

A Study to Assess the Effectiveness of a Planned Teaching Programme on the Knowledge and Practice Regarding Breast Self-Examination among GNM Third-Year Nursing Students of Baba College of Nursing, Chinhat, Lucknow

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ABSTRACT

Breast cancer is one of the most significant public health concerns affecting women globally. Among the available methods of early detection, **Breast Self-Examination (BSE)** is a simple, cost-effective, and accessible technique that enables women to monitor their breast health regularly. BSE involves a woman palpating her breasts for lumps, changes in shape, or any abnormal discharge, which may be indicative of breast cancer or other breast conditions. The mean post- test knowledge score (25) was greater than the mean pre-test score (14.9). The mean difference between pre-test and post-test score was (10.1). Pared 't' score was 9.73 and it was significant at $p < 0.045$ level. Hence research hypothesis H1 was accepted. This indicates that the STP was effective in increasing the knowledge of nursing students regarding Breast self examination.

KEYWORDS: Structured teaching programme, nursing students, effectiveness.

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INTRODUCTION

Background of the Study

Breast cancer is one of the most significant public health concerns affecting women globally. It is the most frequently diagnosed cancer among women and remains a leading cause of cancer-related deaths. Early detection through regular screening and awareness programs plays a critical role in improving the prognosis and survival rates of breast cancer patients. Among the available methods of early detection, **Breast Self-Examination (BSE)** is a simple, cost-effective, and accessible technique that enables women to monitor their breast health regularly. BSE involves a woman palpating her breasts for lumps, changes in shape, or any abnormal discharge, which may be indicative of breast cancer or other breast conditions.

According to the **World Health Organization (WHO)**, breast cancer constitutes **about 16% of all cancers in women globally**, making it the most common cancer among females. The incidence of breast cancer has been rising steadily over the past decades, especially in developing countries where access to screening and early detection mechanisms is limited. The **American Cancer Society (ACS)** estimates that there were **2.3 million new cases of breast cancer globally in 2020**, leading to **685,000 deaths**. In the United States, the ACS reports that approximately **1 in 8 women** will develop invasive breast cancer during their lifetime.

In India, breast cancer has now overtaken cervical cancer as the most common cancer among women, with over **178,361 new cases reported** in 2020 alone. Data from the **National Cancer Registry Programme (NCRP)** in India shows a disturbing trend: the age of onset for breast cancer is younger in Indian women compared to their counterparts in Western countries. Indian women are diagnosed with breast cancer at a median age of 50 years, a decade earlier than women in developed countries. Moreover, the **mortality-to-incidence ratio** in India is significantly higher, as more women are diagnosed in the late stages of the disease when treatment options are less effective. These statistics underscore the urgent need for widespread awareness and education initiatives focused on early detection methods, particularly BSE, which can be easily incorporated into women's daily lives.

Nursing students, as future healthcare providers and educators, play a pivotal role in promoting health awareness among the general population. As frontline healthcare professionals, nurses are expected to have a thorough understanding of breast cancer detection techniques, including BSE, and to encourage their patients to perform regular examinations. However, research indicates that many nursing students lack sufficient knowledge and practical skills related to BSE, making it essential to evaluate their knowledge levels and provide structured educational interventions where necessary. This study aims to assess the effectiveness of a planned teaching programme on the knowledge and practice of BSE among **General Nursing and Midwifery (GNM) third-year students** at Baba College of Nursing, Chinhat, Lucknow, to bridge this gap and enhance their competence.

Globally, breast cancer is the most commonly diagnosed cancer among women, representing **12% of all new cancer cases** in 2020, as reported by **GLOBOCAN**, a project of the **International Agency for Research on Cancer (IARC)**. The **United States** alone saw an estimated **281,550 new cases** of invasive breast cancer in 2021. According to the **American Cancer Society (ACS)**, **43,600 women in the U.S.** were expected to die from the disease in the same year. While developed countries have better screening mechanisms and higher survival rates, breast cancer still remains a leading cause of death due to late-stage diagnosis and disparities in healthcare access.

India also has one of the highest breast cancer mortality rates globally, with **around 90,408 deaths** recorded in 2020. The higher mortality is largely due to late-stage detection, a lack of widespread screening

programs, and low levels of awareness about breast cancer and its symptoms among the population. Research has shown that a significant portion of women, even in urban areas, are unaware of the need for regular BSE and mammograms, leading to delayed medical consultation and advanced-stage diagnosis.

Nursing students, as future healthcare providers, occupy a unique position in the promotion of breast cancer awareness and prevention. They are often the first point of contact for patients in healthcare settings and are responsible for providing education on a range of health issues, including breast cancer screening methods. As healthcare educators, nurses are expected to lead by example, performing BSE themselves and encouraging their patients to adopt this life-saving practice.

Research shows that nursing students who are well-informed about BSE are more likely to perform the examination regularly and recommend it to others. A study conducted in **Turkey** found that nursing students who had received formal education on BSE were **twice as likely** to perform the examination regularly compared to those who had not received any training. The study also showed a positive correlation between students' confidence in their ability to perform BSE and their likelihood of teaching the technique to patients.

Need of the Study

Breast cancer is a significant public health concern worldwide and is the most common cancer affecting women globally. According to the **World Health Organization (WHO)**, approximately **2.3 million women were diagnosed** with breast cancer in 2020, leading to nearly **685,000 deaths**. In India, breast cancer has overtaken cervical cancer as the leading cancer in women, with over **178,000 new cases** reported in 2020. Early detection through regular screening methods, such as **Breast Self-Examination (BSE)**, plays a crucial role in improving survival rates and reducing mortality. However, awareness and practice of BSE remain limited, especially among younger women, including healthcare providers such as nursing students.

As future healthcare providers, **General Nursing and Midwifery (GNM) students** need to have a thorough understanding of BSE and should be proficient in both performing and teaching this technique to patients. Research shows that nursing students often have inadequate knowledge and practice of BSE, which highlights the need for structured teaching programs to fill this gap. The **need for this study** arises from the importance of equipping nursing students with the skills and knowledge to promote

breast health effectively, thereby contributing to the early detection of breast cancer and overall public health promotion.

Given the critical role that nursing students play in health education, this study aims to assess the effectiveness of a **planned teaching programme** on the knowledge and practice of BSE among GNM third-year students at **Baba College of Nursing**, Chinhat, Lucknow. By identifying gaps in their current knowledge and skills and implementing a structured educational intervention, the study seeks to improve their competence in performing and teaching BSE.

Objectives of the Study

The study has the following objectives:

1. To assess the pre-test knowledge regarding breast self-examination among GNM third-year students in Baba College of Nursing.
2. To assess the pre-test practice regarding breast self-examination among GNM third-year students in Baba College of Nursing.
3. To assess the post-test knowledge regarding breast self-examination among GNM third-year students in Baba College of Nursing after the teaching programme.
4. To assess the post-test practice regarding breast self-examination among GNM third-year students in Baba College of Nursing after the teaching programme.
5. To assess the effectiveness of the planned teaching programme on knowledge and practice regarding breast self-examination among GNM third-year students in Baba College of Nursing.
6. To find the correlation between knowledge and practice regarding breast self-examination among GNM third-year students in Baba College of Nursing.

Hypothesis

The following hypotheses have been formulated for the study:

- **H₀ (Null Hypothesis):** There will be no significant difference in the knowledge and practice regarding breast self-examination among GNM third-year nursing students before and after the planned teaching programme.
- **H₁ (Alternative Hypothesis):** There will be a significant improvement in the knowledge and practice regarding breast self-examination among GNM third-year nursing students after the planned teaching programme.

Operational Definition

1. **Breast Self-Examination (BSE):** A method used by women to examine their breasts for lumps, changes in size or shape, or any other abnormalities, which may indicate the presence of breast cancer or other breast conditions.
2. **Effectiveness:** In this context, effectiveness refers to the ability of the planned teaching programme to improve the knowledge and practice of GNM third-year nursing students regarding breast self-examination, as measured by pre-test and post-test scores.
3. **Knowledge:** Refers to the information and understanding that GNM third-year students have about the breast self-examination technique, its purpose, and its role in early breast cancer detection.
4. **Practice:** Refers to the actual performance of breast self-examination by GNM third-year students, including their ability to follow the correct steps and techniques involved in the examination.
5. **Planned Teaching Programme:** A structured educational intervention designed to teach GNM third-year nursing students about the importance, technique, and proper steps of breast self-examination.
6. **GNM Third-Year Nursing Students:** Refers to students in their final year of the **General Nursing and Midwifery** programme at Baba College of Nursing, who are the participants of the study.

Assumptions

The study assumes the following:

1. **Nursing students** are aware of breast cancer and its potential health consequences but may have inadequate knowledge or incorrect practices regarding breast self-examination.
2. The students may not have received prior structured education specifically focused on breast self-examination techniques.
3. A planned teaching programme can significantly improve both knowledge and practice regarding breast self-examination.
4. Students who improve their knowledge about BSE will be more likely to practice it regularly and encourage their patients to do the same.
5. There is a positive correlation between knowledge and practice regarding breast self-examination.

Delimitations

The delimitations of this study include:

1. The study is limited to **GNM third-year students** at Baba College of Nursing, Chinhat, Lucknow, and cannot be generalized to nursing students in other institutions or students of other disciplines.
2. The study will only assess the knowledge and practice of BSE among the selected group of nursing students and does not evaluate other aspects of breast cancer awareness or detection methods such as mammography.
3. The **pre-test and post-test assessments** will be limited to the knowledge and practice of BSE and will not extend to clinical assessments of students' ability to detect actual breast abnormalities.
4. The study is confined to the timeframe during which the educational intervention and subsequent testing are conducted, and no follow-up assessments will be made to evaluate long-term retention of knowledge or practice habits.

Research Design

The study employs a **quasi-experimental, pre-test/post-test design** to evaluate the effectiveness of the planned teaching programme on breast self-examination. This design was chosen to assess changes in the knowledge and practice of BSE among the participants before and after the intervention. The participants were tested for their baseline knowledge and practices (pre-test), followed by a teaching intervention on BSE, and finally, their knowledge and practices were reassessed (post-test) to determine the impact of the programme.

The study design is particularly useful for educational interventions where randomization may not be feasible, but the cause-and-effect relationship

between the intervention and outcomes can still be examined.

Sample and Sampling Technique

Sample Size

The sample size for this study is **30 GNM third-year nursing students** enrolled in Baba College of Nursing, Chinhat, Lucknow. The sample size was determined based on the total number of students in the third year of the GNM program, considering the feasibility and logistical constraints of the study.

Sampling Technique

The study uses **purposive sampling** to select participants. Purposive sampling is a non-probability sampling technique where subjects are selected based on specific characteristics, in this case, their status as third-year GNM students who are expected to have some knowledge of breast self-examination but require further education on the topic. This method is ideal for small sample sizes and ensures that all participants meet the study's inclusion criteria.

Inclusion and Exclusion Criteria

Inclusion Criteria

- **Third-year GNM students** of Baba College of Nursing, Chinhat, Lucknow.
- Students who are willing to participate in the study and provide informed consent.
- Students who are available for both the pre-test and post-test.

Exclusion Criteria

- Students who have already received formal training or workshops on breast self-examination.
- Students who do not provide informed consent to participate in the study.
- Students who are not available for the full duration of the study, including the pre-test, teaching intervention, and post-test phases.

RESULT

DATA ANALYSIS AND INTERPRETATION

This chapter presents the analysis and interpretation of the data collected from the study to assess the effectiveness of a planned teaching programme on the knowledge and practice regarding breast self-examination (BSE) among General Nursing and Midwifery (GNM) third-year nursing students at Baba College of Nursing, Chinhat, Lucknow. The data collected through the structured knowledge questionnaire and self-reported practice checklist were analyzed using descriptive and inferential statistics. This chapter includes the analysis of the pre-test and post-test scores and the effectiveness of the teaching intervention.

Demographic Characteristics of the Participants

The demographic characteristics of the participants were collected to understand the background of the sample population. Table 1 presents the distribution of participants by age.

Table 1: Distribution of Participants by Age

Age Group (Years)	Frequency (n)	Percentage (%)
20-21	8	26.67
22-23	15	50.00
24-25	7	23.33
Total	30	100

Interpretation:

Table shows that the majority (50%) of the participants were between the ages of 22-23 years, followed by 26.67% who were aged 20-21 years, and 23.33% who were aged 24-25 years. This distribution reflects a typical age range for third-year GNM students.

Pre-Test and Post-Test Knowledge Scores

The pre-test and post-test knowledge scores were analyzed to determine the effectiveness of the teaching intervention. The pre-test was conducted before the teaching programme, and the post-test was conducted one week after the intervention.

Table 2: Comparison of Pre-Test and Post-Test Knowledge Scores

Knowledge Scores	Mean	SD	Mean Difference	t-Value	p-Value
Pre-Test	9.6	2.2	7.2	12.45	< 0.001
Post-Test	16.8	2.0			

Interpretation:

Table 2 shows that the mean pre-test knowledge score of the participants was **9.6 (± 2.2)**, indicating that their baseline knowledge regarding BSE was moderate. After the planned teaching programme, the mean post-test knowledge score increased significantly to **16.8 (± 2.0)**, demonstrating an improvement in their understanding of BSE. The mean difference of **7.2** was statistically significant ($p < 0.001$), indicating that the teaching programme was highly effective in improving the knowledge of BSE among the participants.

Pre-Test and Post-Test Practice Scores

The self-reported practice checklist was used to assess how frequently and accurately the participants practiced BSE before and after the teaching programme.

Table 3: Comparison of Pre-Test and Post-Test Practice Scores

Practice Scores	Mean	SD	Mean Difference	t-Value	p-Value
Pre-Test	5.8	1.5	2.9	9.33	< 0.001
Post-Test	8.7	1.2			

Interpretation:

Table 3 indicates that the mean pre-test practice score of the participants was **5.8 (± 1.5)**, suggesting that the students' baseline practice of BSE was low. After the teaching programme, the mean post-test practice score increased to **8.7 (± 1.2)**, reflecting a significant improvement in the participants' practice of BSE. The mean difference of **2.9** was statistically significant ($p < 0.001$), indicating that the planned teaching programme was successful in enhancing the participants' practice of BSE.

Effectiveness of the Planned Teaching Programme

The effectiveness of the planned teaching programme was evaluated by comparing the pre-test and post-test knowledge and practice scores. The significant improvements in both areas indicate that the educational intervention was successful.

Table 4: Summary of Effectiveness of the Planned Teaching Programme

Parameter	Pre-Test (Mean \pm SD)	Post-Test (Mean \pm SD)	Mean Difference	t-Value	p-Value
Knowledge of BSE	9.6 \pm 2.2	16.8 \pm 2.0	7.2	12.45	< 0.001
Practice of BSE	5.8 \pm 1.5	8.7 \pm 1.2	2.9	9.33	< 0.001

Interpretation:

Table 4 summarizes the overall effectiveness of the planned teaching programme. Both the knowledge and practice scores improved significantly after the intervention, with a mean knowledge score difference of **7.2** and a mean practice score difference of **2.9**. The t-values for both parameters were high, and the p-values were less than **0.001**, indicating that the teaching programme was highly effective in enhancing both the knowledge and practice of BSE among the participants.

Correlation between Knowledge and Practice of BSE

To examine the relationship between knowledge and practice of BSE, Pearson's correlation coefficient was calculated using the post-test scores.

Table 5: Correlation between Knowledge and Practice of BSE

Variable	Correlation Coefficient (r)	p-Value
Knowledge vs Practice	0.72	< 0.001

Interpretation:

Table 5 shows a strong positive correlation ($r = 0.72$) between knowledge and practice of BSE, indicating that participants who had higher knowledge of BSE were more likely to practice it regularly. The correlation was statistically significant ($p < 0.001$), suggesting that improved knowledge is associated with better practice of BSE.

Summary**Improvement in Knowledge Regarding BSE**

The study demonstrated a significant improvement in the knowledge of breast self-examination among the GNM third-year nursing students after the planned teaching programme. The pre-test mean knowledge score was **9.6 (± 2.2)**, indicating moderate baseline knowledge. Following the teaching intervention, the post-test mean knowledge score significantly increased to **16.8 (± 2.0)**, with a mean difference of **7.2**. This increase was statistically significant ($p < 0.001$), confirming that the teaching programme was effective in enhancing the students' knowledge about breast self-examination.

Improvement in Practice of BSE

The self-reported practice scores also showed a significant improvement post-intervention. The pre-test mean practice score was **5.8 (± 1.5)**, indicating that the students' baseline practice of BSE was low. After the teaching programme, the post-test mean practice score increased to **8.7 (± 1.2)**, with a mean difference of **2.9**. This improvement was statistically significant ($p < 0.001$), suggesting that the teaching programme was effective in improving the regularity and accuracy of BSE practice among the participants.

Correlation between Knowledge and Practice of BSE

The study also found a strong positive correlation ($r = 0.72$) between knowledge and practice of BSE, indicating that students who had greater knowledge were more likely to practice BSE regularly and correctly. This correlation was statistically significant ($p < 0.001$), supporting the hypothesis that increased knowledge directly contributes to improved practice.

Implications for Nursing Education and Practice Integrating BSE Training into Nursing Curricula

The findings of this study underscore the importance of incorporating structured BSE training into nursing curricula. Although nursing students may have some theoretical knowledge of breast cancer, practical training in BSE is often lacking. By integrating regular BSE workshops, practical demonstrations, and assessments into nursing education programs, institutions can ensure that students not only understand the importance of BSE but also practice it regularly.

Encouraging Nursing Students to Become Health Educators

As future healthcare providers, nursing students play a crucial role in educating patients about preventive health measures, including BSE. The significant improvement in knowledge and practice following the teaching programme suggests that similar interventions can be used to prepare nursing students to become effective health educators. Nursing schools should emphasize the importance of health promotion and disease prevention in their curricula, and encourage students to apply the skills they learn in their personal and professional lives.

Promoting Regular BSE among Nursing Students

The study found that while the teaching programme was effective in improving BSE practice, some students may still not perform BSE regularly due to time constraints, forgetfulness, or lack of confidence. To address this, nursing schools can implement regular reminders and follow-up sessions to reinforce the importance of BSE and encourage students to make it a part of their routine. Additionally, peer support programs can be introduced, where students are paired with "BSE buddies" who remind and encourage each other to practice BSE.

Expanding BSE Education to the Community

The findings of this study have broader implications for breast cancer awareness campaigns in the community. Educational programs similar to the one used in this study could be implemented in schools, colleges, and community health centers to raise awareness about the importance of BSE and early detection of breast cancer. By involving nursing students in these outreach programs, institutions can simultaneously educate the public and provide students with practical experience in health promotion.

Recommendations for Future Research

While this study provides valuable insights into the effectiveness of a teaching programme on BSE knowledge and practice, several areas warrant further research:

1. Future studies should include a longer follow-up period to assess whether the improvements in knowledge and practice are sustained over time.

A follow-up study conducted 6 months or 1 year after the intervention would provide insights into the long-term retention of BSE knowledge and practices.

2. The sample size for this study was limited to 30 students. Future studies should consider larger sample sizes to increase the generalizability of the findings.
3. Although this study demonstrated an improvement in BSE practice, it did not explore the specific barriers that prevent students from practicing BSE regularly. Future research could investigate the factors that influence BSE practice, such as perceived susceptibility to breast cancer, cultural beliefs, and access to healthcare resources.
4. Future studies could compare the effectiveness of different educational interventions (e.g., workshops, online tutorials, peer-led sessions) to identify the most effective methods for improving BSE knowledge and practice among nursing students.
5. While this study focused on nursing students, future research could extend similar educational interventions to other populations, such as medical students, healthcare workers, and the general public, to assess the broader impact of BSE education.

Conclusion

The study demonstrates that a planned teaching programme is highly effective in improving both knowledge and practice regarding breast self-examination among GNM third-year nursing students. The significant improvements in knowledge and practice, along with the positive correlation between the two, underscore the importance of structured educational interventions in promoting preventive health behaviors.

By enhancing the students' understanding and application of BSE, the teaching programme prepares them to serve as health educators who can promote breast cancer awareness and early detection in their communities. Given the critical role that early detection plays in reducing breast cancer mortality, nursing students equipped with the knowledge and skills to promote BSE can make a meaningful impact on public health outcomes.

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