

**ASSESSMENT OF KNOWLEDGE, ATTITUDE & PRACTICE (KAP) AMONG
FEMALE NURSES REGARDING BREAST CANCER AND ITS SCREENING
METHODS AT CIMS-KARKINOS CANCER CARE UNIT, BHOPAL**

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree

Master of Business Administration (MBA)

In

Hospital and Health Management

by

Sakshi Shrivastava

Under the Supervision and Guidance of

Dr. Kajal Sitlani

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **“Assessment of knowledge, Attitude and Practice among female nurses regarding Breast Cancer and its Screening methods at CIMS-Karkinos Cancer Care unit, Bhopal”** is the bonafide record of my original researchwork. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Sakshi Shrivastava

Date

**CERTIFICATE FROM FACULTY GUIDE AND
SCHOOL DEAN**

This is to certify that dissertation title **“Assessment of knowledge, Attitude and Practice among female nurses regarding Breast Cancer and its Screening methods at CIMS-Karkinos Cancer Care unit, Bhopal”** is a record of the research work undertaken by **Sakshi Shrivastava** in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

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ABSTRACT

Breast cancer remains a significant global health challenge, affecting millions of individuals worldwide. Early detection through regular screening is crucial for improving treatment outcomes and reducing mortality rates associated with this disease. While healthcare professionals play a vital role in promoting breast cancer awareness and screening, it is essential to assess their own knowledge, attitudes, and practices related to breast cancer and its screening methods. Nurses, as frontline healthcare providers, have a unique position in patient care and education. Their understanding of breast cancer, its risk factors, and screening techniques directly influences the information they provide to patients and the support they offer throughout the screening process. However, there is limited research focusing specifically on the knowledge, attitudes, and practices of nurses regarding breast cancer and its screening methods.

This study aimed to assess the knowledge, attitudes, and practices of breast cancer and its screening methods among nurses at CIMS - Karkinos Cancer Care Unit in Bhopal. The specific objectives were to determine the level of knowledge among nurses regarding breast cancer and its screening methods, explore the attitudes of nursing staff towards breast cancer screening methods, and assess the percentage of nurses who practice self-screening modalities or undergo clinical breast examination (CBE) and mammography regularly.

A descriptive and cross-sectional research design was employed, and data were collected using a self-administered questionnaire. Convenience sampling was used to select 34 female nurses working at CIMS - Karkinos Cancer Care Unit as participants. The questionnaire consisted of sections on demographic details, knowledge of breast cancer and its screening methods, attitudes towards breast cancer and screening methods, and practices of screening methods.

The results showed that the knowledge level of nurses regarding breast cancer and its screening methods was suboptimal, with only a small percentage demonstrating excellent knowledge. While the majority of nurses were aware of breast self-examination (BSE), clinical breast examination (CBE), and mammography, their knowledge about these screening methods varied. Attitudes towards breast cancer screening methods were generally positive, with nurses recognizing the importance of screening and expressing willingness to educate and promote awareness among patients. However, the practice of screening methods among nurses was low, with a significant percentage reporting never having performed BSE or undergoing CBE and mammography.

In conclusion, this study revealed a need for improved knowledge and practices of breast cancer screening methods among nurses. Efforts should be made to enhance educational programs and training for nurses, promote regular self-screening and clinical examinations, and provide access to mammography services. By improving nurses' knowledge, attitudes, and practices, early detection of breast cancer can be facilitated, leading to better outcomes for patients.

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CHAPTER 1- INTRODUCTION

Background

The global health crisis posed by breast cancer is a major issue for women, placing a significant strain on individuals, their families, and health care systems. The World Health Organization estimates that the most common type of cancer among women is breast cancer, accounting for an estimated two and a half million new cases in 2020. Breast cancer is also a major contributor to cancer-related mortality among women, emphasizing the urgency of early detection and diagnosis in order to improve treatment outcomes and reduce mortality rates.

Early detection of breast cancer is essential, as it allows for the detection of abnormalities or tumors before symptoms appear. Common screening techniques include BSE (breast self-examination), CBE (clinical breast examination), and MAMG (mammography). These techniques help to detect the presence of breast cancer at a more advanced stage, where treatment options are more effective and the likelihood of survival is higher.

As primary health care providers, nurses play an important role in screening and prevention of breast cancer. Nurses are often the first point of contact with patients, educating, supporting, and guiding them through the breast cancer screening process. Therefore, their knowledge, attitude, and practice are critical to providing breast cancer care effectively. Nurses' knowledge and expertise in breast cancer, breast cancer risk factors, breast cancer symptoms, and breast cancer screening methods are essential for providing patients with accurate information, encouraging screening behavior, and responding to patients' concerns and fears.

It is essential for nurses to be involved in the screening and prevention of breast cancer, yet there is a lack of research that specifically assesses their expertise, attitudes, and behaviors in this field. While there have been numerous studies conducted on the general population's awareness of breast cancer, few have addressed the specific knowledge and behaviors of healthcare professionals, especially nurses. Establishing the level of knowledge and comprehension of breast cancer and screening techniques among nurses is essential for the successful provision of breast cancer-based healthcare services and improved patient outcomes.

It is imperative to identify any areas of knowledge, misconceptions, or obstacles that nurses may have when it comes to breast cancer screening. This will enable healthcare organizations to create educational programs and interventions that are tailored to meet the specific needs of nurses. This will ensure that nurses are aware of the most current information regarding risk factors, screening techniques, and early signs of breast cancer. Furthermore, by recognizing any obstacles or challenges that nurses may face when promoting breast cancer screening, strategies can be developed to overcome these barriers and improve the nurses' capacity to provide effective care.

Breast Cancer is a global health issue that affects millions of women annually. Not only does it have a significant impact on the physical and psychological health of those diagnosed with the disease, but it also has a significant impact on health care systems and societies. Early detection of breast cancer through routine screening procedures, such as CBE and mammography, can result in timely interventions and increased survival rates. As a result, it is essential for healthcare professionals, particularly nurses, to have the necessary knowledge and expertise to facilitate efficient screening and prevention of breast cancer.

Nurses are front-line healthcare providers who interact directly with patients and are essential for the promotion of breast cancer screening, education, and support. As such, they have a unique opportunity to influence patient perception, attitude, and decision-making when it comes to screening through their interaction and guidance. Consequently, gaining insight into the knowledge, attitude, and practices of nurses is essential for the improvement of breast cancer related healthcare services and patient success.

By evaluating nurses' knowledge, attitudes and practices around breast cancer and screening methods, health organizations can recognize areas of improvement and design targeted interventions. For example, educational programs can be created to fill knowledge gaps, correct misunderstandings and ensure nurses have accurate information they need to effectively educate and support their patients. Understanding nurses' attitudes toward screening methods can be used to tailor interventions to better support their commitment to early detection and to encourage patients to have regular screenings. By addressing knowledge gaps or misconceptions or barriers, health organizations can improve nurses' ability to deliver accurate information, advise patients effectively and encourage proactive screening behaviors.

Improving nurses' knowledge, attitudes, and practices in breast cancer screening has far-reaching implications. The most obvious one is that it can lead to an increase in patient screening rates. When nurses have a thorough understanding and positive attitude towards screening techniques, they can effectively teach and encourage patients to focus on their breast health. In turn, this can help to detect breast cancer cases earlier, thus allowing for more timely interventions and better treatment results.

Second, by addressing knowledge gaps and misperceptions, can enhance nurses' confidence in providing relevant information and advising patients. When nurses are confident and well-informed about breast cancer and screening techniques, they can provide accurate information, alleviate patient concerns, and guide patients through the screening process with confidence. This can result in enhanced patient satisfaction, increased trust in healthcare providers, and improved overall quality of care.

Healthcare organizations can further empower nurses by investing in their education and training in the field of breast cancer screening. This will enable them to become champions of early detection and prevention of breast cancer. Additionally, nurses can be instrumental in raising awareness of breast cancer, the risk factors associated with it, and the necessity of regular screening, not only in the hospital environment, but also through community outreach and educational initiatives. Through their influence and expertise, nurses can help to raise public

awareness, improve health-seeking behavior, and foster a positive change in societal attitudes toward breast health.

In addition, improving nurses' understanding, attitude, and practice when it comes to breast cancer screening has a positive effect on job satisfaction and overall professional development. When nurses feel empowered and well-equipped to deal with breast cancer issues, they are more satisfied with their job and feel more fulfilled. This in turn improves their overall job satisfaction and contributes to a healthier work environment in the healthcare setting.

Aims and Objectives

The aim of the study is to assess the knowledge, attitudes, and practices of breast cancer and its screening methods (BSE, CBE, and mammography) among nurses at CIMS - Karkinos Cancer Care Unit in Bhopal.

The specific objectives of the study are as follows:

1. To determine the level of knowledge among nurses regarding breast cancer, its risk factors, symptoms, and screening methods like BSE, CBE, and mammography.
2. To explore the attitudes of nursing staff at CIMS - Karkinos Cancer Care Unit towards screening methods of breast cancer and their perceived importance in early detection.
3. To assess the percentage of nurses who practice self-screening modalities (BSE) or undergo CBE and mammography regularly.

The results of this study have implications for the prevention of breast cancer, the early detection of breast cancer, and the provision of patient care by nurses. Identifying knowledge gaps, misperceptions, or obstacles can lead to the development of targeted education programs and interventions to improve nurses' comprehension of risk factors for breast cancer, early symptoms, and effective screening techniques. This improved knowledge will allow nurses to provide better patient education, address pre-existing concerns, and encourage proactive screening practices, resulting in higher screening rates and improved patient outcomes.

In addition, closing knowledge gaps can increase nurses' self-assurance in providing relevant information and providing effective patient advice. This can improve nurse job satisfaction and support nurses' role as champions of early detection and prevention of breast cancer. In addition, the findings of the study can inform interventions and training programs to improve nurses' knowledge, attitudes and practices, leading to improved patient education, increased screening rates, and improved patient outcomes in breast cancer prevention and management at CIMS – Karkinos cancer care unit. Breast cancer is one of the world's top health threats and nurses play a vital role in prevention, early detection and patient care.

CHAPTER 2 -LITERATURE REVIEW

Sno.	Tittle of the study	Author	Publication Year & Type of Study	Study Location & Sample Size	Key findings
1	Knowledge, Attitude and Practice towards Breast cancer and its screening among women in India - Systematic Review	Akanksha Pal, Neha Taneja1 Neha Malhotra, Rajashree Shankar,Bh avika Chawla, Aanchal Anant Awasthi,Raj Janardhanan	2021 ; Systematic Review	15 Studies ; N=7545 women between the age of 15 and 75 years	1. Most common risk factor reported by the women was diet and lifestyle which was 51.77%, followed by 46.55% of the women having knowledge about increased age as a risk factor. 2.The lowest levels of knowledge were for nulliparity (10.91%),early menarche(16.30%), late menopause (17.65%) whichare the strongest risk factors of cancer. 3.On observing the practice of screening methods study participants, 14 studies reported that only 27.3% of the women performed BSE, while CBE and mammography was lower 16.71% and 7.12%. respectively. 4. 71.10% of the study participants had positive attitude toward breast cancer screening

2	knowledge, attitude, and practices (KAP) regarding the breast cancer and its screening methods among nursing staff working in a tertiary care hospital located in south India	Niveetha Santhanakrishnan, Stalin Prabakaran, Zile Singh.	2016 ; Cross - sectional Study	South India ; n=198 staff nurses	1. Breast cancer is the most common cancer among urban females, but its prevalence in rural areas remains unknown. 2. The knowledge of staff nurses regarding the causes and risk factors of breast cancer was moderate, with family history, increasing age, history of breast cancer, nulliparity, early menarche, and late menopause being commonly mentioned. 3. Knowledge about diagnostic tests for breast cancer was less than moderate, with almost half of the participants incorrectly considering screening tests like mammography and breast self-examination (BSE) as diagnostic tests. 4. The practice of screening tests, particularly BSE and mammography, was very low among participants. Only around two-thirds of those aware of BSE practiced it, and less than 25% practiced it regularly. No participants had undergone mammography due to their age.
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3	Cancer screening awareness among nursing staff in government medical college: Prospective Study	Mukesh Shanthilal, Sathya Maruthavan an	2016 ; Cross - sectional Study	South India ; n=303 female nurses	1. Breast and cervical cancers are the most common cancers among Indian females, and early detection can significantly reduce morbidity and mortality rates. 2. Among nursing staff, only 25% had awareness of cancer screening, with low utilization rates of Pap smear (5.6%) and mammogram (13%) as screening methods. 3. Inadequate knowledge of cervical cancer screening methods was found among nurses, with low levels of undergoing Pap smear tests reported in developing countries. 4. Negative attitudes, lack of awareness, and inaccurate knowledge among health care providers, particularly nurses, pose substantial barriers to effective cancer control programs.
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4	Knowledge, Attitude and Practice towards Breast cancer among nurses in hospitals in Asmara, Eritrea	Amanuel Kidane Andegiorgis h, Eyob Azeria Kidane and Merhawi Teklezgi Gebrezgi	2018 ; Cross sectional study	Asmara, Eritrea ; 414 nursing staff	1. Nurses' knowledge about the risk factors of breast cancer is lacking, with less than 50% of them mentioning established risk factors. 2. Nurses demonstrate good knowledge of the signs and symptoms of breast cancer, with more than half of them correctly identifying each sign or symptom. 3. The practice of breast cancer screening among nurses is low, with only 30% practicing clinical breast examination and 11.3% undergoing mammography. 4. Factors such as a family history of breast cancer, having breast problems, professional level of nurses, and the unit where they work predict the knowledge, attitude, and practice (KAP) of nurses regarding breast cancer
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5	Knowledge, Attitude and Practice of Breast Self Examination among Indian Women - Pan India study	Shubhangini Sachdeva , Sridhar Mangalesh , Sharmila Dudani	2021 ; Cross-sectional study	Pan India ; 1000 nurses	1. The study found that the knowledge score for breast self-examination (BSE) was good (22/30), but the attitude score (36/52) and practice score (13/28) were poor. This resulted in a low average knowledge, attitude, and practice (KAP) score. 2. A significant proportion (67.2%) of the participants had never been taught BSE by healthcare staff, highlighting the need for mandatory BSE programs by trained healthcare workers. 3. Participants with a post-graduate or undergraduate degree had higher knowledge and total KAP scores compared to those without a degree. 4. Medical professionals had notably higher individual domain and total KAP scores compared to other occupational groups, indicating the advantage of healthcare professionals' awareness and education. 5. Participants with a family history of breast cancer had higher knowledge but lower attitude, practice, and total KAP scores compared to those without a family history.
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6	Knowledge, Attitude and Practice (KAP) of women about Breast Cancer in a tertiary care teaching hospital, Rohtas, Bihar	Kumari Veena Sinha	2019 ; Cross-sectional Study	Rohtas ; n= 400 women	1. Awareness of breast cancer (BC) among the study population was very low, with 82.75% being unaware of BC. 2. Educated participants and those from higher socioeconomic backgrounds were more likely to have knowledge about BC. 3. Only two participants had knowledge about breast self-examination (BSE), and none of them performed it regularly. 4. A common misconception among the women in the study was that BC can only be detected through clinical breast examination (CBE) by doctors. 5. Personal and healthcare barriers, such as lack of knowledge, embarrassment, fear, and social/cultural beliefs, contributed to low screening rates for BC among underserved women
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7	Converting knowledge into Practice: Cross-sectional survey among nurses of sub himalayan region about breast cancer screening	Negi R. Rati , Kaushal Ankush, Singh Mitasha and Raina K. Sunil	2017 ; Cross-sectional	Kangra (Himachal Pradesh) ; n= 310 nurses	1. Westernization of lifestyles in developing countries, like India, is leading to an increase in the incidence of breast cancer. Early detection is crucial in controlling breast cancer due to the uncontrollable risk factor of westernization. 2. Cost-effective interventions are needed in low and middle-income countries with a double burden of breast and cervical cancer, such as India. Public education plays a vital role in early detection and must be culturally sensitive and delivered in the local language. 3. Nurses, as frontline health staff, play a crucial role in recognizing the signs and symptoms of breast cancer and referring patients for further diagnosis and treatment. The knowledge, attitude, and practices of nurses can predict early diagnosis practices. 4. A study conducted among nursing students and staff in a tertiary care center in Himachal Pradesh, India, revealed that young age nurses had adequate knowledge about breast cancer symptoms and screening. However, knowledge decreased among nurses above 40 years of age. Knowledge about breast self-examination (BSE) was higher compared to clinical breast examination (CBE) and mammography.
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					5. The study also found that the practice of breast cancer screening methods varied among nurses. The majority practiced BSE at the correct frequency, but practice decreased among older age groups, nurses with higher years of experience, and married nurses. The practice of CBE and mammography was low overall. Overall, the study highlights the importance of improving knowledge and practices related to breast cancer screening among nurses in India, particularly among older age groups and those with higher years of experience. It emphasizes the need for culturally sensitive public education and cost-effective interventions to promote early detection of breast cancer in developing countries.
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8	Knowledge, Attitude and Practices concerning breast cancer, cervical cancer and screening among healthcare professionals and students in Mogadishu, Somalia.	Lucas Walz, D eqo Mohamed, Adam Haibah, Nikhil Harle3, Samir Al-Ali, Ayan Aden Moussa, Jude Alawa5, Mohamed Abdullahi Awale and Kaveh Khoshnood	2022 ; Cross - sectional study	Somalia ; 469 healthcare professionals & students	1. Knowledge: 89% of Somali healthcare professionals and students demonstrated good knowledge of breast cancer (BC) prevention and screening, risk factors, severity, and burden. A majority (73%) also demonstrated good knowledge of cervical cancer (CC). 2. Comparison with Other Studies: Somali healthcare professionals showed higher levels of BC knowledge compared to participants in nearby Northwest Ethiopia, Addis Ababa in Central Ethiopia, and Eritrea. CC knowledge was higher than that of other sub-Saharan investigations in Tanzania and Côte d'Ivoire, but lower than that of Ethiopia and Nigeria. 3. Screening Practices: Despite positive attitudes towards BC and CC screening, almost 70% of healthcare professionals and students reported never conducting a screening due to a lack of access to essential screening services. However, 79% and 82% reported frequently recommending breast self-examination (BSE) and expressing confidence in teaching the method. 4. Barriers to Screening: Lack of resources and patient refusal were major barriers to screening. Over 97% of respondents reported a lack of access to screening services, and 30% reported patient refusal, influenced by stigma,
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					misconceptions, and cultural factors. 5. Recommendations: Investments are needed to improve screening infrastructure, enhance HPV surveillance, and increase access to HPV vaccinations. Education targeting specific areas, such as BC preventability and CC vaccine awareness, is necessary to improve the quality of care provided by healthcare professionals and students.
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9	Level of awareness and practices of women regarding breast cancer in Chattisgarh, India - Cross sectional study	Sunita Singh, Anjali Pal, Niraj Kumar Srivastava, and Pushpawati thakur	2018 ; Cross sectional study	Chattisgarh ; n=500 women 18 years & above	1. Breast cancer mortality rates in India are high, and early detection can significantly improve survival rates. 2. There is a lack of awareness and knowledge about breast cancer symptoms, risk factors, and screening methods among Indian women. 3. Women often have misconceptions about breast cancer risk factors, such as associating trauma to the breast or repeated breast infections as significant risks. 4. Breast self-examination (BSE) and clinical breast examination (CBE) are recommended screening methods, but awareness and understanding of these practices are low among Indian women. 5. Education and awareness campaigns, as well as the integration of BSE and CBE into routine healthcare visits, are crucial for improving breast cancer awareness and early detection in India.
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10	Effect of training programme on knowledge of nurses from a missionary hospital in india regarding breast cancer and its screening	Anita Khokhar	2014 ; cross sectional study	Delhi , n=259 nursing staff	1. The socio-cultural context in India influences women's healthcare-seeking behavior and preference for gender-specific doctors. 2. Nurses, ANMs (Auxiliary Nurse Midwives), ASHA (Accredited Social Health Activists), and other female para-medical staff can play a crucial role in guiding women for breast cancer screening and diagnosis, as well as raising awareness. 3. Training programs and continuous medical education (CME) for nurses are essential to ensure effective breast cancer screening practices. 4. On-the-job training and regular CMEs can contribute to improving the knowledge and skills of healthcare providers in breast cancer screening. 5. Ensuring the availability of trained healthcare providers, especially nurses, is vital for successful implementation of breast cancer screening programs and awareness campaigns in India.
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11	Breast Cancer knowledge, Attitude and Practices among nurses in Lagos, Nigeria	Olumuyiwa O. Odusanya, Olufemi O. Tayo	2009 ; Cross sectional survey	Lagos, Nigeria ; n= 204 nurses	1. Nigerian nurses exhibited good knowledge regarding various aspects of breast cancer, including symptom recognition, although there were some misconceptions and gaps in understanding risk factors. 2. Nurses demonstrated a positive attitude toward breast cancer screening, with a higher likelihood of early presentation to hospitals. 3. The utilization of cancer screening methods such as self-breast examination (SBE), clinical breast examination (CBE), and mammography varied among nurses, with lower rates compared to studies conducted in the USA and Britain. 4. Higher knowledge levels among nurses were associated with increased utilization of all three screening methods. 5. Nurses' awareness of their own cancer risk was low, with only 10% recognizing their elevated risk, and 61% incorrectly believing they were not at any risk.
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12	Breast Cancer knowledge, Attitude and Practices among female dental students in Hyderabad city, India	Dolar Doshi , B Srikanth Reddy, Suhas Kulkarni, P Karunakar	2012 ; Cross sectional descriptive study -	Dental college, Hyderabad ; n= 203 female dental students	1. In a study conducted among female dental students in India, the overall knowledge of BSE was found to be very poor. 2. Only 20.6% of the population had a good attitude score towards BSE. 3. The mean percent of the population practicing BSE was 45.13%. 4. The correlation coefficient between knowledge and practice of BSE was 0.2129 ($P < 0.05$), indicating a positive relationship. 5. Comparatively, the practice of BSE among teenagers and young adults in Europe was significantly lower, ranging from 3.4% to 14.8%.
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13	Awareness of Breast Cancer and Breast Self Examination among nursing students	Kanishka Uttam Chandani, BhaviS. Trivedi, Jaahnavee J. Trivedi, Keval Trivedi, Alpesh Patel	2020 ; Educational interventional study	VS General hospital, School of nursing, Gujarat, India; n=150 girls	1. In a study among college-going girls, 72% had average knowledge of BSE, and only one student performed BSE occasionally. Among nursing students, 15.3% were performing BSE initially, which increased to 97.3% after the session. 2. Initial knowledge and practice scores related to clinical breast examination were low (knowledge: 72%, practice: 41.6%). After training, knowledge scores increased to 88%, and practice scores increased to 86.6%. 3. The present study showed a 45.51% increase in BSE knowledge and a 40.3% increase in knowledge about breast cancer after the seminar. 4. Educational interventions and training programs can significantly improve knowledge and practice skills related to breast cancer and BSE among nursing students and healthcare workers. 5. Increasing awareness and knowledge about breast cancer and BSE can lead to early detection and better treatment outcomes
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CHAPTER 3 - METHODOLOGY

Research Questions

The following research questions will guide this study:

- What is the level of knowledge among nurses regarding breast cancer, its risk factors, symptoms, and screening methods like BSE, CBE, and mammography?
- What are the perception/attitudes of nursing staff at the hospital towards breast cancer and screening methods of breast cancer and its importance in early detection?
- What percentage of nurses actually practice self-screening modalities (BSE) or CBE and mammography?

Research Design

This study will utilize a descriptive and cross-sectional research design. It aims to assess the knowledge, attitude, and practice of breast cancer and its screening methods among nurses working at CIMS - Karkinos Cancer care unit in Bhopal.

Study Setting

The research will be conducted at CIMS - Karkinos Cancer care unit, which serves as the study setting. This hospital provides cancer care services and has a dedicated unit for breast cancer treatment and management.

Study Population

The study population will consist of female nurses working at CIMS - Karkinos Cancer care unit. The total number of nurses is 39, including both male and female nurses. However, this study will include only 34 female nurses as the sample.

Inclusion Criteria: All Female nurses working at CIMS-Karkinos Cancer Center.

Exclusion Criteria: Male nurses are not part of the study.

Sampling Technique

Convenience sampling technique will be employed to select the participants. Female nurses who meet the inclusion criteria of working at CIMS - Karkinos Cancer care unit will be invited to participate in the study.

Study Tool

Data will be collected using a self-administered questionnaire consisting of four sections:

- Demographic details of nurses
- Knowledge on breast cancer and its screening methods (BSE, CBE, and mammography)

- Perception/Attitude towards Breast cancer and screening methods.
- Practice of Screening methods (BSE, CBE, and mammography)

Demographic details section collected information about the participants' age, education, religion, marital status, occupation, and monthly family income. “Knowledge about breast cancer” section assessed the participants' knowledge regarding breast cancer signs and symptoms, as well as the various modes of early detection such as Breast Self-Examination (BSE), Clinical Breast Examination (CBE), and Mammography.” Practice of early detection methods “section evaluated the participants' self-reported practice of the different breast cancer screening methods, including BSE, CBE, and Mammography. ”Perception/attitude towards breast cancer and screening methods” section measured the participants' attitudes towards breast cancer and screening methods.

To begin the data collection process, the questionnaires were distributed among the nurses working at the hospital. The distribution process ensured that each nurse received a copy of the questionnaire. Clear instructions were provided to the nurses, explaining how to complete the questionnaire accurately.

The participants were given a specified deadline for submitting the completed questionnaires. This deadline allowed for efficient data collection and ensured that the data was collected on time. It also provided a timeframe within which the researchers could retrieve the questionnaires and proceed with data entry and analysis.

Before conducting the study, ethical clearance was obtained from the relevant authorities. This ethical clearance ensured that the study complied with the necessary ethical guidelines and protected the rights and well-being of the participants. Informed verbal consent was obtained from each participant, indicating their voluntary agreement to participate in the study after understanding its details.

The completed questionnaires were collected from the nurses as per the set deadline. I ensured that the collected questionnaires were securely stored to maintain confidentiality and data integrity. The data from the questionnaires were then entered into a spreadsheet for further analysis. The tool used for analysis was Microsoft Excel, allowing for efficient organization and management of the collected data.

Overall, the data collection procedure involved the distribution of self-administered questionnaires, clear instructions for completion, adherence to ethical guidelines, obtaining informed verbal consent, and secure storage of the collected questionnaires. These steps were taken to ensure the collection of accurate and reliable data for the study's analysis and interpretation.

Scoring Criteria

The questionnaire consisted of a total of 34 items, including 19 items on knowledge, 5 items on attitude, 10 items on practice, and 3 items on Demographic details. The scoring criteria for the knowledge section were as follows: For “Knowledge of breast cancer” open ended questionnaire was used. For “complete response” were assigned a score of 2, for “Partial response” were assigned a score of 1, and for “incorrect responses” were assigned 0. For “Knowledge of Breast Cancer

Screening Methods (BSE, CBE, Mammography)” Close ended questionnaire was used. For every “Correct response” were assigned a score of 2, and for every “incorrect response” were assigned a score of 0. The total knowledge score ranged from 0 to 38 with separate scores calculated for knowledge of breast cancer and knowledge of breast cancer screening methods.

For the attitude section, positive responses were assigned a score of +2, negative responses were assigned a score of -2, and neutral responses of "Maybe/Neutral" were assigned a score of 0. The total attitude score ranged from -10 to +10 points.

No scoring was given for the practice section, and analysis was performed to determine whether participants were practicing or had ever used the three screening methods under consideration.

Data Analysis Plan

Data analysis was conducted using Microsoft Excel. Descriptive statistics such as frequency, percentage, and mean/median were calculated using Excel's built-in functions to summarize the participants' profiles and the proportion of nurses who were aware of breast cancer symptoms and screening methods.

The data analysis results were presented using graphs and tables generated in Excel, providing a visual representation of the findings.

Ethical Considerations

Ethical clearance will be obtained before conducting the study to ensure the protection of participants' rights and well-being. All study participants will be provided with a participant information sheet explaining the study's purpose and procedures. Informed verbal consent will be obtained from all nursing staff participating in the study. Participants' identities and sensitive information will be protected throughout the study. Nursing staff will be allowed to decline or withdraw from the study without facing any negative consequences. Unbiased and relevant questions will be asked, and any sensitive or unnecessary inquiries will be avoided. Data security and confidentiality will be ensured throughout the research process.

CHAPTER 4 -RESULTS

Demographic Characteristics

Out of the 34 nurses who participated, the majority (47%) belonged to the age group of 26-30 years, indicating a relatively younger workforce. Following closely behind, 32% of participants were in the age group of 21-25 years, showing a significant representation of early-career professionals. The mean age of all participants was 27 years, suggesting that the overall age distribution was relatively balanced. The median age, which was found to be 26 years, further emphasizes the presence of a younger cohort.

In terms of educational qualifications, the study found that the majority of participants (68%) had completed a Bachelor's degree in Nursing. Additionally, 21% of the participants held a diploma in nursing and a smaller percentage (12%) of the participants were identified as post-graduates.

Regarding professional experience, the study found that a significant proportion (51%) of the nurses had less than three years of experience. This suggests the presence of a relatively large number of early-career nurses who may still be establishing themselves in their roles. Around 26% of the nurses had experience between 3 to 5 years, indicating a group that had progressed beyond the initial phase of their careers. Notably, only 24% of the nurses had more than 5 years of experience.

The participants' age distribution indicated a substantial presence of younger nurses, while the range of educational qualifications highlighted a majority with Bachelor's degrees and a notable proportion with diplomas and post-graduate qualifications. The variation in professional experience demonstrated a mix of early-career nurses, those with a few years of experience, and a smaller cohort of more seasoned professionals

Table 4.1 :Participant's demographic characteristics (n=34)		
Demographic characteristics	Number of respondents	Percentage
Participant's Age(Years)		
21-25 years	11	32.35%
26-30 years	16	47.06%
>30 years	7	20.59%
Education		
Diploma	7	20.59%
Graduate	23	67.65%
Post- graduate	4	11.76%
Years of Working Experience		
<1	7	20.59%
1 to <3	10	29.41%
3 to <5	9	26.47%
5 to <10	4	11.76%
≥ 10	4	11.76%

Knowledge of Breast Cancer and its Screening Methods

Table 4.2 shows the univariate analysis of knowledge level of nurses at the hospital. It is observed that knowledge level of nurses at hospital were suboptimal with 41.6% getting an average total score. The mean score calculated was 23.2 (64.4%) and hence lies in “average knowledge”

category. The score range obtained was from 0 to 36. Only 16.6% (n = 6) had an excellent knowledge about breast cancer and its screening methods.

All the participants (n=34) were aware about Breast Self -Examination and out of these 82.5% (n=28) knew how it is performed, 58.8% (n=20) knew at what age should women start BSE and 76.4% (n=26) knew how often women should perform BSE. While 58.8% (n=20) knew about Clinical breast Examination. Out of these, 32.3% (n=11) knew how CBE is performed, 32.3% (n=11) knew at what age women should undergo CBE and 20.5% (n=7) knew how often women should undergo CBE. At the same time, all participant (n=34) were aware about Mammography, out of these, 73.5% (n=25) knew at what age women should undergo mammography and 38.2% (n=13) knew how often women should undergo mammography.

I went ahead to calculate the knowledge score which was divided into two different section and observed that the knowledge of breast cancer, its risks factors, symptoms and treatment modalities was Good, with 16 nurses (47 %) getting a score between 60 – 80%. At the same time, 29.4% (n=10) nurses had excellent knowledge regarding breast cancer. But the knowledge of breast cancer screening methods was average with 52.9 (n=18) nurses getting a score between 40 – 60 % in this section. Only 20.5% (n=7) has excellent knowledge about screening methods of BSE, CBE and Mammography.

Table 4.2 : Knowledge of Breast Cancer and its screening methods among Nurses (n = 34)			
Parameter	Average knowledge (40-60%)	Good knowledge (60 - 80%)	Excellent knowledge (>80 %)
1.Total Knowledge Score			
Frequency	15	13	6
Percentage	41.67%	36.11%	16.67%
2. Total knowledge of Breast Cancer			
Frequency	8	16	10
Percentage	23.53%	47.06%	29.41%
3.Total Knowledge Score of Breast Cancer Screening Methods			
Frequency	18	9	7
Percentage	52.94%	26.47%	20.59%

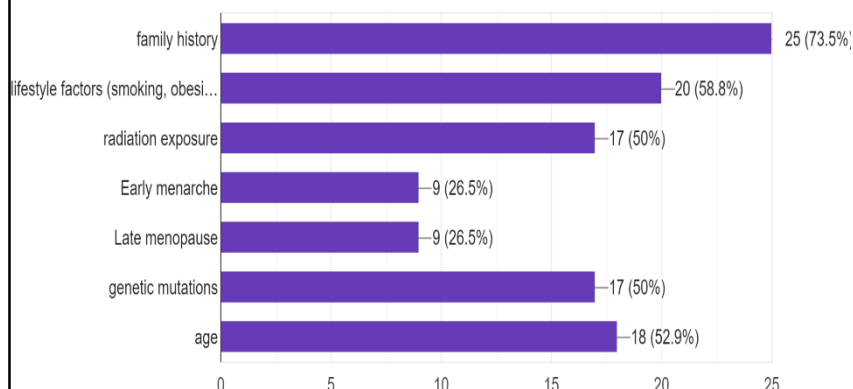
Under the section “Knowledge of Breast Cancer” questions were open –ended, the participants had mentioned family history (73.5 %), lifestyle factors such as smoking, obesity and alcohol consumption (58.8%), radiation exposure (50%), age (52.9%) and genetic mutations (50%) as most common risk factors associated with breast cancer. Early menarche and late menopause were also mentioned by few nurses as risk factors. Mammography (67.6%) and Biopsy (55.9%) were

mentioned by majority of nurses when asked about diagnostic methods used for breast cancer. Surgery (82.4%), Chemotherapy (64.7%), Radiation therapy (55.9%) and immunotherapy (32.4%) were the treatment modalities used for breast cancer as per participants. When the participants were asked to mention screening tests, 70.6% mentioned Breast Self- Examination, 47% mentioned Clinical Breast Examination and 61.8% mentioned Mammography. Majority of participants had mentioned lump in the breast (76.5%), change in shape and size (61.8%), nipple discharge or inversion (58.8%) and breast pain or tenderness (58.8%) as most common signs and symptoms of breast cancer. Skin changes on the breast, swelling of breast and enlarged lymph nodes in the armpit are also mentioned by few nurses. Only 29.4% nurses were aware that mammography is a diagnostic test as well as screening method. All the nurses were that breast cancer can be diagnosed at an early stage.

Fig. 4.1 Knowledge of Breast Cancer

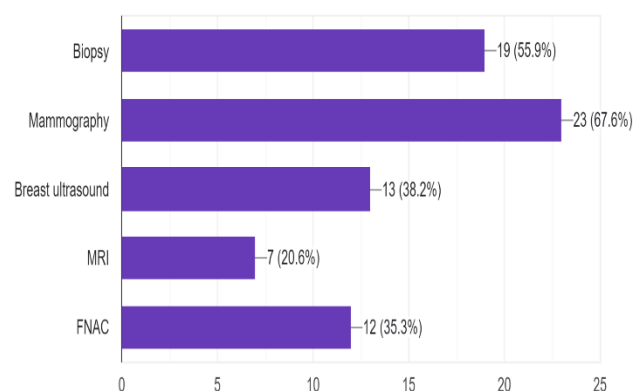
1. Risk factors associated with breast cancer

34 responses



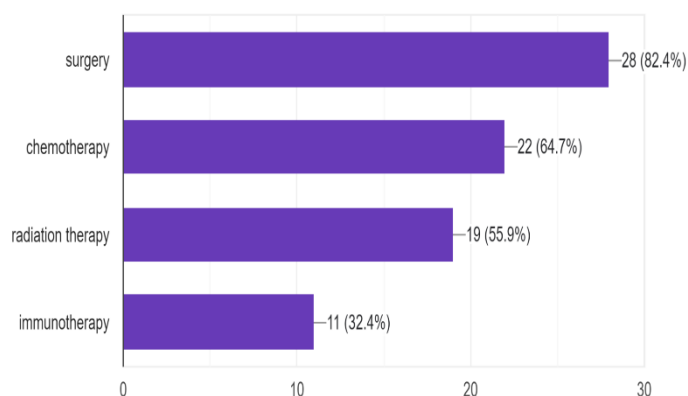
2. Diagnostic methods for breast cancer

34 responses



3. Treatment modalities used for breast cancer

34 responses

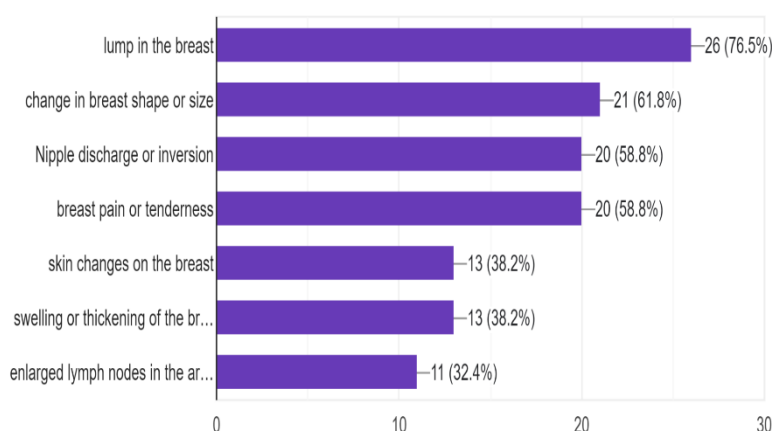


5. Screening test used for breast cancer



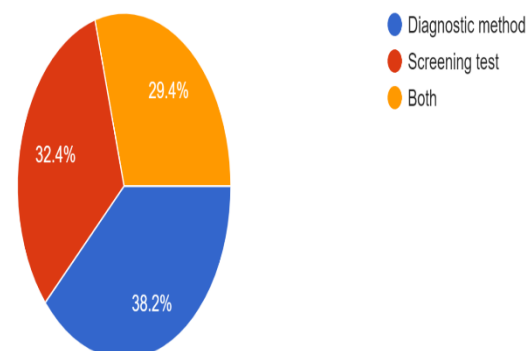
6. Signs and symptoms of Breast Cancer

34 responses



7. Is mammography a diagnostic method or screening test

34 responses

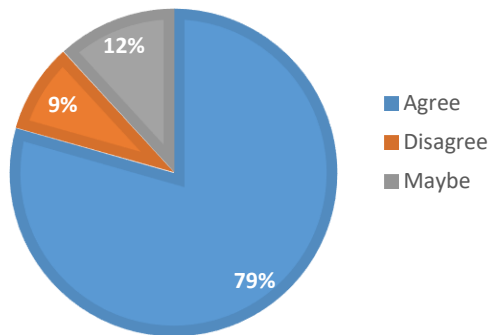


Perception/Attitude towards Breast Cancer and its Screening methods

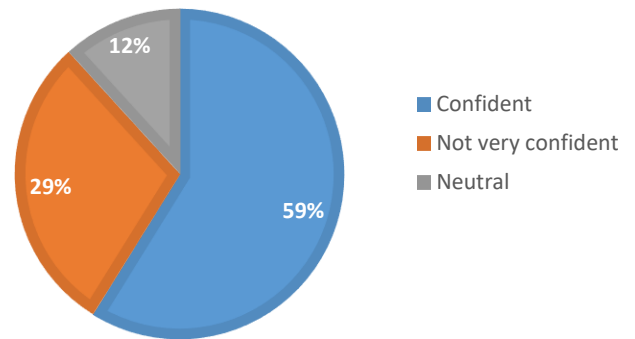
Nurses were asked different questions related to attitude towards breast cancer and its screening methods and a total score was calculated. As depicted in Figure , 79.4% (n=27) nurses agreed that screening methods like BSE, CBE and Mammography while only 8.8% (n=3) still thought the opposite. 58.8% (n=20) feels confident in their ability to educate patients about breast cancer and its screening methods while 29.4% (n=10) feel under confident to educate regarding the same. A majority of Nurses that is 73.5% (n=25) were of opinion that healthcare professionals, including nurses should actively promote breast cancer awareness and screening while 14.7% (n=5) thought otherwise. 61.6% (n= 21) are willing to encourage and motivate women to undergo breast cancer screening. Further, 67.6% (n=23) of them were willing to receive additional training or education regarding breast cancer and its screening methods, while 23.5% (n=8) were not sure and selected “maybe”, and 8.8% (n=3) were not interested. The mean total attitude score was found to be 5.2 which is on the positive side. Majority of nurses 76.4% (n=26) had a positive attitude towards breast cancer while 11.7% nurses each had either neutral or negative attitude (Table 4.3)

Fig 4.2 Perception/Attitudes towards Breast Cancer and its screening methods

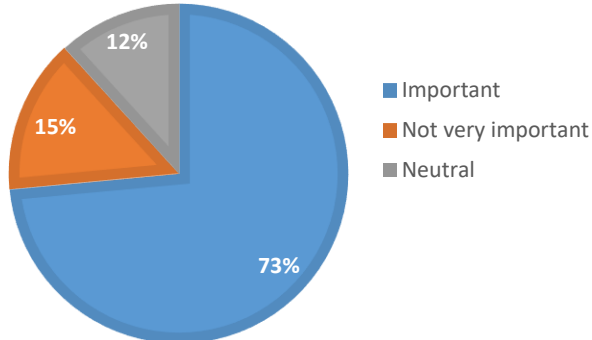
1. DO YOU THINK THAT REGULAR SCREENING METHODS (BSE, CBE AND MAMMOGRAPHY) HELPS TO DETECT CANCER IN EARLY STAGES ?



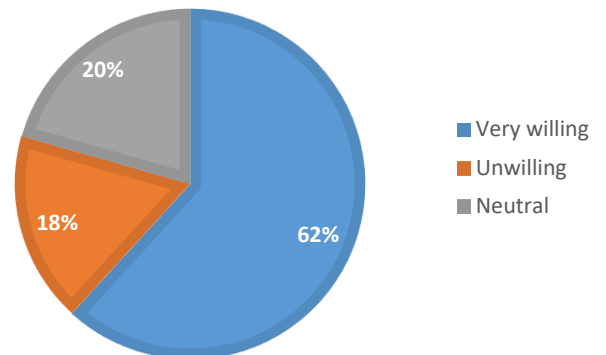
2. HOW CONFIDENT ARE YOU IN YOUR ABILITY TO EDUCATE PATIENTS ABOUT BREAST CANCER AND ITS SCREENING METHODS ?



3. HOW IMPORTANT DO YOU THINK HEALTHCARE PROFESSIONALS, INCLUDING NURSES, TO ACTIVELY PROMOTE BREAST CANCER AWARENESS AND SCREENING ?



4. ARE YOU WILLING TO ENCOURAGE AND MOTIVATE WOMEN TO UNDERGO BREAST CANCER SCREENING ?



5. ARE YOU INTERESTED IN RECEIVING ADDITIONAL TRAINING OR EDUCATION REGARDING BREAST CANCER AND ITS SCREENING METHODS ?

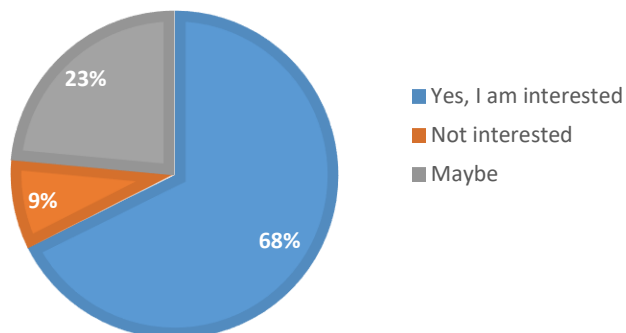
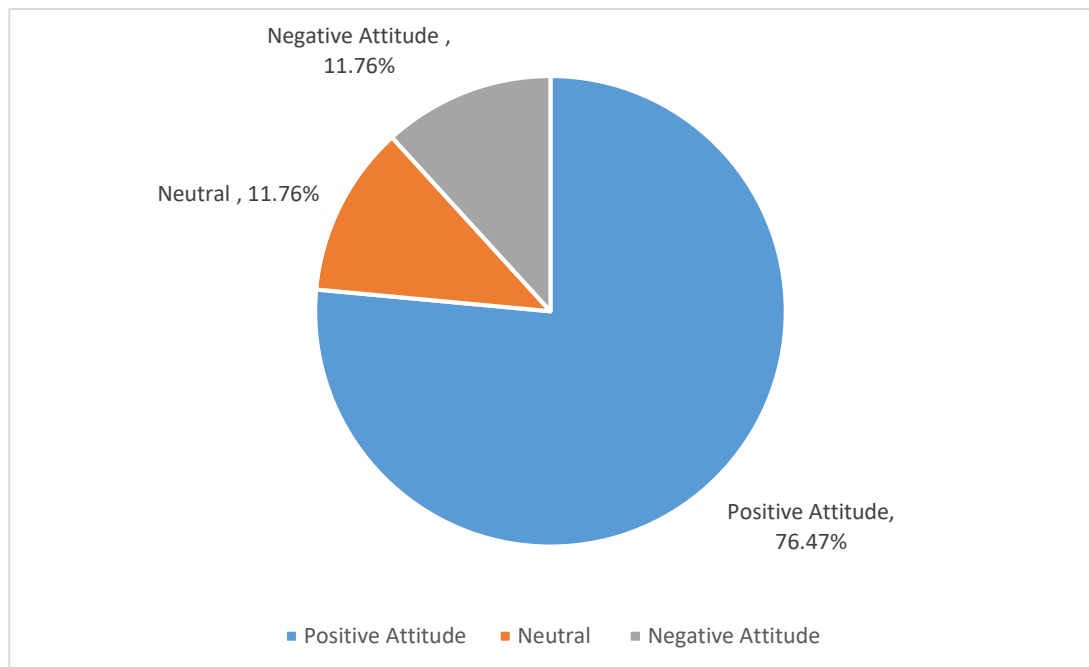


Table 4.3 : Total Attitude Score of nurses towards Breast Cancer and its screening methods (n=34)		
Total Attitude Score	Frequency	Percentage
Positive Attitude (Score +10 to +2)	26	76.47%
Neutral (Score 0)	4	11.76%
Negative Attitude (Score -2 to -10)	4	11.76%

Fig 4.3: Nurses' Attitude/ Perception levels towards Breast cancer and its screening methods



Practice of Breast Cancer Screening Methods

Overall practice of breast cancer screening was found to be very low among the nurses at the hospital. Only 47% (n=16) of the nurses reported ever performing a breast self-examination (BSE), while a concerning 52.9% (n=18) admitted to never having conducted a BSE for themselves. Among those who engaged in BSE, 26.5% (n=5) initiated the practice between the ages of 21 and 25, while a mere 29.4% (n=5) performed BSE on a monthly basis

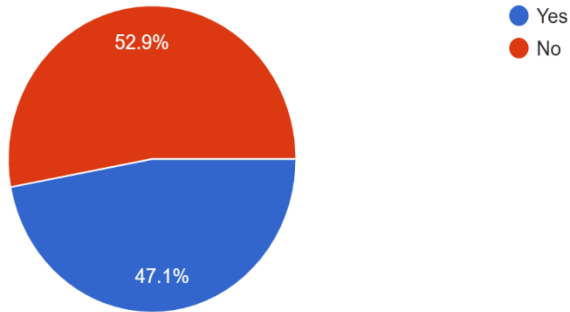
The practice of CBE and Mammography was much lower with 17.6% (n=6) nurses reporting that they had ever undergone CBE. Out of these, all nurses have started undergoing CBE at the age between 26-30 years and only 6% undergo CBE every 3 years. No participants have undergone mammography for themselves.

Table 4.3 : Practice of Breast Cancer screening methods among Nurses (n= 34)		
Parameter	Yes	No
Practice Breast Self Examination		
Frequency	16	18
Percentage	47.06%	52.94%
Practice Clinical Breast Examination		
Frequency	6	28
Percentage	17.65%	82.35%
Practice Mammography		
Frequency	0	34
Percentage	0.00%	100.00%

Fig.4.3 Practice of Breast Cancer Screening Methods

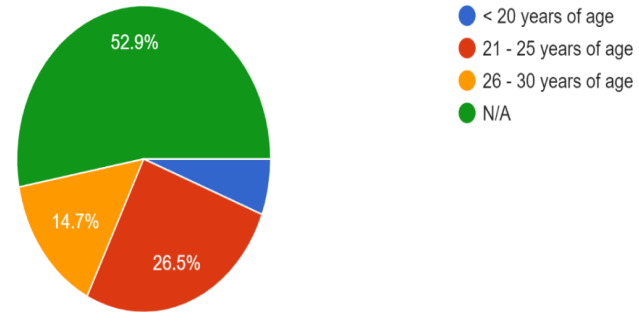
Have you ever performed a BSE for yourself ?

34 responses



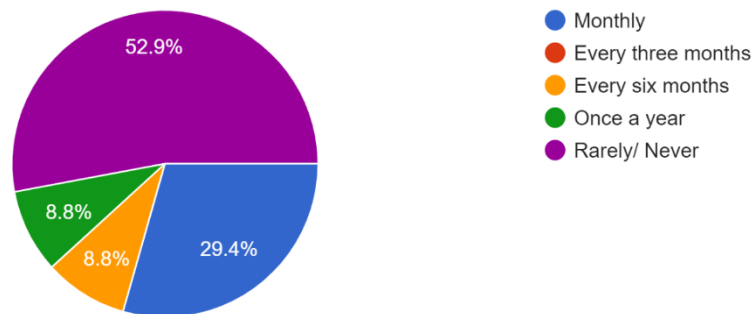
If yes, at what age have you started performing BSE

34 responses



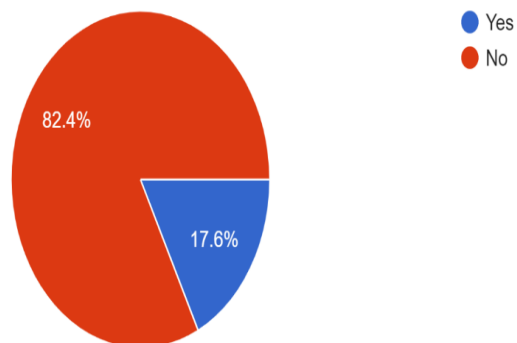
How often do you perform BSE ?

34 responses



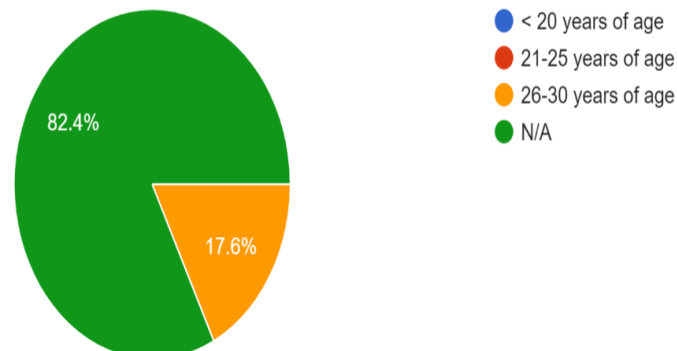
Have you ever performed a CBE for yourself ?

34 responses



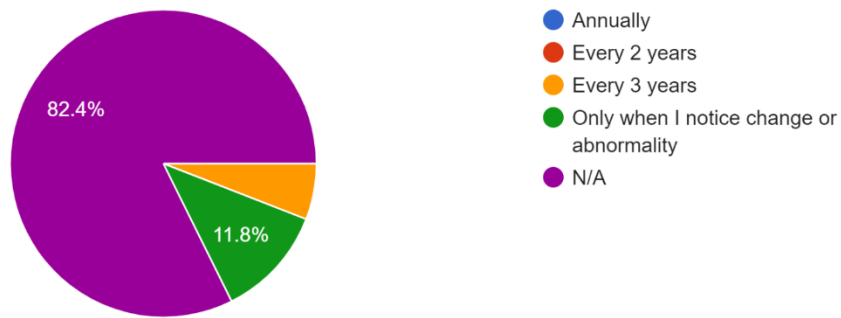
If yes, at what age have you started performing BSE

34 responses



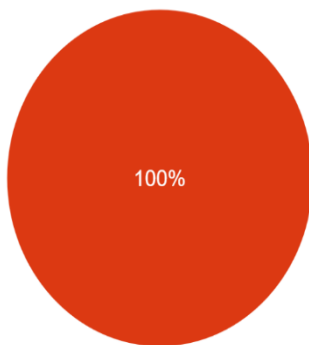
How often you undergo CBE

34 responses



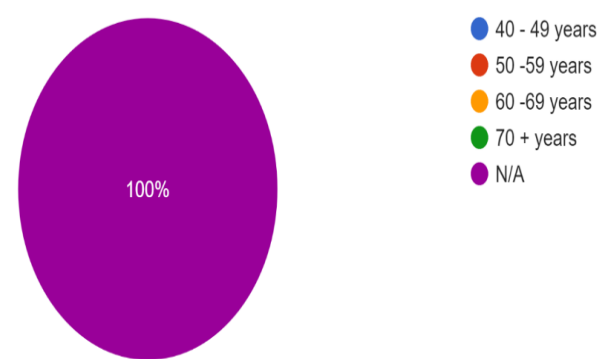
Have you ever performed a mammography for yourself ?

34 responses



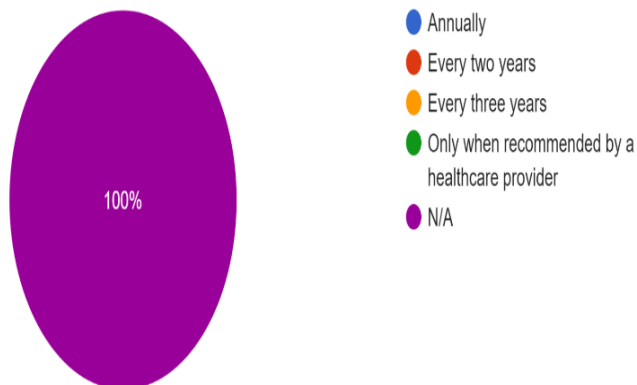
If yes, at what age have you started performing mammography

34 responses



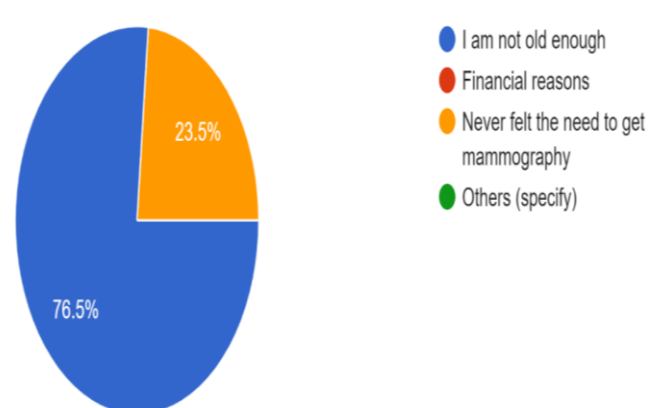
How often you undergo Mammography

34 responses



Reasons for not undergoing mammography

34 responses



CHAPTER 5 - DISCUSSIONS:

The present study aimed to assess the knowledge, attitude, and practice of breast cancer and its screening methods among nurses at a hospital. The findings shed light on important aspects related to the participants' demographic characteristics, knowledge levels, attitudes, and screening practices.

The demographic characteristics of the participants revealed a relatively young workforce, with the majority (47%) belonging to the age group of 26-30 years. This indicates a significant representation of early-career professionals, as evidenced by 32% of participants being in the age group of 21-25 years. The findings also showed a relatively balanced age distribution, with a mean age of 27 years and a median age of 26 years, highlighting the presence of a younger cohort.

In terms of educational qualifications, the study found that a majority of participants (68%) had completed a Bachelor's degree in Nursing, indicating a strong educational background. Additionally, a notable proportion held a diploma in nursing (21%), and a smaller percentage (12%) were identified as post-graduates. This variation in educational qualifications reflects the diverse academic backgrounds of the participating nurses.

Regarding professional experience, the study revealed that a significant proportion (51%) of the nurses had less than three years of experience, suggesting the presence of a large number of early-career nurses who may still be establishing themselves in their roles. Approximately 26% of the nurses had experience between 3 to 5 years, indicating a group that had progressed beyond the initial phase of their careers. Notably, only 24% of the nurses had more than 5 years of experience, suggesting a smaller cohort of more seasoned professionals.

The findings related to knowledge levels indicated that the overall knowledge of nurses regarding breast cancer and its screening methods was suboptimal. Only 16.6% of the participants had excellent knowledge, while the majority (41.6%) obtained an average total score. The mean score fell within the average knowledge category, suggesting room for improvement in enhancing the nurses' knowledge in this area.

Specifically, the study revealed that all participants were aware of Breast Self-Examination (BSE), with a majority (82.5%) knowing how to perform it. However, knowledge regarding the recommended age to start BSE and its frequency was relatively lower, with 58.8% and 76.4% of participants being aware of these aspects, respectively. Similarly, awareness of Clinical Breast Examination (CBE) was present among 58.8% of participants, but knowledge about how to perform it, the recommended age, and frequency of CBE were lower.

All participants were aware of Mammography, but only 73.5% knew the recommended age for undergoing mammography, and 38.2% were aware of the frequency. These findings indicate the need for additional education and awareness programs to improve knowledge about breast cancer screening methods among nurses.

The study further divided the knowledge assessment into two sections: knowledge of breast cancer and knowledge of breast cancer screening methods. It was found that nurses had relatively good

knowledge of breast cancer itself, with 47% obtaining a score between 60-80% and 29.4% having excellent knowledge. However, the knowledge of breast cancer screening methods was average, with only 20.5% having excellent knowledge. This highlights the need for focused interventions to enhance knowledge specifically related to screening methods.

The study examined the perception and attitude of nurses towards breast cancer and its screening methods. Overall, the participants demonstrated a positive attitude towards breast cancer and its screening. The majority of nurses (79.4%) agreed that screening methods like BSE, CBE, and Mammography are important, indicating a strong belief in the significance of these screening methods. Additionally, a majority of nurses (58.8%) felt confident in their ability to educate patients about breast cancer and its screening methods, indicating a sense of self-efficacy in their role as educators.

It is noteworthy that a significant proportion of nurses (73.5%) believed that healthcare professionals, including nurses, should actively promote breast cancer awareness and screening. This finding suggests a positive attitude towards advocating for breast cancer prevention and early detection within the nursing community.

Furthermore, the majority of nurses (61.6%) expressed their willingness to encourage and motivate women to undergo breast cancer screening. This willingness to actively engage in promoting screening practices indicates a proactive approach among nurses towards encouraging women to prioritize their breast health.

Regarding additional training or education, a considerable proportion of nurses (67.6%) expressed their willingness to receive further training or education on breast cancer and its screening methods. This reflects a recognition among nurses of the importance of staying updated with the latest information and developments in breast cancer care. However, it is worth noting that a small percentage (8.8%) showed disinterest in receiving additional training or education, suggesting the need for targeted efforts to engage and motivate all nurses to continuously enhance their knowledge and skills in this domain.

Overall, the findings related to perception and attitude indicate a positive inclination among the participating nurses towards breast cancer awareness and screening. Their confidence in educating patients and their willingness to promote screening practices highlight the potential role of nurses as influential advocates for breast health.

The study revealed a concerning trend in the practice of breast cancer screening among nurses. Only 47% of the nurses reported ever performing a breast self-examination (BSE), while a significant majority (52.9%) admitted to never having conducted a BSE for themselves. This indicates a gap between knowledge and practice, suggesting the need for targeted interventions to translate theoretical knowledge into practical application.

The practice of Clinical Breast Examination (CBE) and Mammography was even lower, with only 17.6% of nurses reporting having ever undergone CBE. Additionally, no participants had undergone mammography for themselves. These findings raise concerns about the low utilization

of these screening methods among the participating nurses, which may reflect a lack of awareness, accessibility, or personal prioritization of their own breast health.

The findings highlight the importance of addressing barriers and facilitating the uptake of breast cancer screening practices among nurses. Strategies such as providing education and training on the correct techniques for conducting BSE and CBE, promoting the benefits and importance of mammography, and addressing any logistical or financial obstacles could be considered to improve the screening practices among nurses.

Limitations:

- The sample size of the study was restricted to female nurses employed in the Cancer care unit of CIMS-Karkinos. As a result, the findings may not be applicable to all nurses and healthcare professionals in various settings and regions. Consequently, it is important to exercise caution when extrapolating findings to a wider population of nurses and healthcare professionals. Furthermore, the particular context of the Cancer care unit may influence the participants' knowledge, attitudes and practices, which may be different from those of nurses working within other healthcare units.
- The study used self-reported questionnaires, which have a wide range of response biases and errors. Self reported data depend on participants' memory, comprehension of the question, and willingness to give honest and accurate answers. For example, recall bias occurs when participants don't remember or report accurately their knowledge or practices regarding breast cancer and breast cancer screening methods. Social desirability bias occurs when participants provide responses they see as socially acceptable rather than their actual knowledge or practices. Using self reported data also prevents independent verification of participants' actual knowledge or practices.
- In addition, the study utilized a convenience sampling approach, where participants were chosen based on their suitability and willingness to take part. This approach may lead to selection bias, as those who chose to take part may have different characteristics or levels of interest in breast cancer and related screening techniques than those who did not. Consequently, the results may not be representative of the entire nursing population in the hospital or similar healthcare settings.
- Lastly, the cross-sectional design of the study limits the ability to establish causal relationships between variables. The study captures a snapshot of the knowledge, attitudes, and practices of nurses at a specific point in time. Longitudinal studies would be better suited for examining changes in knowledge, attitudes, and practices over time and exploring the potential impact of interventions or educational programs

Chapter 6 -Conclusion:

This study provided valuable insights into the knowledge, attitude, and practice of breast cancer and its screening methods among nurses at a hospital. The findings indicated a need for targeted interventions to enhance knowledge, bridge the gap between knowledge and practice, and promote a positive attitude towards breast cancer awareness and screening. Empowering nurses with accurate and up-to-date information, providing training on screening techniques, and addressing barriers to screening utilization are crucial steps towards improving breast cancer prevention and early detection within the nursing community.

The demographic characteristics of the participants revealed a relatively young workforce with a significant representation of early-career professionals. This emphasizes the importance of integrating breast cancer education & training into nursing education and training programs. The findings also emphasize the need to enhance knowledge of breast cancer screening techniques, particularly in terms of age and frequency. Targeted educational programs & workshops can play an important role in improving nurses' knowledge of these screening techniques and encouraging them to use them in practice. Nurses' positive attitude towards breast cancer & its screening methods and willingness to educate and raise awareness about breast cancer can serve as an advocate and role model for their patients. They can actively encourage their patients to focus on breast health and attend screening programs. On the other hand, low practice rates among nurses for breast self-examining, clinical breast examination, and mammography suggest that barriers to screening need to be addressed and regular self care practices can be improved.

The findings of this study have implications for both nursing practice and policy. It emphasizes the importance of incorporating comprehensive breast cancer education and training in nursing curriculum and continuing professional development programs. Hospitals and healthcare institutions should provide resources and support for nurses to enhance their knowledge and skills related to breast cancer and its screening methods. Policy initiatives can focus on improving access to screening facilities and creating supportive environments that prioritize regular breast cancer screening among healthcare professionals.

Overall, addressing the gaps identified in this study through targeted education, training, and policy initiatives can contribute to improving breast cancer prevention, early detection, and patient outcomes. Nurses, as key healthcare providers, play a vital role in promoting breast health and empowering individuals to take proactive steps towards breast cancer screening

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ANNEXURE

Study Tool:

BREAST CANCER AWARENESS TOOL – QUESTIONNAIRE

SECTION A – DEMOGRAPHIC DETAILS

1. What is your age ?

2. What is educational qualification ?

3. Specify your work experience ?

SECTION B.1 – KNOWLEDGE OF BREAST CANCER (14 Points)

4. Specify Risk factors associated with Breast cancer ?

5. Specify diagnostic methods for Breast Cancer ?

6. Treatment modalities for Breast cancer ?

7. Can Breast Cancer be diagnosed at an early stage ?

8. Specify Screening test/ methods used for Breast Cancer ?

9. Signs and symptoms of Breast Cancer ?

10. Is mammography a diagnostic method or screening test ?

11. What is the source of your information ?

**SECTION B.2 KNOWLEDGE OF BREAST CANCER SCREENING METHODS
(22 Points)**

A) Knowledge of BSE

12. Have you ever heard of Breast Self- Examination (BSE) ?

- a) Yes
- b) No

13. If yes, do you know how BSE is performed ?

- a) Yes
- b) No

14. At what age should women start performing BSE

- a) 20 years
- b) 25 years
- c) 30 years
- d) 35 years
- e) Do not know

15. How often should BSE be performed ?

- a) Monthly

- b) Quarterly
- c) Bi-annually
- d) Annually
- e) Do not know

B) Knowledge of Clinical Breast Examination

16. Have you heard of Clinical Breast Examination (CBE) ?
- a) Yes
 - b) No
17. If yes, do you know how CBE is performed ?
- c) Yes
 - d) No
18. At what age should women start performing CBE?
- a) < 20 years of age
 - b) 21-30 years of age
 - c) 31- 40 years of age
 - d) > 40 years of age
 - e) Do not know
19. How often should CBE be performed ?
- a) Every year for women age more than 20
 - b) Every 2 years for women age 20-39 years and annually after 40
 - c) Every 3 years for women age 20-39 years and annually after 40
 - d) Do not know

C) Knowledge of Mammography

20. Have you heard of Mammography ?
- a) Yes
 - b) No
21. At what age should women start performing Mammography?
- a) < 20 years of age
 - b) 21-30 years of age
 - c) 31- 40 years of age
 - d) > 40 years of age
 - e) Do not know
22. How often should Mammography be performed ?
- a) Every year for women aged 40 - 54 years and every 2 years after 55

- b) Every year for women aged 40 - 54 years and every 3 years after 55
- c) Every year after 40 years
- d) Do not know

**SECTION C – PERCEPTION TOWARDS BREAST CANCER & ITS
SCREENING METHODS (10 Points)**

23. Do you think that regular screening methods like BSE, CBE and Mammography helps to detect cancer in early stages ?
- a) Agree
 - b) Disagree
 - c) Maybe
24. How confident are you in your ability to educate patients about breast cancer and its screening methods ?
- a) Confident
 - b) Not very confident
 - c) Neutral
25. How important do you think it is for healthcare professionals, including nurses, to actively promote breast cancer awareness and screening ?
- a) Important
 - b) Not very important
 - c) Neutral
26. Are you willing to encourage and motivate women to undergo breast cancer screening ?
- a) Very willing
 - b) Unwilling
 - c) Neutral
27. Are you interested in receiving additional training or education regarding breast cancer and its screening methods ?
- a) Yes, I am interested
 - b) Not interested
 - c) Maybe

SECTION D – PRACTICE OF SCREENING METHODS

A) Practice of BSE

28. Have you ever performed a BSE for yourself ?

- a) Yes
- b) No

29. If yes, at what age have you started performing BSE ?

- a) < 20 years of age
- b) 21 - 25 years of age
- c) 26 - 30 years of age
- d) N/A

30. How often do you perform BSE ?

- a) Monthly
- b) Every three months
- c) Every six months
- d) Once a year
- e) Rarely/ Never

B) Practice of CBE

31. Have you ever performed a CBE for yourself ?

- a) Yes
- b) No

32. If yes, at what age have you started performing CBE ?

- a) < 20 years of age
- b) 21 - 25 years of age
- c) 26 - 30 years of age
- d) N/A

33. How often do you undergo CBE ?

- a) Annually
- b) Every 2 years
- c) Every 3 years
- d) Only when I notice change or abnormality

e) N/A

C) Practice of Mammography

34. Have you ever performed a mammography for yourself ?

- a) Yes
- b) No

35. If yes, at what age have you started performing mammography ?

- a) 40 - 49 years
- b) 50 -59 years
- c) 60 -69 years
- d) 70 + years
- e) N/A

36. How often you undergo Mammography ?

- a) Annually
- b) Every two years
- c) Every three years
- d) Only when recommended by a healthcare provider
- e) N/A

37. Reasons for not undergoing mammography ?

- a) I am not old enough
- b) Financial reasons
- c) Never felt the need to get mammography
- d) Others (specify)