (84.9%) reported that breast cancer can be cured if it is detected early. This is similar to study conducted among 206 females in North Kerala, reported that more than half (56.3%) responded that breast cancer can be detected early and nearly three fourths (74.8%) said that early detection improved the chances of survival.[9]

The major source of information on breast cancer for most of the respondents was family and friends (50.0%) and social media (21.7%). A study in Ethiopia reported that media was most the source of information about breast cancer for first time.[10]

In our study, 70 (66%) had good knowledge of breast cancer. This is similar to the study conducted in Thiruvananthapuram 11reported that the majority 84.6% had good knowledge of breast cancer.

The commonly cited risk factors of breast cancer in our study were lifestyle factors and family history of breast cancer. This is similar to study conducted among North Kerala9 reported that the common causes of breast cancer as family history of breast cancer and decreased physical activity.

The study results reported that most of the respondents, 79 (74.5%) had heard about BSE. This is contrast to study conducted in Nepal reported that only 31.1% of respondents had ever heard about BSE.[12] Among 106 respondents, only 31 i.e. 29.2 % had ever performed BSE. This is similar to results of study conducted by Chepkwurui Joyce et al where 41.4% of the participants had never done so and 32.6% of those who had ever practiced BSE.[13]

They didn't know how to do it (55.7%), they didn't know what it is (22.6%), too busy (17.9%) were the most reason mentioned for not practicing BSE. In a study done in Ethiopia 10, Being health 100 (44.8%) and lack of knowledge 60 (26.9%) were the reason were for no practicing BSE.

That BSE must be done few days after onset of menstruation by women with regular menstruation was known only to 19.8% of the respondents. This is similar to study conducted in North Kerala where, only 7.8% knew that BSE must be done few days after onset of menstruation.[9]

In our study the knowledge score was associated with the practice of BSE. In contrast to study conducted in Ethiopia 10, knowledge score was not associated with the practice of BSE. This could be most of our study participants were graduates.

In our study, more than half of them, 59 (55.7%) knew that BSE should be performed once a month, which is less when compared to studies in Ethiopia and Cameroon.[10,14]

CONCLUSION

A two third of the participants had good knowledge of breast cancer; however, the practice of BSE is still lacking. Therefore, BSE practice needs to be promoted among women for early detection of breast cancer and prompt management.

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