

Knowledge and Attitude of Women Regarding Mammogram and Other Screening Modalities for Breast Cancer in a Selected Hospital, Kottayam

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Abstract

The present study was conducted at Caritas Hospital, to assess the knowledge and attitude of women (30–50 years) regarding mammogram and other screening modalities. The study aimed to evaluate women's understanding of mammograms and various breast cancer screening methods, gauge their attitudes toward mammograms and other screening options, investigate the relationship between women's knowledge and attitudes regarding these screening methods, explore any associations between knowledge and certain demographic factors, and examine any associations between attitudes and specific demographic variables. The research followed a non-experimental descriptive design and employed random sampling to select a sample of 50 participants from the population. A structured questionnaire was utilized to assess knowledge, while a five-point Likert scale was employed to measure attitudes. A pilot study was conducted to assess the study's feasibility, and data collection took place between September 16, 2022, and September 17, 2022. The data analysis comprised both descriptive and inferential statistical methods. The findings of the study reveal that among 50 samples, majority (62%) of the sample had good knowledge, 22% had average knowledge, 12% had excellent knowledge and only 4% had poor knowledge regarding mammogram and other screening modalities, 28 (56%) samples had favourable attitude, 22 (44%) had neutral attitude and none of them had unfavourable attitude. A statistically insignificant correlation exists between women's knowledge and their attitudes towards mammograms and other screening methods, as indicated by the 'r' value of 0.124, which is lower than the critical table value of 1.677 at a significance level of 0.05. There is no significant association found between the knowledge score of women regarding mammogram and other screening

modalities and selected demographic variables such as age, occupation, number of breast-fed children and area of living. There is no significant association between the attitude score of women regarding mammogram and other screening modalities and selected demographic variables such as age, occupation, number of breast-fed children and area of living. The study's results have relevance for nursing practice, nursing education, and nursing research. Early detection is crucial in the management and control of breast cancer, given that it is the most prevalent cancer among women.

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INTRODUCTION

Woman is often considered one of the most captivating beings in the world, embodying the

creative essence of the universe across numerous aspects. She serves as the source of life's inception through her womb. Breast cancer is the most common cancer that impacts women. According to the community involved in breast cancer programme conducted at Kannur district in 2019, the result shows that about 43% of the total samples were diagnosed with breast cancer. Among them, 61% were in the early stage of breast cancer and those in advanced stage and old age had poor outcomes [1–3].

Detecting cancer at an early stage could lead to a substantial long-term decrease in breast cancer-related deaths. The key factor in improving breast cancer outcomes is the early identification of cancer cells. Recommended preventive measures to reduce the mortality and incidence of breast cancer include performing self-administered breast self-examinations (BSE), undergoing clinical breast examinations (CBE), and obtaining mammography screenings. While CBE and mammography necessitate a visit to a healthcare facility and specialized equipment and skills, BSE is an affordable and self-administered approach that women can perform on their own.

NEED FOR THE STUDY

According to the World Health Organization (WHO), breast cancer leads to the annual loss of 458,000 lives. It is imperative to prioritize efforts aimed at increasing women's access to life-saving preventive care. The early identification of breast cancer is a crucial factor in managing and curbing the disease. When breast cancer is detected at an earlier stage, the chances of survival are significantly elevated. Through screening, cancer can be detected early when they are small and not spread to lymph nodes making breast conservation as well as causing reduction in mortality from breast cancer [4, 5].

According to the World Health Organization (WHO), 458,000 lives are lost each year due to breast cancer. It is essential to prioritize initiatives that enhance women's accessibility to preventive healthcare, which can be life-saving. Early detection plays a pivotal role in managing and mitigating the impact of breast cancer. Detecting breast cancer at an early stage substantially increases the likelihood of survival. The research results indicated that, despite 72.7% of participants acknowledging the positive impact of early diagnosis on treatment outcomes, only 27.3% were informed about mammography as an early detection method. This study's conclusion is that among the study participants, there was variation in their knowledge of breast cancer across different areas, particularly regarding screening methods [6–9].

STATEMENT OF THE PROBLEM

A research project conducted to evaluate women's understanding and perceptions of mammograms and alternative breast cancer screening methods at a specific hospital in Kottayam.

OBJECTIVES

- Assess the knowledge of women regarding mammogram and other screening modalities for breast cancer.
- Evaluate women's sentiments regarding mammograms and various screening methods.
- Investigate the links between knowledge and specific demographic factors.
- Examine the connections between attitudes and particular demographic variables.
- Find the correlation between knowledge and attitude of women regarding mammogram and screening modalities for breast cancer.

Hypothesis

- H1: There is a significant relationship between knowledge and attitude of women regarding mammogram and screening modalities of breast cancer.
- H2: A substantial correlation exists between women's knowledge concerning mammograms and other breast cancer screening methods and specific demographic variables.
- H3: A significant correlation is evident between women's attitudes toward mammograms and other breast cancer screening methods and certain demographic variables.

METHODOLOGY

- *Research approach:* A descriptive research approach without an experimental component.
- *Research design:* A survey design with a descriptive nature.
- *Variables:* The variables under investigation in the study are knowledge and attitude.
- *Setting:* The research took place in a specific hospital within the Kottayam district.
- *Sample:* Sample include 50 women (30–50 years) who attends gynaecology OPD and medical OPD in Caritas hospital, Thellakom.
- *Sampling technique:* Non-probability convenient sampling technique.

Description of Tool

1. *Tool 1: Demographic variable:* Demographic variables were gathered through a structured questionnaire via self-reporting. This consists of age, educational status, marital status, number of children, occupation and age at menarche.
2. *Tool 2: Structured knowledge questionnaire:* Structured knowledge questionnaire was developed with the intention to assess the knowledge of women regarding mammogram and other screening modalities of breast cancer in a selected hospital Kottayam.
3. *Tool 3: Likert scale:* Structured attitude statements were developed with the intention to assess the attitude of women regarding mammography and screening modalities in a selected hospital Kottayam [10, 11]. This section includes 10 statements which include 4 positive and 6 negative statements. The options include strongly agree, agree, neutral, disagree and strongly disagree.

Method of Data Collection

After getting a formal written permission from the principal Caritas College of Nursing, Director of Caritas Hospital and other concerned authorities related to Medical and Gynaecological Department of Caritas Hospital, Thellakom. The data collection was done by convenient sampling technique. The researcher selected 50 women aged between 30 and 50 years from those attending gynaecological and medical outpatient departments, following specific inclusion and exclusion criteria. Before collecting data, the study's purpose was communicated to the subjects to secure their cooperation. Written consent was obtained, and participants were asked to read and complete the questionnaire following provided instructions. Subsequently, the collected data was compiled for analysis [12, 13].

Data Analysis

The data were examined in accordance with the objectives and hypotheses using both descriptive and inferential statistical methods. The analysis involved utilizing frequency, percentage, chi-square test, and Karl Pearson's coefficient correlation to assess the collected data [14–16].

The data in Figure 1 shows that majority of the sample (34%) belongs to 30–35 years age group and only 18% were in the age of 41–45 years. The data in Table 1 indicates that 46% of the samples were undergraduates and only 6% of samples were below 10th standard.

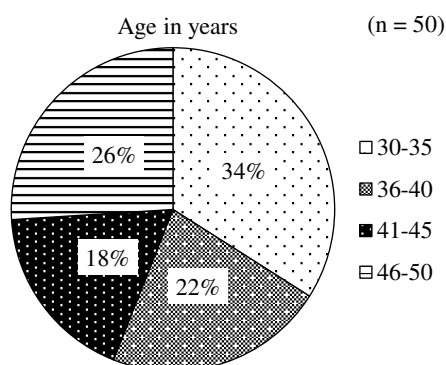


Figure 1. Pie diagram showing percentage distribution of women according to age.

The data in Figure 2 highlights that majority of the samples (88%) were married and only 2% of sample was divorced. The data in Table 2 indicates that most of the sample (44%) have 2 children and 18% of samples have no children.

The data presented in Table 3 shows that majority (38%) of the samples have 2 breast fed children and 12% of the sample have only one breast fed child. The data presented in Figure 3 depicts that 66% of the sample attained menarche at 13 years and only 2% of the samples attained menarche before the completion of 10 years.

Table 1. Frequency and percentage distribution of women according to educational status (n=50).

Educational status	Frequency	Percentage
Below 10 std	3	6
Higher secondary	15	30
Undergraduate	23	46
Post-graduate	9	18

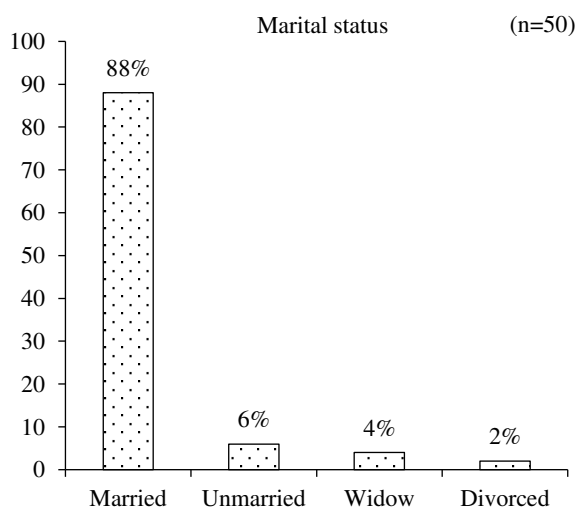


Figure 2. Bar diagram showing percentage distribution of women according to marital status.

Table 2. Frequency and percentage distribution of women according to the number of children (n=50).

No. of children	Frequency	Percentage (%)
0	9	18
1	7	14
2	22	44
3	12	24

Table 3. Frequency and percentage distribution of women according to number of breast-fed children (n=50).

No. of breast-fed children	Frequency	Percentage (%)
0	14	28
1	6	12
2	19	38
3	11	22

The data presented in Table 4 shows that majority (66%) samples live in rural area and only 8% live in urban area. The data presented in the Figure 4 indicate that most of the samples (38%) belong to non-governmental institutional workers and only 20% were government employees.

The data presented in Table 5 despite that majority (62%) of the sample had good knowledge, 22% had average knowledge, 12% had excellent knowledge and only 4% had poor knowledge regarding mammogram and other screening modalities.

Data presented in Table 6 shows that mean knowledge score is 12.04 and standard deviation is 2.78. Table 7 shows the overall percentage of knowledge obtained by women. Mean knowledge score is 12.04 with standard deviation 2.78. Majority of them have 24.08 average knowledge score.

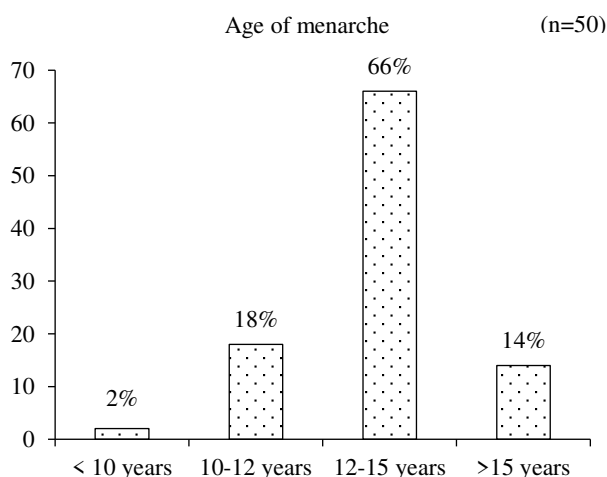


Figure 3. Cone diagram showing the distribution of variable according to the age of menarche.

Table 4. Frequency and percentage distribution of variables according to the area of living (n=50).

Area of living	Frequency	Percentage (%)
Urban	4	8
Rural	33	66
Semi urban	11	22
Others	22	44

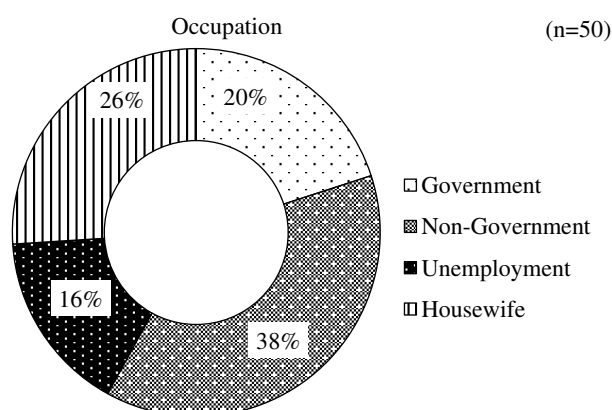


Figure 4. Doughnut diagram showing the distribution of samples according to the occupation.

Table 5. Frequency and percentage distribution of samples based on level of knowledge on mammogram and other screening modalities (n=50).

Level	Frequency	Percentage (%)
Excellent (16–20)	6	12
Good (11–15)	31	62
Average (6–10)	11	22
Poor (1–5)	2	4
Total	50	100

Table 6. Mean and Standard Deviation of knowledge scores of women regarding mammogram and other screening modalities (n=50).

Variable	Mean	Standard deviation
Knowledge	12.04	2.78

Table 7. Overall knowledge score of women regarding mammogram and other screening modalities (n=50).

Variables	No. of questions	Mean±SD	% of knowledge
Overall knowledge score	20	12.04±2.78	24.08

The data presented in the Figure 5 depicts that 56% samples have favourable attitude, 44% have neutral attitude and no one has unfavourable attitude regarding mammogram and other screening modalities. The data presented in the Table 8 shows that the mean is 34.84, median is 36 and standard deviation is 3.92 of women regarding mammogram and other screening modalities.

Table 9 shows the percentage of overall attitude scores of women. The mean attitude score is 34.84 with standard deviation 3.92. Majority of samples (56%) have favourable attitude, 44% are having neutral attitude and none of them has unfavourable attitude towards mammogram and other screening modalities.

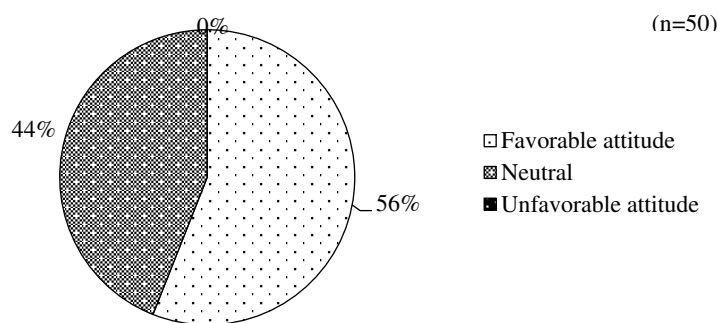


Figure 5. Pie diagram showing percentage distribution of attitude scores.

Table 8. Mean, median and standard deviation of attitude scores of women regarding mammogram and other screening modalities.

Variable	Mean	Median	Standard deviation
Attitude	34.84	36	3.92

Table 9. Overall attitude scores of women regarding mammogram and other screening modalities (n=50).

	No. of questions	Mean±SD	% of attitude
Overall attitude	10	34.84±3.92	69.68

The data from Table 10 shows chi-square values of selected demographic variables (0.03, 0.6, 2.09, 0.02) is lesser than the table value ($\chi^2_{(1)}=3.84$) at 0.05 level of significance. Hence there is no significant association between knowledge score of women and selected demographic variables such as age, number of breast-fed children, area of living, and occupation, so, the null hypothesis is accepted and research hypothesis is rejected.

The data in the Table 11 shows that the chi square value of attitude score and one of the selected demographic variables such as number of breast fed children is greater than the table value $\chi^2_{(1)}=3.84$ at 0.05 level of significance. Hence there is significant association between attitude and the demographic variables such as number of breast-fed children. Therefore, the research hypothesis is upheld, and the null hypothesis is rejected. The obtained chi square value of attitude score and selected demographic variables such as age, area of living and occupation are less than the table value $\chi^2_{(1)}=3.84$ at 0.05 level of significance. There is an absence of a noteworthy correlation between attitude and demographic factors such as age, residential location, and occupation. Therefore, the null hypothesis is upheld, while the research hypothesis is negated.

The information provided in Table 12 pertains to the computed correlation coefficient between knowledge and attitude. The Table 12 provided demonstrates that the calculated 'r' value (0.124) is lower than the critical table value (1.677) at a significance level of 0.05. Consequently, this suggests that there exists a very minimal positive connection between women's knowledge and attitudes concerning mammograms and other screening methods. Consequently, the research hypothesis is not supported, and the null hypothesis is upheld [17–19].

Table 10. Chi-square showing association between knowledge score of women towards mammogram and other screening modalities for breast cancer and selected demographic variables.

S.N.	Demographic variables	Chi-square	Degree of freedom	Level of significance
1	Age	0.03	1	Not significant
2	Number of breastfed children	0.6	1	Not significant
3	Area of living	2.09	1	Not significant
4	Occupation	0.02	1	Not significant

$p=0.05 \chi^2_{(1)}=3.84$.

Table 11. Chi-square showing association between attitude score of women regarding mammogram and other screening modalities for breast cancer and selected demographic variable.

S.N.	Demographic variables	Chi-square	Degree of freedom	Level of significance
1	Age	0.67	1	Not significant
2	Number of breast-fed children	3.91	1	Significant
3	Area of living	0.018	1	Not significant
4	Occupation	0.012	1	Not significant

$\chi^2_{(1)}=3.84$.

Table 12. Correlation between knowledge and attitude of women regarding mammogram and other screening modalities for breast cancer.

Variable	Standard deviation	Mean	r
Knowledge	2.78	12.04	0.124
Attitude	3.92	34.84	

$df= n-2 \quad df_{(48)}=50-2=48$.

DISCUSSION

This study was conducted to evaluate women's knowledge and attitudes toward mammograms and other screening methods. The initial goal was to gauge women's knowledge scores regarding these screening methods. Among the 50 samples, 62% exhibited a strong knowledge base, 22% demonstrated an average level of knowledge, 12% possessed an excellent understanding, and 4% had limited knowledge. The results revealed that a significant proportion of the participants exhibited a commendable degree of knowledge regarding breast screening methods. The second objective is to assess attitude score of women regarding mammogram and other screening modalities. In the present study, most of the women (56%) have favourable attitude, 44% have neutral attitude and 0% have unfavourable attitude towards mammogram and other breast screening modalities. The researcher found that there is favourable attitude found among most women. The following objective is to examine the connection between knowledge and specific demographic factors. However, no substantial correlation was observed between knowledge and the chosen demographic variables. The subsequent aim is to evaluate the relationship between attitude and specific demographic variables. It was established that a significant correlation exists between attitude and the selected demographic variables. The next objective is to assess the correlation between knowledge and attitude of women regarding mammogram and other screening modalities. In this study, the correlation coefficient between knowledge and attitude stands at 0.124, indicating an extremely slight positive correlation regarding mammograms and other screening methods [20–24].

CONCLUSION

The primary objective of this study was to evaluate women's understanding of mammograms and various breast cancer screening methods, gauge women's attitudes towards these screening methods, examine the links between knowledge and specific demographic factors, investigate the connections between attitudes and demographic variables, and analyse the correlation between women's knowledge and attitudes regarding mammograms and other breast cancer screening modalities. In light of the study's results, the following conclusions were reached.

Majority of the sample have good knowledge on mammogram and other screening modalities, majority of the sample have favourable attitude towards mammogram and other screening modalities of breast cancer, there is no significant association between knowledge score of women and selected demographic variables, there is significant association between attitude score of women and selected demographic variables. In general, it can be concluded that majority of the sample has good knowledge and attitude towards mammogram and other screening modalities.

Limitations

- Being small in size (50), the generalization of the result is limited.
- The time was limited to a short period of time.
- Study was limited to only one Hospital.

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