

# Knowledge Enhancement Through Breast Cancer Education Among B.Sc. Nursing Students: A Pre-Experimental Study

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## Abstract

**Background:** Breast cancer continues to be a major global public health concern. Timely detection and proper management play a vital role in reducing morbidity and mortality. Nursing students must have sufficient knowledge to provide effective community education and deliver quality care. **Aim:** This study aims to evaluate the effect of a structured teaching program on improving the knowledge of nursing students. **Method:** The quantitative research approach with pre-experimental research design and sample size 40 were selected using purposive sample technique. **Result:** The post-test means 19.6 was high when compared to the pretest mean 8.95. The paired “t” value was 15.53 is highly significance. Regarding the knowledge score, there was significant association between religion, source of information, area of residence, diet and exercise. There is no significant note among age, family type, father education, family income, mother’s education, family history. **Conclusion:** The planned teaching program was a beneficial and effective strategy for increasing the students’ knowledge, which may ultimately contribute to better patient education, early detection, and improved management of breast cancer in the community

**Keywords:** Assess, effectiveness, planned teaching programme, knowledge, breast cancer, breast cancer management

## INTRODUCTION

Breast cancer is one of the most common malignancies affecting women worldwide and a leading cause of cancer-related deaths. As reported by the World Health Organization (WHO), more than 2.3 million women worldwide were diagnosed with breast cancer in 2020, resulting in around 685,000 deaths. In India, breast cancer has overtaken cervical cancer as the most common cancer affecting women. The rising trends in incidence and mortality are largely due to late detection, inadequate awareness, and restricted access to screening and treatment facilities.

Early detection through screening programs, proper education, and timely intervention are key components in reducing the burden of breast cancer. Nurses play a critical role in promoting awareness, identifying symptoms, supporting early diagnosis, and providing holistic care to patients. For this, nursing students – especially those in their clinical training years – must be equipped with adequate knowledge and understanding of breast cancer and its management.

However, several studies have shown that nursing students often have gaps in their knowledge regarding breast cancer, its risk factors, signs and symptoms, and management strategies. This highlights the need for structured educational interventions as part of their training.

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Hence, the present study is conducted to evaluate the effectiveness of a structured teaching program on knowledge related to breast cancer and its management among 3rd year B.Sc. Nursing students in a selected nursing college. Strengthening their knowledge during the academic phase will enable them to deliver improved care and actively participate in promoting health within the community.

## REVIEW OF LITERATURE

Breast cancer represents a significant global health issue owing to its rising incidence and associated mortality rates. A cross-sectional study conducted in Vijayapura, India, among women aged 18–49 years found that while 55% were aware of breast self-examination (BSE), only 36% practiced it regularly, highlighting the need for focused awareness programs to improve early detection behaviors [1, 2].

In Saudi Arabia, a study assessing knowledge and practice related to BSE and mammography screening found a low BSE practice rate of 14.3%, despite a generally positive attitude. The findings showed significant associations between screening behaviour and factors such as age, marital status, and family history [3, 4].

In Ghana, qualitative research among female healthcare workers revealed barriers such as lack of screening tools, inadequate training, and limited awareness. It was suggested that educational sessions led by nursing professionals could help improve screening practices [5, 6].

In India, breast cancer is the most prevalent malignancy among women in urban areas, with a heightened risk noted in the age group of 30 to 64 years. A study reported that although 58% of participants were aware of breast cancer as a leading malignancy, only 28% practiced BSE regularly, suggesting a gap in translating knowledge into practice [7, 8].

An educational program based on the Theory of Planned Behavior (TPB) conducted among women attending health centers in Iran demonstrated a notable enhancement in knowledge, attitudes, and intentions toward screening. Such structured programs are crucial for promoting preventive health behavior, especially in rural communities [9, 10].

## METHODOLOGY

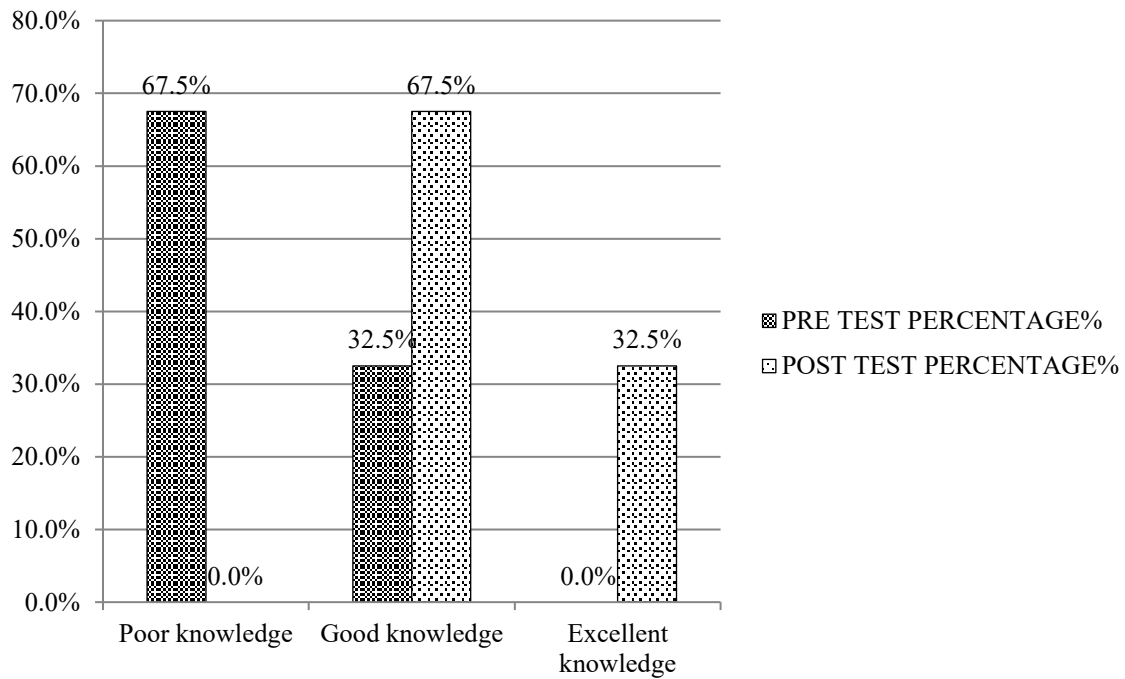
A quantitative research approach with a pre-experimental design was utilized to evaluate the effectiveness of a planned teaching program on breast cancer and its management. The study was carried out among nursing students at a selected nursing college in Korba, Chhattisgarh, with a sample of 40 participants chosen through purposive sampling.

Data collection was done using a structured questionnaire. A pre-test was administered, followed by a structured teaching session, and a post-test was conducted after a specified interval to assess the improvement in knowledge. The data collected was analyzed using both descriptive and inferential statistical methods.

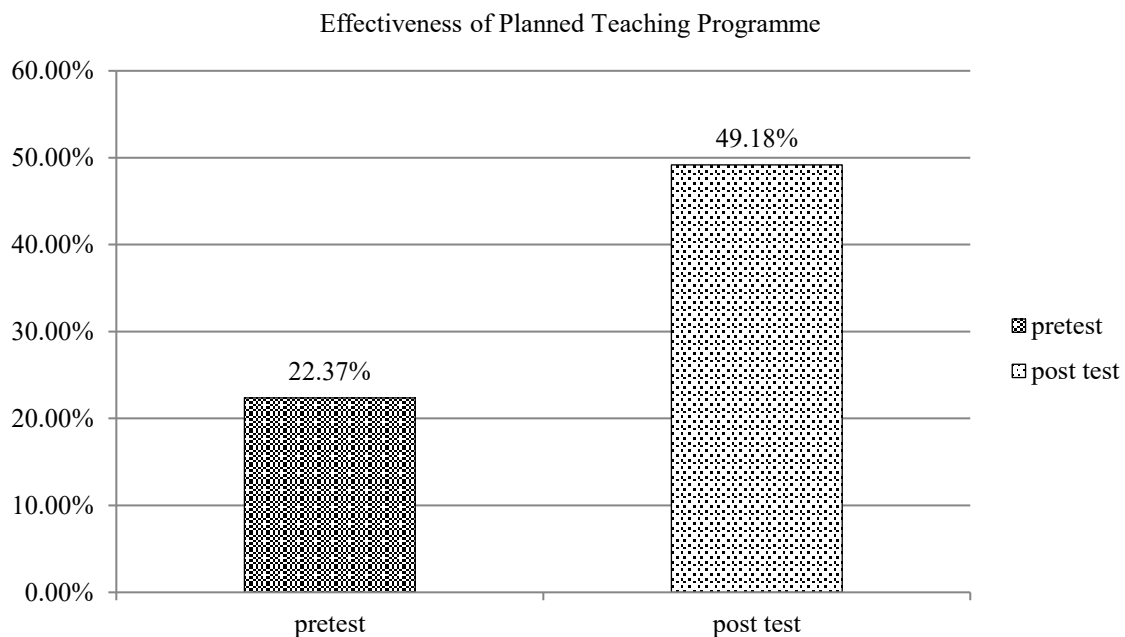
## RESULTS AND FINDINGS

The study included a total of 40 nursing students in which pretest knowledge reveals that 27 (67.5%) had poor knowledge, 13 (32.5%) had good knowledge, and 0 (0%), i.e., none of them had excellent knowledge regarding breast cancer and its management. Whether in the post-test knowledge, 27 (67.5%) had good knowledge, 13 (32.5%) had excellent knowledge, and none of them had average knowledge.

The pretest mean value is 8.95, mean percentage is 22.3, however, post-test mean value is 19.675, mean percentage is 49.18%. There is increase in knowledge by 26.805%. Hence, it is proved that there is effectiveness in planned teaching program (Figures 1 & 2).



**Figure 1.** Comparison of nursing students' knowledge levels on breast cancer before and after the structured teaching program.



**Figure 2.** Effectiveness of the planned teaching program showing improvement in knowledge scores from pretest (22.37%) to posttest (49.18%).

### IMPLEMENTATION

Based on the findings of the study, the following strategies can be implemented to enhance knowledge and awareness about breast cancer among nursing students and the wider community:

- *Integration into Curriculum:* The content of the planned teaching program can be incorporated into the B.Sc. Nursing syllabus under medical–surgical nursing or oncology nursing to ensure formal and repeated exposure to the topic.

- *Regular Educational Sessions*: Periodic workshops, seminars, and awareness programs on breast cancer can be conducted within nursing institutions to reinforce learning and promote updated knowledge.
- *Use of Audio-Visual Aids*: Charts, models, videos, and PowerPoint presentations used during the teaching program can be retained and reused for future batches to maintain consistency in teaching.
- *Peer Education and Group Discussions*: Nursing students who receive the training can be encouraged to conduct peer-led sessions or participate in group discussions to disseminate knowledge and strengthen their understanding.
- *Community Outreach*: Trained students can be involved in community health awareness programs, especially in rural or underserved areas, to educate women about early signs, self-breast examination (SBE), and the importance of regular checkups.
- *Digital Platforms*: The teaching program can be adapted into digital formats (e.g., online modules or videos) and shared through institutional platforms to increase accessibility.
- *Clinical Correlation*: Clinical postings in oncology or surgical wards can be synchronized with the teaching sessions to provide real-life exposure and application of theoretical knowledge.
- *Assessment and Feedback Mechanism*: Regular assessments can be conducted to evaluate retention of knowledge, and feedback from students can be used to improve the teaching methodology.

## CONCLUSIONS

The findings of the present study indicated that the structured teaching program was effective in improving the knowledge of B.Sc. Nursing students (Nursing 3<sup>rd</sup>-year students regarding breast cancer and its management). The significant improvement in post-test knowledge scores compared to pre-test scores clearly indicates that structured educational interventions are essential in bridging the knowledge gap among nursing students.

As future healthcare providers, nursing students must be well-equipped with up-to-date knowledge about common health issues, like breast cancer, which is a major public health concern. Educating them not only empowers their personal learning but also strengthens their role in patient education, early detection, and community awareness.

Thus, it is concluded that such teaching programs should be routinely implemented as part of the nursing curriculum to promote quality education, improve clinical practice, and ultimately contribute to better health outcomes in society.

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