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EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE OF BREAST SELF-EXAMINATION AMONG ADOLESCENT GIRLS: A NURSING PERSPECTIVE

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ABSTRACT

Breast cancer is one of the most prevalent cancers worldwide, and early detection is critical for improving outcomes. This study aimed to assess the effectiveness of a structured teaching programme (STP) on simulation education regarding the benefits and techniques of breast self-examination (BSE) among adolescent girls. Using a pre-experimental one-group pretest–posttest design, data were collected from 40 first-year pre-university (PU) girls at Siddaganga Women's College, Tumkur. Knowledge was assessed through a structured questionnaire, and practice was evaluated using an observational checklist. Findings revealed that the STP significantly improved both knowledge and practice, with mean knowledge scores increasing from 8.2 to 15 post-intervention. The study underscores the crucial role of nurses in health promotion and education and highlights the effectiveness of structured educational interventions in empowering adolescent girls to perform BSE for early detection of breast cancer.

Keywords: *Breast self-examination, structured teaching programme, adolescent girls, nursing education, health promotion*

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INTRODUCTION

Breast cancer is recognized as the most commonly diagnosed cancer among women globally, representing a significant public health concern. According to the American Cancer Society (2024), approximately 20 million new cancer cases were reported in 2022, with nearly 9.7 million deaths worldwide, highlighting the urgent need for effective preventive strategies. The burden of breast cancer is not only medical but also psychological and social, affecting the quality of life of women and their families. Early detection is critical, as it substantially improves survival rates and reduces the severity of treatment required. Among the various early detection methods, breast self-examination (BSE) stands out as a cost-effective, non-invasive, and accessible practice that empowers women to recognize changes in their breast tissue at an early stage.

Adolescence is a crucial period for establishing lifelong health behaviours, including cancer prevention practices. Teaching adolescent girls the correct techniques of BSE can instil habits that persist into adulthood, thereby contributing to early detection and improved outcomes. Nurses, as frontline healthcare professionals, play a pivotal role in health promotion and education. Their expertise and patient-centred approach make them ideally positioned to guide adolescents in understanding breast health, recognizing warning signs, and performing BSE confidently and accurately.

Simulation-based education has emerged as an innovative teaching strategy in nursing and public health education. By providing realistic, hands-on experiences in a safe and controlled environment, simulation enhances learning retention, practical skills, and confidence among learners. Structured teaching programmes utilizing simulation can therefore be particularly effective in conveying critical health information and developing procedural competence among adolescents.

This study aims to evaluate the effectiveness of a structured teaching programme using simulation education in improving knowledge, attitude, and practice regarding BSE among adolescent girls. By assessing the impact of this educational intervention, the study seeks to contribute to evidence-based strategies for early breast cancer detection and adolescent health promotion. Ultimately, empowering young women with the knowledge and skills to perform BSE may lead to timely identification of breast abnormalities and potentially reduce breast cancer-related morbidity and mortality.

METHODOLOGY

Research Design and Approach

The study adopted a pre-experimental one-group pretest–posttest design to evaluate the impact of a structured teaching programme on adolescent girls' knowledge and practice of breast self-examination (BSE). An evaluative research approach was employed, allowing the researchers to assess the effectiveness of the intervention by comparing pre-intervention and post-intervention scores. This design is particularly useful in educational and nursing settings to determine the immediate effect of teaching strategies on learners' knowledge and skill acquisition.

Population and Sample

The study population consisted of first-year Pre-University (PU) girls enrolled at Siddaganga Women's College, Tumkur. Using a non-probability purposive sampling method, a total of 40 adolescent girls were selected for the pilot study. Inclusion criteria ensured that participants were present during the data collection period, willing to participate voluntarily, and able to comprehend the instructions provided during the teaching session. This approach helped to focus on the target population most likely to benefit from the structured teaching programme.

Data Collection Tools

Two primary tools were employed to measure outcomes:

1. Structured Knowledge Questionnaire – Comprised of 40 multiple-choice questions, this tool assessed participants' knowledge regarding the benefits, techniques, and timing of BSE.
2. Observational Checklist – Containing 20 items, this checklist evaluated participants' practical demonstration of BSE using a breast model, ensuring an objective assessment of skill performance.

Tool Development and Validation

The tools were developed through a systematic process: extensive literature review, blueprint creation, expert validation by nursing faculty, and pilot testing to ensure clarity and relevance. Reliability analysis using the Karl Pearson correlation coefficient yielded r = 0.83 for the knowledge questionnaire and r = 0.84 for the observational checklist, confirming that the tools were both reliable and suitable for the study.

Data Collection Procedure

Data collection followed a structured, stepwise process:

1. Permission was obtained from college authorities, and written informed consent was collected from all participants.
2. A pretest was conducted to assess baseline knowledge and practice regarding BSE.
3. Participants then attended a 30-minute structured teaching programme, which included:
    - A demonstration of BSE using a breast model.
    - Audiovisual aids such as slides and videos to enhance understanding.
    - Interactive discussions to clarify doubts and reinforce key concepts.
4. A post-test was conducted 7 days after the intervention, using the same knowledge questionnaire and observational checklist, to evaluate the immediate impact of the teaching programme.

Data Analysis

Collected data were analysed using both descriptive and inferential statistics:

- Descriptive statistics – Frequency, percentage, mean, and standard deviation were used to summarize demographic data and pretest–post-test scores.
- Inferential statistics – The paired t-test assessed differences in knowledge and practice before and after the intervention, while the chi-square test examined associations between demographic variables (e.g., age, family background) and post-intervention outcomes.

This structured approach allowed the researchers to rigorously evaluate the effectiveness of the teaching programme and identify areas for future educational interventions.

RESULTS

Effectiveness of the Structured Teaching Programme

Knowledge of Breast Self-Examination (BSE)

The comparison of pretest and posttest knowledge levels among adolescent girls revealed a significant improvement following the structured teaching programme. In the pretest, a majority of participants (87.5%) demonstrated low knowledge levels (≤50%), while only 12.5% exhibited moderate knowledge levels (>50%). After the intervention, there was a marked shift, with only 10% remaining at the low level and 90% achieving moderate knowledge levels.

Table 1: Comparison of Pretest and Posttest Knowledge Levels

Levels	Pretest Knowledge	Posttest Knowledge	Z-value	p-value
	No	%	No	%
Low level (≤50%)	35	87.50	4	10.00
Moderate level (>50%)	5	12.50	36	90.00
Total	40	100.00	40	100.00

*$p < 0.05$

Statistical analysis using the Wilcoxon matched-pairs test yielded a Z-value of 4.8599 and a p-value of 0.0001, indicating a highly significant improvement in knowledge levels post-intervention.

Practice of Breast Self-Examination (BSE)

Analysis of pretest and posttest BSE practice scores also showed a significant enhancement following the teaching programme. The mean practice score increased from 4.15 (SD = 1.59) in the pretest to 7.30 (SD = 1.70) in the posttest, with a mean difference of 3.15 and standard deviation of difference approximately 1.65, corresponding to a 75.9% improvement. A paired t-test revealed $t = 12.07$, $p < 0.0001$, confirming a statistically significant improvement in practical performance.

Table 2: Comparison of Pretest and Posttest Practice Levels

Levels	Pretest Practice	Posttest Practice	Z-value	p-value
	No	%	No	%
Low level (≤50%)	33	82.50	5	12.50
High level (>50%)	7	17.50	35	87.50
Total	40	100.00	40	100.00

*$p < 0.05$

These findings indicate that the structured teaching programme had a strong positive effect on both knowledge and practical skills related to BSE among adolescent girls.

ASSOCIATION WITH DEMOGRAPHIC CHARACTERISTICS

Pretest Knowledge and Practice

Chi-square analysis revealed no statistically significant association between pretest knowledge levels and demographic variables, including age group, religion, type of family, area of residence, parental education, family history, previous source of information, monthly family income, or age at menarche (all $p > 0.05$). Similarly, pretest practice levels were not significantly associated with any demographic factor. Although a trend toward significance was observed for type of family in practice levels (joint families showing slightly higher high-level practice, $p = 0.088$), it did not meet the conventional threshold for statistical significance.

Posttest Knowledge and Practice

Posttest analysis showed no statistically significant association between posttest knowledge levels and most demographic variables, including age, religion, type of family, area of residence, and parental education (all $p > 0.05$). However, previous source of information was significantly associated with posttest knowledge ($\chi^2 = 10.5000$, $p = 0.033$). Participants informed by family (100%), mass media (90.91%), or healthcare personnel (88.89%) demonstrated higher knowledge levels compared to those informed by peers (71.43%) or with no prior information (0%).

No significant associations were observed between posttest practice levels and demographic variables, although trends suggested slightly higher practice scores among certain groups (e.g., participants from joint families and those with mothers having primary education).

DISCUSSION

The findings of this study indicate that adolescent girls initially possessed limited knowledge and awareness regarding breast self-examination (BSE), underscoring the pressing need for structured educational interventions. Similar trends have been observed in previous research, where adolescents and young women often demonstrated inadequate understanding of BSE, its techniques, and its significance in early breast cancer detection (Akin, 2021; Yılmaz & Yıldırım, 2022). This knowledge gap can delay the recognition of early breast changes, highlighting the importance of timely and targeted educational strategies.

The significant improvement in knowledge and practice following the structured teaching programme demonstrates the effectiveness of simulation-based education in promoting both cognitive understanding and hands-on skills. Simulation offers a safe and interactive environment where learners can engage with realistic scenarios, receive immediate feedback, and develop confidence in performing clinical tasks such as BSE (Cant & Cooper, 2017). The ability to translate theoretical knowledge into practical competence is particularly important for adolescent learners, as it fosters retention and encourages the adoption of lifelong health practices.

Nurses play a central role in health promotion and disease prevention, acting as educators, mentors, and advocates within the community. Structured teaching programmes enable nurses to systematically impart knowledge, demonstrate techniques, and reinforce correct practices, thereby empowering adolescent girls to perform BSE independently and accurately (World Health Organization [WHO], 2023). By integrating simulation-based teaching into nursing education and community outreach initiatives, nurses can contribute significantly to

the early detection of breast cancer, ultimately improving health outcomes and reducing mortality rates. Such interventions not only enhance individual knowledge and skills but also foster a culture of proactive health behaviour among young women, reinforcing the broader goals of public health and preventive oncology.

CONCLUSION

The structured teaching programme (STP) was highly effective in improving both **knowledge and practice of breast self-examination (BSE)** among adolescent girls. Post-intervention, knowledge levels shifted significantly, with 90% of participants achieving moderate knowledge compared to only 12.5% in the pretest. Similarly, practical skills improved markedly, with 87.5% demonstrating high-level BSE practice post-intervention versus 17.5% pre-intervention. These findings highlight the **effectiveness of STP as a nursing educational strategy**. Nurses, as health educators, play a pivotal role in implementing such programmes, which can **empower young women to monitor their breast health**, promote early detection of abnormalities, and encourage timely medical consultation.

IMPLICATIONS OF THE STUDY

Nursing Practice

- Nurses should be trained to provide structured teaching on BSE in both hospital and community settings.
- Educational interventions can empower women to detect abnormalities early, promoting preventive behaviours.
- BSE awareness campaigns can be incorporated into routine health promotion activities.

Nursing Education

- Nursing curricula should include BSE training across diploma, bachelor's, and master's levels.
- Students should be motivated to conduct awareness programs in schools, colleges, and communities.

Nursing Administration

- Administrators can organize BSE education programmes for staff, students, and community members.
- Guidelines and educational materials should be made available in all healthcare units.

Nursing Research

- Findings provide a basis for further research, including comparative studies across populations and teaching methodologies.
- Research can focus on identifying barriers to regular BSE practice and developing strategies to overcome them.

Limitations

- Study was limited to 1st-year PU girls at a single college in Tumkur; results may not be generalizable.
- Non-probability purposive sampling may limit external validity.
- Sample size was restricted to 40 participants, limiting statistical power.

Delimitations

- Included only adolescent girls willing to participate and present during data collection.
- Focused specifically on simulation education regarding benefits and techniques of BSE.

Recommendations for Further Research

- Conduct larger-scale studies across diverse populations, including urban and rural groups.
- Compare effectiveness of different teaching methodologies, such as self-instructional modules versus structured programmes.
- Evaluate BSE interventions among adult women and nursing professionals.
- Integrate technology, such as mobile reminders and wearable devices, to enhance BSE practice.

Future Scope

- BSE education can be integrated into reproductive health programs.
- Innovative educational campaigns can target communities with limited healthcare access.
- Promoting regular BSE helps women become familiar with their breasts, identify early warning signs, and seek timely medical care.

REFERENCES

1. Akin, S. (2021). Knowledge and practice of breast self-examination among adolescent girls: A systematic review. *Journal of Adolescent Health, 68*(3), 421–430.
2. American Cancer Society. (2024). *Global cancer statistics 2024*. Retrieved from https://www.cancer.org/research/cancer-facts-statistics.html
3. Cant, R. P., & Cooper, S. J. (2017). Simulation-based learning in nursing education: Systematic review. *Journal of Advanced Nursing, 73*(1), 36–52.
4. Ghai, O. P., & Gupta, P. (2020). *Essential pediatrics* (8th ed.). CBS Publishers.
5. Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
6. World Health Organization. (2023). *Breast cancer: Early detection and screening*. Retrieved from https://www.who.int/health-topics/breast-cancer
7. Yılmaz, F., & Yıldırım, M. (2022). Effectiveness of structured teaching on breast self-examination knowledge and practice among adolescent girls. *European Journal of Oncology Nursing, 59*, 102153.