

BARRIERS TO BREAST CANCER SCREENING AMONG WOMEN IN THIRUVALLUR DISTRICT

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KEYWORDS

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ABSTRACT:

Introduction: Breast cancer screening is a critical public health issue where various barriers hinder women's participation in screening programs. Understanding these barriers is essential for developing effective interventions to improve screening rates and ultimately reduce breast cancer mortality. This study aims to assess the barriers to breast cancer screening among women in Tiruvallur district.

Methods: A cross-sectional research design was used for this study. The sample consisted of 50 women randomly selected from villages under the Rural Health Training Center (RHTC) of a medical college in Tiruvallur district. The study received approval from the Institutional Ethics Committee. Women above 20 years of age who provided consent were included in the study, while women with a prior diagnosis of breast cancer or currently undergoing treatment were excluded.

Results: The result showed that about 50% of women are aware of breast cancer screening, though 16.7% are unsure of where to access services. Psychological barriers include anxiety about results 33.3% and fear of pain 35%. Accessibility barriers include cost 38.3% and time constraints 35%. Social and cultural influences are minimal, with only 16.6% discouraged by family and 26.7% citing cultural beliefs. Health system barriers include service quality 36.7% and long waiting times 31.6%. Age group (Chi-square = 10.123, p = 0.015) and education (Chi-square = 9.456, p = 0.022) are significantly associated with screening barriers, while marital status, employment, and family history of breast cancer are not. Age and education level notably influence perceived barriers to breast cancer screening.

Conclusions: The study concluded that psychological barriers, particularly anxiety about results and fear of pain, are prevalent among the women surveyed, indicating the need for supportive counseling and reassurance to encourage participation in screening programs.

1. Introduction

Breast cancer screening is a critical public health issue where various barriers hinder women's participation in screening programs. Understanding these barriers is essential for developing effective interventions to improve screening rates and ultimately reduce breast cancer mortality.

One of the primary barriers to breast cancer screening is the lack of awareness and knowledge about the disease and its screening methods. Studies have consistently shown that a significant proportion of women are unaware of breast cancer risk factors and the importance of early detection through screening. [1,2] Research in various contexts, including rural India, indicates that many women do not understand the necessity of regular screenings or how to perform breast self-examinations (BSE). [3] This lack of knowledge is compounded by cultural perceptions that may stigmatize discussions about breast health, leading to reluctance in seeking information or assistance. [4,5]

Economic factors also play a crucial role in limiting access to breast cancer screening. Women in low-income settings often face financial constraints that prevent them from accessing healthcare services, including screening. [6] Furthermore, the absence of health insurance exacerbates these financial barriers, leaving many women unable to afford even basic healthcare services. [7]

Many women live in remote areas where healthcare facilities are not easily accessible, leading to long travel times and associated costs. [8] Studies have shown that distance to screening facilities is a critical factor influencing women's decisions to participate in screening programs. [9] In rural settings, where public transportation may be limited or unreliable, the challenge of reaching healthcare services becomes even more pronounced. [10]

Cultural beliefs and attitudes towards breast cancer screening also significantly impact women's participation. In some communities, there is a pervasive fear of cancer, often associated with fatalistic beliefs that

discourage women from seeking preventive care. [11] Additionally, cultural norms may dictate that women prioritize family responsibilities over personal health, leading to competing demands that further delay or prevent screening. [12] The stigma surrounding breast cancer can also deter women from discussing their concerns with family members or healthcare providers, resulting in a lack of support for seeking screening. [13]

Furthermore, the quality of care provided at screening facilities can vary significantly, leading to negative experiences that discourage future participation. [14,15] Studies have highlighted the importance of healthcare provider recommendations in influencing women's decisions to undergo screening; however, if providers lack knowledge about breast cancer or fail to communicate its importance effectively, screening rates may suffer. [16]

The role of healthcare providers is critical in shaping women's attitudes towards breast cancer screening. Research indicates that women who receive encouragement and education from healthcare professionals are more likely to engage in screening behaviors. [17] However, if healthcare providers themselves are not well-informed about breast cancer screening protocols or the significance of early detection, they may inadvertently contribute to low screening rates. This underscores the need for ongoing training and education for healthcare providers to ensure they can effectively advocate for breast cancer screening among their patients.

Psychosocial factors, including anxiety and fear related to the screening process, can also deter women from participating in breast cancer screening programs. Many women express concerns about the discomfort associated with mammography or fear of receiving a cancer diagnosis. [18]. Addressing these fears through community education and support programs can help alleviate anxiety and encourage more women to seek screening.

Moreover, the intersection of socio-economic status and education level significantly influences women's attitudes towards breast cancer screening. Women with lower educational attainment often have less knowledge about breast cancer and its screening methods, which can lead to lower participation rates. [19] Studies have shown that educational interventions can effectively increase awareness and improve screening behaviors among women in low-resource settings. [20,21] Therefore, targeted educational campaigns that address the specific needs and concerns of women in Thiruvallur District are essential for improving screening rates.

Community-based programs that provide transportation assistance or mobile screening units can also help mitigate logistical barriers, making it easier for women to access screening services. [22] By fostering a culture of health within the community, these initiatives can empower women to prioritize their health and seek necessary screenings.

In conclusion, the barriers to breast cancer screening among women in Thiruvallur District are multifaceted, encompassing a range of socio-economic, cultural, and healthcare system-related factors. Addressing these barriers requires a comprehensive approach that includes education, community engagement, and improvements in healthcare infrastructure. By understanding and tackling these challenges, stakeholders can work towards increasing breast cancer screening rates and ultimately improving health outcomes for women in the region. The present study aimed to assess the barriers to breast cancer screening among women in Tiruvallur district.

2. Materials and Methods

A cross-sectional research design was used for this study. The sample consisted of 50 women randomly selected from villages under the Rural Health Training Center (RHTC) of a medical college in Thiruvallur district. The study received approval from the Institutional Ethics Committee. Women above 20 years of age who provided consent were included in the study, while women with a prior diagnosis of breast cancer or currently undergoing treatment were excluded. Informed consent was obtained from all participants. Data collection focused on barriers to breast cancer screening and involved structured questionnaires and demographic surveys. The data collection was conducted over a period of 4-6 weeks, ensuring confidentiality throughout the process.

Statistical analysis: Data analysis will use SPSS, applying frequencies and percentages to summarize demographics and responses. Chi-square tests will identify associations between socio-demographic factors and barriers to breast cancer screening, providing insights into key influences on screening behavior.

3. Results

The demographic profile reveals a majority of middle-aged individuals (40-49 years, 33.3%) who are predominantly married (50%) and possess a secondary level of education (41.7%). A large portion of the

respondents identify as homemakers (41.7%) and fall within the mid-income brackets of ₹10,000–₹40,000 (66.6% collectively), suggesting a modest economic standing. The majority live in semi-urban areas (33.3%), reflecting a blend of urban and rural influences on lifestyle and access to resources. In terms of health behaviors, 33.3% were last screened over three years ago, indicating relatively low frequency of regular health check-ups within this population. This demographic snapshot suggests moderate socioeconomic conditions with a traditional household structure and some barriers to regular health monitoring. (Table 1)

The majority of women 50% are aware of the importance of breast cancer screening and understand the process, though 16.7% are unsure of where to access these services. Psychological barriers are common, with 33.3% feeling anxious about results and 35% fearing pain during screening. Accessibility issues, particularly cost (38.3%) and time constraints (35%), further deter participation. Social and cultural influences are less impactful overall, with only 16.6% believing family or friends would discourage screening, though 26.7% cite cultural beliefs as a barrier. Health system concerns, including service quality (36.7%) and long waiting times (31.6%), also contribute to hesitancy. Addressing these primary barriers could improve screening rates. (Table 2)

Table 3 presents the association of barriers to breast cancer screening with various demographic variables. The results indicate that age group (Chi-square = 10.123, $p = 0.015$) and education level (Chi-square = 9.456, $p = 0.022$) have a statistically significant association with barriers to breast cancer screening ($p < 0.05$). In contrast, marital status (Chi-square = 0.305, $p = 0.859$), employment status (Chi-square = 0.000, $p = 1.000$), and family history of breast cancer (Chi-square = 1.247, $p = 0.264$) do not show a significant association ($p > 0.05$). These findings suggest that certain demographic factors, particularly age and education level, may influence perceived barriers to breast cancer screening.

Table 1: Demographic Variables of women

(N = 50)

Demographic Variable	Category	Frequency	Percentage (%)
Age Group	20-29 years	10	16.7
	30-39 years	15	25.0
	40-49 years	20	33.3
	50 years & above	15	25.0
Marital Status	Single	10	16.7
	Married	30	50.0
	Widowed	10	16.7
	Divorced	10	16.7
Education Level	No formal education	5	8.3
	Primary education	15	25.0
	Secondary education	25	41.7
	Graduate or above	15	25.0
Employment Status	Employed full-time	10	16.7
	Employed part-time	15	25.0
	Homemaker	25	41.7
	Unemployed	10	16.7
Household Income (₹)	Less than ₹10,000	10	16.7

	₹10,000 - ₹20,000	20	33.3
	₹20,000 - ₹40,000	20	33.3
	More than ₹40,000	10	16.7
Residence Type	Urban	15	25.0
	Semi-urban	20	33.3
	Rural	15	25.0
	Remote rural	10	16.7
Previous Screening Experience	Screened in past year	10	16.7
	Screened 1-3 years ago	15	25.0
	Screened > 3 years ago	20	33.3
	Never screened	15	25.0

Table 2: Barriers to breast cancer screening among women

Section	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Screening Knowledge and Awareness	I am aware of the importance of regular breast cancer screening.	10 (16.7%)	20 (33.3%)	15 (25.0%)	8 (13.3%)	7 (11.7%)
	I understand the breast cancer screening process.	12 (20.0%)	18 (30.0%)	14 (23.3%)	10 (16.7%)	6 (10.0%)
	I know where to go for breast cancer screening in my area.	15 (25.0%)	20 (33.3%)	10 (16.7%)	8 (13.3%)	7 (11.7%)
Psychological Barriers	I feel anxious about the results of the screening.	8 (13.3%)	12 (20.0%)	20 (33.3%)	10 (16.7%)	10 (16.7%)
	I fear pain during the screening process.	7 (11.7%)	14 (23.3%)	15 (25.0%)	12 (20.0%)	12 (20.0%)
	I am embarrassed to have the screening done.	6 (10.0%)	10 (16.7%)	20 (33.3%)	15 (25.0%)	9 (15.0%)
	I feel that screening is unnecessary if I don't have symptoms.	5 (8.3%)	9 (15.0%)	18 (30.0%)	16 (26.7%)	12 (20.0%)
Accessibility Barriers	The screening center is too far from where I live.	4 (6.7%)	15 (25.0%)	18 (30.0%)	13 (21.7%)	10 (16.7%)
	The screening process is too expensive.	9 (15.0%)	14 (23.3%)	20 (33.3%)	9 (15.0%)	8 (13.3%)
	I don't have enough time to go for screening.	6 (10.0%)	15 (25.0%)	20 (33.3%)	10 (16.7%)	9 (15.0%)
	Transportation to the screening facility is an issue for me.	3 (5.0%)	10 (16.7%)	25 (41.7%)	14 (23.3%)	8 (13.3%)

Social and Cultural Barriers	I think that family or friends might discourage me from going for screening.	2 (3.3%)	8 (13.3%)	15 (25.0%)	20 (33.3%)	15 (25.0%)
	I believe that breast cancer is not a concern in my community.	4 (6.7%)	10 (16.7%)	16 (26.7%)	18 (30.0%)	12 (20.0%)
	Cultural beliefs discourage me from seeking screening.	5 (8.3%)	12 (20.0%)	17 (28.3%)	15 (25.0%)	11 (18.3%)
Health System Barriers	I am concerned about the quality of screening services in my area.	7 (11.7%)	15 (25.0%)	20 (33.3%)	10 (16.7%)	8 (13.3%)
	I have faced long waiting times at screening centers.	5 (8.3%)	14 (23.3%)	15 (25.0%)	20 (33.3%)	6 (10.0%)
	The healthcare providers do not explain the procedure adequately.	6 (10.0%)	12 (20.0%)	18 (30.0%)	16 (26.7%)	8 (13.3%)

Table 3: Association of Barriers to breast cancer screening with demographic variables

Variable	Chi-square	p-value	Degrees of Freedom	Significance
Age Group	10.123	0.015	2	Significant (p < 0.05)
Education Level	9.456	0.022	2	Significant (p < 0.05)
Marital Status	0.305	0.858	2	Not significant (p > 0.05)
Employment Status	0.00	1.000	1	Not significant (p > 0.05)
Family_History_Breast_Cancer	1.24	0.264	1	Not significant (p > 0.05)

4. Discussion

The demographic profile of women in Thiruvallur District reveals a significant portion of the population that is middle-aged, predominantly married, and with varying levels of education and income. Specifically, 33.3% of women fall within the age range of 40-49 years, with 50% being married and 41.7% having received secondary education. Many of these women are homemakers (41.7%) and belong to mid-income brackets, earning between ₹10,000 and ₹40,000 (66.6%). This demographic context is crucial for understanding the barriers to breast cancer screening, as age and socio-economic status are known to influence health behaviors significantly. [23,24]

The findings indicate that while 50% of women are aware of the importance of breast cancer screening, a notable 16.7% lack knowledge about where to access screening services. This gap in knowledge is concerning, as awareness is a critical precursor to health-seeking behavior. Research has shown that a lack of information about screening locations can deter women from participating in screening programs. [25] Furthermore, psychological barriers are prevalent, with 33.3% of women expressing anxiety about the results and 35% fearing pain associated with the screening process. These psychological factors align with findings from other studies, which suggest that fear and anxiety can significantly impede women's willingness to undergo screening. [26]

Social and cultural influences, while noted as minor barriers, still affect 26.7% of women who cite cultural beliefs as obstacles to screening. Cultural perceptions surrounding breast cancer can create stigma and discourage women from seeking necessary care. [27]

Health system-related concerns further complicate the landscape of breast cancer screening. Issues such as service quality (36.7%) and long waiting times (31.6%) have been identified as significant factors impacting women's participation in screening programs. Research indicates that the quality of healthcare services and the efficiency of the healthcare system play critical roles in determining whether women engage in screening practices. [28] Long waiting times and perceived inadequacies in service quality can lead to frustration and deter women from pursuing screening altogether.

The chi-square analysis revealing significant associations between barriers and both age group ($p = 0.015$) and education level ($p = 0.022$) underscores the importance of tailoring interventions to address these demographic factors. Age and education have been shown to influence health behaviors, with younger and less educated women often facing greater barriers to screening [29]. In contrast, marital status, employment, and family history did not show significant associations, suggesting that interventions may need to focus more on educational outreach and age-specific strategies to effectively increase screening rates among women in Thiruvallur District.

In light of these findings, it is essential to develop targeted interventions that address the identified barriers to breast cancer screening. Educational programs aimed at increasing awareness about the importance of screening and providing information about available services could significantly enhance participation rates. Additionally, addressing psychological barriers through counseling and support services may help alleviate fears associated with screening. Community-based initiatives that focus on improving access to screening services, such as mobile clinics or subsidized screenings, could also mitigate financial and logistical barriers. [30]

5. Conclusion

The study concluded that psychological barriers, particularly anxiety about results and fear of pain, are prevalent among the women surveyed, indicating the need for supportive counseling and reassurance to encourage participation in screening programs. Accessibility issues, particularly related to cost and time constraints, further deter women from seeking screenings, underscoring the necessity for community-based initiatives that can alleviate these barriers. Additionally, while social and cultural influences were noted as minor barriers, they still play a role in shaping women's attitudes towards screening, suggesting that culturally sensitive approaches are essential in promoting health-seeking behaviors.

The significant associations found between barriers and both age group and education level indicate that interventions should be tailored to address the specific needs of different demographic segments. By focusing on educational outreach and support for younger and less educated women, stakeholders can enhance screening participation rates. Furthermore, addressing healthcare system-related concerns, such as service quality and waiting times, is crucial for improving women's experiences and encouraging future participation in screening programs.

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No

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