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ORIGINAL ARTICLE

Assess the Knowledge on Breast Cancer and Identify the Perceived Barriers to Mammogram Screening among Women in Selected Community

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ABSTRACT

Background: Breast cancer is a major health concern affecting women across the world and early identification plays an important role in improving treatment outcomes. Mammographic examination is an important method for early identification of breast abnormalities. However, inadequate knowledge and several personal, psychological, social, cultural, and financial barriers may prevent women from undergoing screening. Methods: A cross sectional study was conducted involving women in Veeriyampalayam, Coimbatore, to assess knowledge regarding breast cancer and identify perceived barriers to mammogram screening. A total of 100 women aged 40–60 years were selected using simple random sampling. Data were gathered by using a structured questionnaire includes socio demographic variables, a 20 item knowledge questionnaire, and a 25-item Likert scale assessing perceived barriers. Descriptive and inferential statistics were used for analysis.

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Results: Among 100 respondents, 13% had poor knowledge, 72% had moderate knowledge, and 15% had good knowledge regarding breast cancer. Personal barriers to mammogram screening were reported by 72%, followed by financial barriers (69.96%), psychological barriers (67.28%), social barriers (62.60%), and cultural barriers (54.40%). A statistically significant association was observed between knowledge and age, educational level and menopausal status ($p < 0.05$), while occupation, age at menarche, and source of information showed no significant association.

Conclusion: The study revealed moderate knowledge regarding breast cancer and multiple factors hindering participation in mammogram screening. Targeted awareness, counselling, and community-based screening promotion are needed to improve knowledge and reduce barriers.

KEYWORDS:

• Breast cancer • Knowledge • Mammogram screening • Perceived barriers • Women • Early detection

INTRODUCTION

Health is a fundamental human right, and maintaining women's health is an important component of community health. Breast cancer represents a significant leading cancers affecting women and remains a major public health concern. Early identification of breast cancer improves the possibility of timely treatment and better outcomes.

Mammogram screening is an important method used for identifying breast abnormalities at an earlier stage. Despite the availability of screening services, utilization of mammography remains inadequate in many communities. Women may have limited knowledge about breast cancer, its warning signs, risk factors and the essential of screening.

Knowledge and perception does not always result in screening practice. Personal concerns, psychological fear, financial limitations, social influences, cultural beliefs, and concerns related to the screening procedure can discourage women from undergoing mammogram screening.

The impact of breast cancer in India emphasizes the need of early identification and timely care. Increasing the level of knowledge and reducing barriers are therefore important components of breast cancer control. Community-based assessment can detect the specific factors that influence screening behaviour and can help healthcare professionals plan appropriate interventions.

The present study was undertaken to assess knowledge regarding breast cancer and identify perceived barriers to mammogram screening among women in a selected community. The findings may help nurses and other healthcare professionals develop targeted health education and screening promotion strategies.

NEED FOR THE STUDY

Breast cancer continues to be a significant public health challenge among women. Late-stage diagnosis may occur when women do not recognize early symptoms or do not utilize available screening services.

Although information regarding breast cancer is increasingly available, awareness regarding mammogram screening and its importance may remain inadequate. Knowledge alone does not necessarily ensure appropriate screening practice.

Women may experience personal, psychological, financial, social, and cultural barriers. Fear of cancer, anxiety about the procedure, cost, social influence, and cultural beliefs can discourage women from seeking screening.

Identifying these barriers is important for nurses working in community settings. Nurses can provide health education, correct misconceptions, encourage early detection, and motivate women to utilize appropriate screening services.

The present study therefore focuses on both knowledge and perceived barriers so that health education and community interventions can be planned according to the needs of women.

OBJECTIVES

- To determine the level of knowledge regarding breast cancer among women.
- To explore the perceived barriers to mammogram screening among women.
- To determine the association between knowledge of breast cancer and selected demographic variables.
- To provide appropriate awareness regarding breast cancer screening.

LITERATURE REVIEW

Several studies have explored knowledge regarding breast cancer and barriers associated with mammogram screening among women. The literature indicates that women may have awareness of breast cancer while still having gaps in knowledge about screening and experiencing barriers that influence screening behaviour.

Abdel-Salam et al. (2020) reported knowledge and barrier-related concerns among women regarding breast cancer screening. The results emphasized the need of improving awareness and addressing personal and psychological concerns associated with screening.

Alenezi et al. (2022) examined knowledge, attitude and barriers about breast cancer screening and highlighted the importance of educational interventions in improving women's understanding and screening behaviour.

Abugu et al. (2023) reveals the barriers to breast cancer screening in rural women. The findings indicated that social and financial factors may influence screening behaviour and suggested the importance of community-based education and improved accessibility.

Khokhar (2015), in a study conducted in Delhi, identified barriers associated with mammography screening. The findings indicated that lack of awareness, fear, cost, and other personal concerns could discourage women from utilizing screening services.

The reviewed literature demonstrates that barriers to mammogram screening are multidimensional. Therefore, interventions should focus not only on increasing knowledge but also on addressing personal, psychological, financial, social, and cultural concerns.

METHODOLOGY

Research design and Study setting

A descriptive cross-sectional research design was adopted for the study. The study was conducted among women residing in Veeriyampalayam, Coimbatore, Tamil Nadu, India.

Study participants and Sample size

Women aged between 40-60 years constituted the study population. A total of 100 women were included in the study.

Sampling Method

Simple random sampling was employed to select 100 women who fulfilled the inclusion criteria.

Tools and methods of Data Collection procedure

Data were gathered through a structured questionnaire. Section I consisted of demographic variables. Section II consisted of a 20-item structured knowledge questionnaire regarding breast cancer. Section III consisted of a 25-item Likert scale to assess perceived barriers to mammogram screening.

A structured interview method was used for data collection procedure. The respondents were informed regarding the need of the study and confidentiality of the facts was maintained. Data were collected over a period of one week.

Statistical analysis

The data gathered were entered and analysed using descriptive and inferential statistics. Frequency and percentage were used to summarize socio-demographic variables, knowledge levels, and perceived barriers. The chi-square test was used to determine the association between knowledge score and selected demographic variables.

Ethical Considerations

The purpose of the study was explained to the participants. The study was conducted with voluntary participation, while ensuring the confidentiality and anonymity of all respondents.

RESULTS

Distribution of Respondents According to Demographic Variables

Among the 100 respondents, 34% were aged between 46–50 years. The majority of respondents (92%) were married and 68% were homemakers. About 56% belonged to nuclear family. Regarding menopausal status, 61% had not attained menopause. More than half of the respondents (58%) reported health workers as their source of information.

SUMMARY OF MAJOR FINDINGS

- 72% of women exhibited a moderate level of knowledge about breast cancer.
- 15% women exhibited good level of knowledge and 13% had poor level of knowledge.
- Personal barriers were the most frequently reported barriers, at 72%.
- Financial barriers were reported by 69.96% of respondents.
- Psychological barriers were reported by 67.28% of respondents.
- Social barriers were reported by 62.60% of respondents.
- Cultural barriers were reported by 54.40% of respondents.
- A significant association was observed between knowledge and age, level of education and menopausal status. Occupation, age at menarche and source of information were not significantly associated with knowledge.

Table 1: Description of respondents according to knowledge of breast cancer

Knowledge score	Number of respondents	N = 100
		Percentage (%)
0 – 7 (Poor)	13	13
8 – 14 (Moderate)	72	72
15 – 20 (Good)	15	15

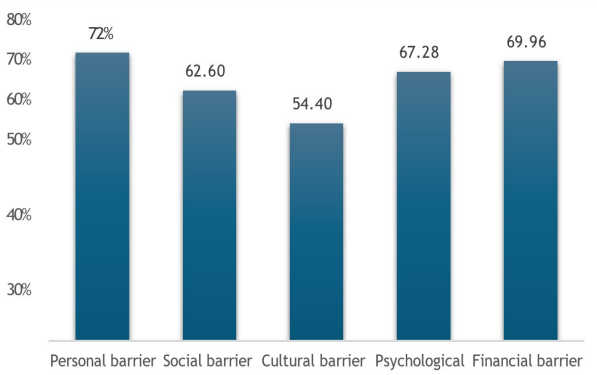


Figure 1: Distribution of total score based on barriers to mammogram screening

DISCUSSION

The results of this study indicate that the majority of respondents had moderate knowledge about breast cancer. Across 100 women, 72% had moderate knowledge, 15% possessed good knowledge, and 13% had poor level of knowledge. This indicates that there is scope for improving knowledge regarding breast cancer, early clinical signs risk factors, and screening.

Personal barriers emerged as the most frequently reported barrier to mammogram screening, accounting for 72% of respondents. Financial barriers were reported by 69.96%, psychological barriers by 67.28%, social barriers by 62.60%, and cultural barriers by 54.40%. These findings indicate that screening behaviour may be influenced by multiple factors rather than by knowledge alone.

The findings are consistent with the literature reviewed, which identifies personal, psychological, financial, social, and cultural factors as barriers to breast cancer screening. The evidence emphasize that awareness programmes should include counselling and myth correction in addition to information regarding breast cancer.

The study also reveals that a significant association between knowledge and age, educational status, and menopausal status. This suggests that demographic characteristics may influence women's understanding of breast cancer. Health education should therefore be planned according to the characteristics and needs of the community.

Collectively the results support the necessity of community-based breast cancer education, screening promotion, counselling, and

improved awareness of available screening services.

RECOMMENDATIONS

- Implement regular breast cancer awareness and mammogram screening education programmes in community settings.
- Conduct educational programmes focusing on early detection and the importance of mammogram screening.
- Address personal, psychological, financial, social, and cultural barriers through targeted counselling.
- Encourage nurses and healthcare professionals to act as motivators for breast cancer early detection.
- Improve awareness of and accessibility to available breast cancer screening services.

CONCLUSION

The study observed that most of the women possessed a moderate level of knowledge regarding breast cancer and experienced multiple perceived factors hindering to mammogram screening. Personal barriers were the most commonly reported, followed by financial, psychological, social, and cultural barriers. These finding highlight the need for focused health awareness , counselling, and community-based screening promotion programmes.

Nurses and other healthcare professionals have an important role in improving women's knowledge, addressing misconceptions and perceived barriers, and motivating women to participate in appropriate screening measures for the early identification of breast cancer.

Conflict of Interest: There is no conflict of interest.

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