Original Article

Knowledge and Myths Regarding Breast Cancer among Women in Ernakulam District

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Abstract

Introduction: Breast cancer was the world's most prevalent cancer by the end of 2020. This study aims to find out the knowledge and myths regarding breast cancer among women in Ernakulam district.

Methods: A cross-sectional study was conducted in Ernakulam district in the year 2022.Adult females aged more than 20 years were the study participants. Awareness about breast cancer, associated risk factors, and screening methods was assessed using a questionnaire in the local language. The data were analyzed using SPSS software version 20.

Results: The mean age of the study participants was 49.1 ± 12.2 years. 38 participants [27.14% (95% CI– 19.8, 35.3)] had adequate knowledge levels of symptoms, risk factors, diagnosis, and treatment options for breast cancer. 132 (94.3 %) women believed in at least one of the mentioned myths. Most common were theuse of deodorants or perfumes (71.4%) and tight bras (64.3%), increased the risk of breast cancer. Participants who had a family history of breast cancer (p=0.03) and those from urban areas (p = 0.024) had significantly fewer myths regarding breast cancer.

Conclusion: The knowledge among women regarding breast cancer was inadequate. It's high time that health professionals take active steps to improve knowledge regarding breast cancer through campaigns and awareness classes.

Keywords: knowledge, myths, Breast cancer, Breast self-examination

Introduction

Breast cancer was the world's most prevalent cancer by the end of 2020. Globally, in the year 2020, 2.3 million women were newly diagnosed with breast cancer, and 6,85,000 of them lost their lives by virtue of this.[1] Among all the cancers in women, 25.4% were breast cancers.[2] It accounts for the highest burden of disability-adjusted life years (DALYs) in women globally than any other malignancy.[1]

According to the data from Hospital based cancer registries, 73,998 cases of breast cancer were diagnosed in India in 2021.[3] The increasing prevalence of breast cancer may be the tip of the iceberg, as there are only a limited number of population based

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cancer registries in the country. In India, nearly 60% of breast cancer cases are diagnosed at stage III or IV of the disease.[4] This could be the reason for the low 5-year survival rate of breast cancer in India (66%) compared to high-income countries, where it's more than 90%.[1,5]

Breast cancer arises in the epithelial cells of the ducts or lobules of the breast. Initially, the cancerous growth is in situ, and over some time, it may progress to invasive breast cancer, then to regional metastasis and distant metastasis. Treatment for breast cancer can be very effective, especially when it is identified at an early stage. This can prevent further cancer growth and metastasis, thereby saving lives. In high-income countries, age-standardized mortality from breast cancer dropped by 40% between the years 1980 and 2020. These countries have been able to achieve a 2-4% annual breast cancer mortality reduction.[1]

The Global Breast Cancer Initiative (GBCI) aims to avert 2.5 million breast cancer deaths globally between 2020 and 2040. The three pillars of GBCI towards achieving this goal include early detection, followed by timely diagnosis, and comprehensive management of breast cancer.[6] Early detection through mass screening programmes followed by diagnosis has proven successful in many high-income countries.[7-9] Tools likethe Gail model, the Breast Cancer Risk Assessment Tool (BCRAT) and mammography have been used in developed countries. It is challenging to adapt this toa highly populated and resource-limited developing country like India. Mammography is inaccessible and not affordable to the majority of the population, especially the poor in rural areas. Due to cultural taboos and stigma, early symptoms of breast cancer are not freely discussed, and patients are reluctant to come to the health care system.[9] Thus, mostbreast lumps are detected by patients, often accidentally, and the majority are diagnosed in the late stages (stages III and IV).[4] Hence, the disease has a very poor prognosis and a low survival rate. Thus, self breast awareness and self breast cancer screening among the population should be priorities.

Breast cancer awareness in developing countries is not well documented. The lack of awareness and incorrect beliefs about breast cancer are responsible for the late diagnosis and negative perception of the treatment.[10] Therefore, it is important to assess the level of knowledge of symptoms and risk factors in our communities. Moreover, the month of October is observed globally as breast cancer awareness month, so this study was conducted in October 2022 to find out the knowledge and myths regarding breast cancer among women. This study also aimed to assess the attitude and practice regarding breast self-examination among women in South India.

Methods

Study design and study area

From October to November 2022, a cross-sectional study was conducted in the field practise area of the Department of Community Medicine, SNIMS. Participants were recruited from the community using the consecutive sampling method.

Study population:

Adult females aged more than 20 years who had been residing in the study area for more than one year were included in the study. Participants who were suffering from severe physical and mental illnesses were excluded from the study.

Sample size calculation

The sample size was determined using the formula $Z_{\alpha}^2 pq/d^2$ with 95% confidence intervalsand an 8.5% allowable error. A 5% non-response rate was added, and the final sample size was 140.[11]

Data collection:

The awareness of breast cancer, associated risk factors, and recommended screening methods was assessed using a questionnaire in the local language. The questionnaire included four sections:(i) the demographic background of the respondent;(ii) the respondent's knowledge of breast cancer and breast-self examination (BSE); (iii) their attitude towards risk factors for breast cancer; and (iv) their current practise for breast cancer screening and BSE. Regular BSE was defined as performing breast-self examination at least once per month.

Statistical analysis

The collected data were entered in MS Excel and analyzed using SPSS software version 20. Normality was tested by the Kolmogorov-Smirnov test. For

bivariate analysis, the Chi-Square test of significance was applied to find the association between various variables. A p value less than 0.05 was set as the level of significance.

Ethical issues

The objective and study protocol were explained to the study participants, and informed consent was obtained. After data collection, all the women were given health education regarding the signs and symptoms of breast cancer, its risk factors, and the screening, diagnosis, and treatment modalities available. Before analysis, the collected data were anonymized to protect the privacy of participants.

Results

The mean age of the study participants was 49.1 ± 12.2 years (ranging from 21 to 75 years). Around half of the participants were in the 4th or 5th decade of their lives. The majority of them were married. Only 49 (35%) women were employed, and the rest were housewives. 31 women(22.1%) were unskilled workers. Details are given in Table 1.

Table 1: Socio demographic details of study participants

Socio demographic variables	Categories	Number (n= 140)	Percentages (%)
Age groups (years)	21-30	10	7.1
	31-40	25	17.9
	41- 50	38	27.1
	51- 60	45	32.1
	61- 70	17	12.1
	71-80	5	3.6
Place of stay	Urban	44	31.4
	Rural	96	68.6
Education	Illiterate	1	0.7
	Primary School	13	9.3
	Secondary School	22	15.7
	Higher Secondary School	16	11.4
	Intermediate/diploma	62	44.3
	Degree	24	17.1
	Post graduate and above	2	1.4
Occupation	Housewife/ students	91	65.0
	Unskilled	31	22.1
	Semi-skilled	4	2.9
	Skilled	12	8.6
	Professional	2	1.4
Marital status	Unmarried	3	2.1
	Married	125	89.3
	Widowed	12	8.6
Socio-economic status	Above poverty line	87	62.1
	Below poverty line	53	37.9
Relative suffering from cancer	Yes	39	27.9
	No	101	72.1

The knowledge of study participants regarding risk factors and symptoms of breast cancer was low, as shown in figures 1 and 2, respectively. 16 (11.7%) participants were not aware of any risk

factors causing breast cancer. Only around half of the women identified family history (55%), use of tobacco or alcohol (55%), and consumption of high-fatdiets (54.3%) as risk factors for breast cancer. Knowledge regarding modifiable risk factors like lack of exercise (42.9%) and overweight or obesity (36.4%) was also low.45women(31.2%) did not have knowledge of any symptoms of breast cancer. Interestingly, less than one third of the women said change in shape or size of the nipple (31.4%), change in skin colour (30.7%), and change in size or shape of the breast (29.3%) were symptoms of breast cancer.

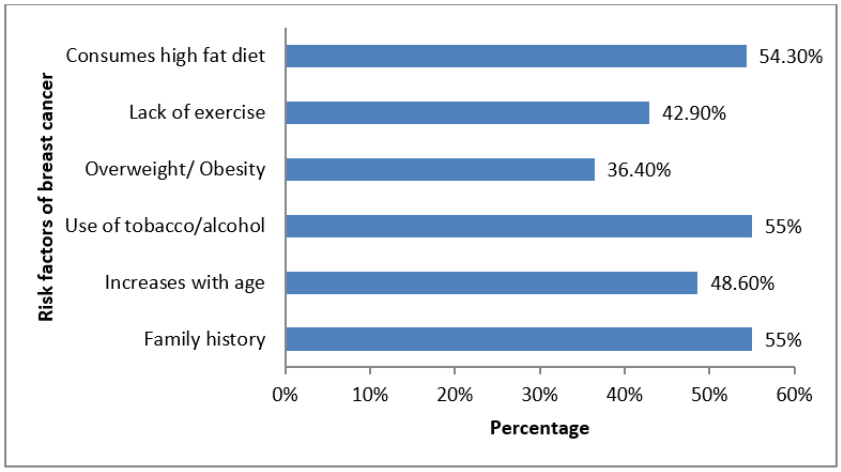

Figure 1: Percentage of women who identified risk factors of breast cancer

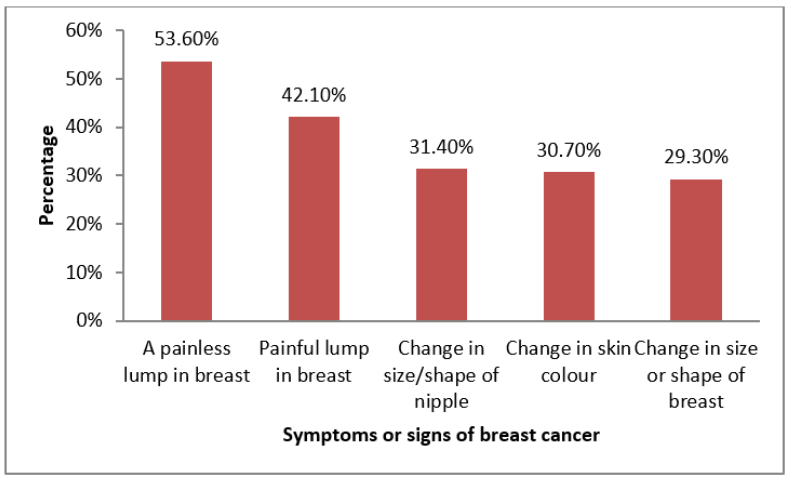

Figure 2: Percentage of participants who had knowledge regarding symptoms or signs of breast cancer

Knowledge regarding the different treatment options for breast cancer was also assessed among the study participants. Among them, 73(52.2%) were aware of chemotherapy, 25 (17.9%) were aware of radiotherapy, and 29(20.7%) were aware of surgery as a treatment option for breast cancer. Only 13 (9.3%) participants were aware of all three different modes of treatment for breast cancer. It was interesting to note that 47(33.5%) were not aware of any treatment options available for breast cancer. Hence, only 38 participants [27.14% (95% CI- 19.8, 35.3)] had adequate knowledge levels of symptoms, risk factors, diagnosis, and treatment options for breast cancer.

Participants who had a family history of breast cancer had better knowledge regarding risk factors for breast cancer (χ^2=6.1, p= 0.014). There was a significant association between socioeconomic status(χ^2=14.7, p< 0.001) and knowledge regarding the risk factors of breast cancer. Above the poverty line participants had four times better knowledge regarding the risk factors of breast cancer (OR=4, 95%CI- 1.9,8.2).

Table 2: Myths believed by study participants regarding breast cancer

Myths of study participants	Number(n-140)	Percentage(%)
Undergoing FNAC/biopsy increases the spread of cancer	72	51.4%
Use of tight bra increases the risk of breast cancer	90	64.3%
Breast cancer is seen only in females	91	65.0%
Use of deodorants/ perfumes increases the risk of breast cancer	100	71.4%

132 (94.3 %) women believed in at least one of the myths mentioned in Table 2. Most common were the use of deodorants or perfumes (71.4%) and tight bras (64.3%), increased the risk of breast cancer. Participants who had a family history of breast cancer had fewer myths (OR= 0.36, 95%CI- 0.14, 0.94) regarding breast cancer (χ^2=4.6, p= 0.03). Participants from rural areas had 2.8 times (OR=2.8, 95%CI- 1.1, 6.9) more myths regarding breast cancer than those from urban areas. This was found to be statistically significant (χ^2=5, p= 0.025).

Attitude and practice towards breast cancer among study participants:

56 (38.6%) participants felt that screening was important to detect breast cancer. 94 participants [67.1% (95%CI- 58.7, 74.8)] showed a positive attitude towards practising breast self-examination. But only 30 participants [21.4% (95%CI- 14.9, 29.2)] were routinely practising monthly breast self-examination.

Table 3: Association between practice and attitude with adequate knowledge of breast cancer (n= 140)

		Total Knowledge level		Odds ratio (95% CI) and p value
		Adequate	Inadequate	
Attitude level	Adequate	32(34%)	62(66%)	OR = 3.44 (1.32,8.97) p = 0.009
	Inadequate	6(13%)	40(87%)	
Practice level	Acceptable	14(46.7%)	16(53.3%)	OR= 3.14 (1.34,7.32) p = 0.007
	Not acceptable	24(21.8%)	86(78.2%)	

The women who had adequate knowledge regarding symptoms, risk factors, diagnosis, and treatment options for breast cancer had a 3.44 times better attitude than those with inadequate knowledge. This was found to be statistically significant (p = 0.009). Moreover, women who had adequate knowledge of breast cancer had 3.14 times better practice of breast self-examination than those with inadequate knowledge (Table 3). This was also found to be statistically significant (p = 0.007).

Table 4: Association between adequate attitude and practice of breast self-examination (n= 140)

		Attitude level		Odds ratio (95% CI) and p value
		Adequate	Inadequate	
Practice of breast self-examination	Acceptable	27(90%)	3(10%)	OR= 5.77 (1.65,20.2) p = 0.003
	Not acceptable	67(60.9%)	43(39.1%)	

The women who had an adequate attitude towards breast cancer had five times better practice of breast self-examination than those with an inadequate attitude (Table 4). This difference was statistically significant (p = 0.003).

Discussion

Despite years of epidemiological and clinical research, breast cancer prevalence continues to increase. The present research found that the participants understanding of risk factors were low.

This was similar to many other Indian studies.[11-14] Use of tobacco products and alcohol, family history, and intake of a high-fat diet were considered risk factors by more than half of participants. However, it was found that participant's knowledge of preventable risk factors such as obesity or overweight, and a lack of exercise were low. This finding was similar to the study done by Prusty et al in Mumbai. [15]

Furthermore, this study found that about one-third of the women had no knowledge regarding the symptoms of breast cancer. A lump in the breast was the most common symptom mentioned by participants. Only a few participants knew that skin changes in the breast, change in the shape or size of the nipple and breast were symptoms of breast cancer. Similar findings were seen in other studies done in India by Prusty et al, Shinde S et al, and Somdatta et al.[13,14,15]

More than 90% of the participants in the present study had at least one misconception regarding breast cancer. The most common are the use of deodorants or perfumes and tight bras, which increase the risk of breast cancer. A study conducted in Ghana reported keeping coins in the bra as a risk factor for breast cancer. Whereas in the study done by Prusty et al in Mumbai, around 50% had the misconception that breast cancer meant losing one's breast(s).[15] Myths related to breast cancer seem to vary from region to region.

We also found that women in this study had a limited understanding of mammography and self-breast examination. The perception of the need for screening for breast cancer was also low in the study population. However, 21.4% of women practised routine self-breast examination in this study. The rates reported were much higher than those mentioned in previous Iranian and Egyptian studies done among nurses, in which only 2.65% and 6% of the general study populations practised self-breast examination monthly, respectively.[16,17]

The study had a limitation. It was a cross-sectional design, and it was not possible to identify any causal relationship between variables. Nevertheless, the findings of this present study provide some understanding regarding knowledge of risk factors, symptoms, and the practice of breast screening among women in Central Kerala. This information can be useful for health promotion and improving the health of women.

Conclusion

The knowledge among women regarding breast cancer was inadequate. It's high time that health professionals take active steps to improve knowledge regarding breast cancer through campaigns and awareness classes. This can lead to improvements in the rates of early detection and increase the chance of curative treatment and survival.

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Conflict of Interest: Nil

Ethical clearance: The study followed Helsinki guidelines and informed consent. Respondents had full right to withdraw from the study. All the information's were kept confidential. IEC clearance was not obtained for the study.

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