International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 10 Issue 4, Jul-Aug 2026 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

A Pre-Experimental Study to Assess the Effectiveness of a Structured Teaching Programme on Knowledge Regarding Breast Self-Examination Among First-Year ANM Students at Kalawati Nursing and Paramedical Institute, Kasganj, Uttar Pradesh

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ABSTRACT

Breast cancer is the most common cancer among women and a leading cause of cancer- related mortality worldwide. Early detection through breast self-examination (BSE) can improve treatment outcomes and reduce mortality. However, inadequate knowledge regarding BSE remains a significant barrier, particularly among young women and nursing students. The present study aimed to assess the effectiveness of a structured teaching programme (STP) on knowledge regarding breast self-examination among first-year ANM students at Kalawati Nursing and Paramedical Institute, Kasganj, Uttar Pradesh. A quantitative pre-experimental one-group pre-test and post-test research design was adopted. Fifty first-year ANM students were selected using a non-probability purposive sampling technique. Data were collected using a self-structured questionnaire consisting of demographic variables and 20 knowledge-based questions on BSE. Following the pre-test, a structured teaching programme was administered, and a post-test was conducted to assess changes in knowledge.

The findings demonstrated a significant improvement in knowledge following the structured teaching programme. Before the intervention, 54% of students had inadequate knowledge, 36% had moderate knowledge, and only 10% had adequate knowledge. After the intervention, none of the students had inadequate knowledge, while 28% had moderate knowledge and 72% achieved adequate knowledge. The mean knowledge score increased from 9.64±4.12 to 15.84±2.28, indicating the effectiveness of the teaching programme. Significant associations were observed between post-test knowledge scores and area of residence, type of family, and history of breast cancer, whereas age, marital status, and source of information showed no significant association. The study concludes that structured teaching programmes are effective in enhancing knowledge regarding breast self-examination among ANM students and should be integrated into nursing education to promote early detection and community awareness of breast cancer.

How to cite this paper: Dr. Darjilin Kanmoni | Mrs. Veena Singh | Abhishek Kumar | Anjali Singh | Bhavna Yadav | Anand Singh | Ankit Kumar | Mahak | Neha Rajput | Jyoti Yadav | Aditya Sharma "A Pre-Experimental Study to Assess the Effectiveness of a Structured Teaching Programme on Knowledge Regarding Breast Self-Examination Among First-Year ANM Students at Kalawati Nursing and Paramedical Institute, Kasganj, Uttar Pradesh" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-10 | Issue-4, August 2026, pp.685-689, URL: www.ijtsrd.com/papers/ijtsrd142061.pdf

IJTSRD142061

KEYWORDS: *Breast self-examination, breast cancer, structured teaching programme, ANM students, knowledge and nursing education.*

INTRODUCTION

Breast cancer is the most prevalent type of cancer in women both in high income and in low and middle income countries[1]. The incidence of breast cancer is increasing in low and middle income countries because of increased life expectancy, urbanization and adoption of western lifestyles[1]. The only breast cancer screening method that has proven to be effective is mammography screening, but it is only recommended for high resource settings[1]. According to the World Health Organization[1] "There is no

evidence on the effect of screening through breast self-examination (BSE).

In India, the incidence of breast cancer has been increasing steadily due to changing lifestyles, urbanization, lack of awareness, and delayed diagnosis .Early detection of breast cancer plays a vital role in reducing mortality and improving survival rates. In India, the incidence of breast cancer has increased rapidly during the last few decades. Breast cancer is currently the leading cancer among Indian women. Recent reports indicate that more than 192,000 new cases of breast cancer and about 98,000 deaths were reported in India in 2022, highlighting the serious impact of the disease on women's health[2]. The rising number of cases is associated with several factors such as changing lifestyles, increasing life expectancy, lack of awareness, and delayed diagnosis. In many cases, women seek medical help only after the disease reaches an advanced stage, which reduces the chances of successful treatment.

Breast cancer can be detected early through two strategies: early diagnosis and screening[3]. More than one million women are estimated to be diagnosed with breast cancer every year. In 2018, it is estimated that 627,000 women died from breast cancer that is approximately 15% of all cancer deaths among women. While breast cancer rates are higher among women in more developed regions, rates are increasing in nearly every region globally[4].

Early detection of breast cancer can reduce its morbidity and mortality. Mammography, clinical breast examination (CBE), and breast self-examination (BSE) are considered to be effective strategies for the early detection of breast cancer[5]. BSE is a patient-centered, cheap, and non-invasive method of screening for breast cancer, which improves the chances of early breast cancer detection[6]. It's a process whereby women examine their breasts frequently to detect any abnormal swelling or lumps to seek prompt medical attention. It's one of the screening strategies used to detect breast-related issues like possible lumps, distortions, or swelling.

In India, breast cancer holds the dubious distinction of being the most commonly diagnosed cancer and the leading cause of cancer-related mortality among women[7]. Alarmingly, the age-standardized incidence rate of breast cancer among Indian women is 24.7, while the mortality rate stands at 13.4[8,9]. This epidemiological trend underscores the urgent need for comprehensive strategies aimed at early detection, diagnosis, and management of breast cancer in the Indian context.

Studies have shown that BSE can detect up to 95% of malignant breast tumours when performed regularly[10, 11, 12]. Furthermore, BSE is cost-effective, non-invasive, and can be easily integrated into routine self-care practices. However, despite its potential benefits, there exists a significant gap in the knowledge, attitude, and practice of BSE among women, particularly in low-and middle-income countries like India.

Considering the increasing burden of breast cancer and the importance of early detection, it is necessary to educate nursing students about breast self-examination. ANM students, in particular, can play a significant role in spreading awareness among women in rural communities where access to healthcare facilities may be limited. Therefore, enhancing their knowledge through structured teaching programmes can contribute to improved community awareness and early detection of breast cancer.

Hence, the present study aims to assess the effectiveness of a structured teaching programme on knowledge regarding breast self-examination among first-year ANM students of Kalawati Nursing and Paramedical Institute, Gorha, Kasganj, Uttar Pradesh. The findings of this study may help in improving the knowledge of nursing students and encourage them to educate women about the importance of breast self-examination for early detection of breast cancer.

OBJECTVIES

1. To assess the level pre-test knowledge regarding breast self-examination among first- year ANM students.
2. To prepare and administer the structured teaching programme regarding knowledge on BSE
3. To compare the pre-test and post-test knowledge scores of first-year ANM students.
4. To determine the association between post-test knowledge scores and selected demographic variables.

MATERIAL AND METHODS.

A. Research approach: The approach of the study is quantitative research approach

B. Research Design: In this study descriptive design is used to assess the level of knowledge regarding BSE among 1st year ANM students of KNPI

C. Research of the study: ANM 1st year students of KNPI are selected for this study

D. Population: The target population for this study is ANM 1st year students of KNPI.

E. Sampling size: In this study sample size will be 50 1st year ANM students.

F. Sampling technique: A non-probability purposive sampling technique is used in this study.

A self-structured questionnaire was developed in English. The questionnaire was divided into two parts *i.e.*, first part questions were related to Bio–demographic data and the second part questions were related to knowledge on BSE. The total questions were 20 and the maximum score was 20 for knowledge. To interpret the level of knowledge, the score was distributed as a) 0 – 10 (Inadequate) b) 11 – 15 (Moderate) and c) 16 – 20 (Adequate).

RESULT:

Table 1: Demographic variables and frequency distribution

S. No	Variables	Categories	Frequency(n)	Percentage(%)
1	Age (years)	18 – 21	39	78
		22 – 25	11	22
2	Marital Status	Single	48	96
		Married	2	4
3	Area of Residence	Rural	41	82
		Urban	9	18
4	Type of family	Nuclear	8	16
		Joint	42	84
5	Source of information	Media/Newspaper	41	82
		Health personnel	1	2
		Family/friends	2	4
		No information	6	12
6	History of breast cancer (self/family)	Yes	1	2
		No	49	98

The study included 50 first-year ANM students. Among them, 39 (78%) were aged 18–21 years and 11 (22%) were aged 22–25 years. Most participants were single (96%), while 4% were married. Regarding area of residence, 82% belonged to rural areas and 18% to urban areas. A majority (84%) belonged to joint families, whereas 16% belonged to nuclear families. Most students (82%) reported media/newspapers as their source of information about breast self-examination, followed by no information (12%), family/friends (4%), and health personnel (2%). Only 2% had a history of breast cancer in themselves or their family, while 98% had no such history.

Table 3: To compare the knowledge regarding BSE among ANM Nursing students of Kalawati Nursing and Paramedical Institute after and before STP

Domain	Knowledge regarding Breast Self-Examination			
	Before STP		After STP	
Knowledge Score	Frequency	Percentage	Frequency	Percentage
Inadequate	27	54	0	0
Moderate	18	36	14	28
Adequate	5	10	36	72
Overall	**50**	**100**	**50**	**100**

The findings indicate a marked improvement in the knowledge of ANM nursing students regarding breast self-examination following the Structured Teaching Programme (STP). Before the intervention, 27 (54%) students had inadequate knowledge, 18 (36%) had moderate knowledge, and only 5 (10%) had adequate knowledge. After the STP, no student (0%) had inadequate knowledge, 14 (28%) had moderate knowledge, and 36 (72%) achieved adequate knowledge. These results demonstrate that the Structured Teaching Programme was effective in improving the students' knowledge regarding breast self-examination.

Mean, SD and mean score percentage of knowledge before and after STP among ANM students.

S. No	Variable	Maximum score	Before STP				After STP			
			Range	Mean	Mean %	SD	Range	Mean	Mean %	SD
1	Knowledge	20	3 -18	9.64	48.2	4.12	11-20	15.84	79.2	2.28

The mean knowledge score of the ANM students before the Structured Teaching Programme (STP) was 9.64± 4.12, representing 48.2% of the maximum obtainable score. After the STP, the mean knowledge score increased to 15.84 ± 2.28, corresponding to 79.2% of the maximum score. The increase in the mean score and mean percentage, along with the reduction in the standard deviation, indicates that the Structured Teaching Programme was effective in improving the students' knowledge regarding breast self-examination and resulted in more consistent knowledge levels among the participants.

Frequency and distribution percentage distribution of respondents according to demographic variables.

S. No	Demographic variables	Category	No	Percentage	p - Value	Chi square	S/NS
1.	Age	18 - 25	39	78	0.758	0.55	NS
		22 - 25	11	22			
2	Marital status	Single	48	96	0.85	0.33	NS
		Married	2	4			
3	Area of residence	Rural	41	82	0.0015	15.10	S
		Urban	9	18			
4	Type of family	Nuclear	8	16	0.0008	17.06	S
		Joint	42	84			
5	Source of Information	Media/newspaper	41	82	0.27	7.5	NS
		Health personnel	1	2			
		Family/friends	2	4			
		No information	6	12			
6	Historyif Breast cancer (Self/Family)	Yes	1	2	0.03	6.8	S
		no	49	98			

DISCUSSION

The present study was conducted to evaluate the effectiveness of a structured teaching programme on knowledge regarding breast self-examination (BSE) among first-year ANM students, and the findings clearly indicate a significant improvement in knowledge after the intervention. Before the teaching programme, the majority of students had inadequate (54%) and moderate (36%) knowledge, with only a small proportion (10%) demonstrating adequate knowledge, which reflects a considerable gap in awareness despite being healthcare students. This finding is consistent with earlier studies conducted by Sharma S[22] and Kaur A[23] , which also reported poor baseline knowledge regarding BSE among students. After the implementation of the structured teaching programme, there was a remarkable improvement, with 72% of students achieving adequate knowledge and none remaining in the inadequate category, indicating the strong effectiveness of the intervention. The increase in mean knowledge score from 9.64 to 15.84, along with a statistically significant t-value ($p < 0.05$), further confirms that the structured teaching programme had a positive impact on learning outcomes. These findings are in line with studies by Patel H[24] and Rani P[25], which demonstrated that planned educational programmes significantly enhance knowledge among nursing students. Additionally, the study found that certain demographic variables such as area of residence and type of family showed a significant association with knowledge levels, suggesting that background factors may influence awareness, whereas variables like age and marital status did not show any significant association. Overall, the findings emphasize that structured teaching programmes are an effective and essential strategy to improve knowledge regarding breast self-examination among ANM students, thereby enabling them to promote early detection and awareness of breast cancer in the community.

CONCLUSSION

The present study concluded that the structured teaching programme was highly effective in improving the knowledge regarding breast self-examination (BSE) among first-year ANM students at Kalawati Nursing and Paramedical Institute, Kasganj, Uttar Pradesh. The findings revealed that the majority of students had inadequate knowledge in the pre-test, which significantly improved after the implementation of the teaching programme, as evidenced by higher post-test scores and statistical significance. This indicates that planned and systematic educational interventions play a crucial role in enhancing knowledge and awareness among nursing students. Furthermore, the study identified that certain demographic variables such as area of residence and type of family had a significant association with knowledge levels, while variables like age and marital status showed no

significant association. Overall, the study emphasizes the importance of incorporating structured teaching programmes in nursing education to improve students' knowledge and enable them to effectively educate the community, thereby promoting early detection and prevention of breast cancer.

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