

Research Article

Effectiveness of Video- Assisted Teaching Programme on Knowledge of B.Sc Nursing Students Regarding Breast Self-Examination

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A B S T R A C T

Introduction: Breast cancer is a leading cause of mortality among women worldwide, and early detection is essential for improving survival and reducing disease burden. Breast Self-Examination (BSE) is a simple, non-invasive, and cost-effective method that helps women identify breast abnormalities at an early stage. However, knowledge and awareness regarding BSE among young women remain inadequate, highlighting the need for effective educational interventions.

Methods: A quantitative pre-experimental one-group pre-test post-test design was used. 60 B.Sc. Nursing students were selected through purposive sampling. Data was collected using a self-structured questionnaire before and after a Video-Assisted Teaching Programme and analysed using descriptive and inferential statistics.

Results: Post-test knowledge scores were significantly higher than pre-test scores, indicating the effectiveness of the Video-Assisted Teaching Programme in improving students' knowledge regarding Breast Self-Examination. The difference between the pre-test and post-test scores was found to be statistically significant.

Conclusion: Video-assisted teaching effectively improves knowledge of Breast Self-Examination among nursing students and can help promote early detection of breast cancer through community education. Incorporating such educational strategies into nursing curricula can enhance students' competence in breast health promotion and encourage greater awareness among the general population.

Keywords: Breast Self-Examination, Knowledge, Video Assisted Teaching Programme, B.Sc Nursing Students, Effectiveness

Introduction

Breasts symbolize femininity, beauty, sexuality, and motherhood. Therefore, diseases affecting the breast, most notably breast cancer, are particularly serious, as they impact an organ closely tied to a woman's self-image and her reproductive and nurturing roles. Breast cancer is one of the most common cancers globally. In 2020, approximately 2.3 million women were diagnosed with breast cancer, and there were about 685,000 deaths worldwide. Epidemiological data suggest that the global incidence of breast cancer could exceed 2 million cases by 2030.¹

Breast cancer occurs when breast cells grow uncontrollably. Common signs include a lump in the breast, changes in breast shape, skin dimpling, nipple discharge, a newly inverted nipple, or red, scaly patches on the skin.²

In the context of women's health, breast carcinoma is emerging as a leading type of cancer, followed by cervical cancer. It is also the second leading cause of cancer-related death among women. Recent studies from the Sher-I-Kashmir Institute of Medical Sciences in Soura, Srinagar, reported 226 confirmed cases of breast cancer among women. Of these patients, approximately 66% were diagnosed with local-stage breast cancer, 28% with regional-stage disease, and 6% with distant (metastatic) disease. The age range of patients spanned from 19 to 78 years, with breast cancer incidence increasing notably with age.³

Breast cancer incidence is increasing in both rural and urban areas of India. Survival rates decline significantly as cancer progresses to more advanced stages. Among Indian women with breast cancer, post-cancer survival has been reported at around 60%.

Epidemiological data from India show a rising number of breast cancer cases, highlighting the urgent need to educate and raise awareness among women of reproductive age about breast cancer and its prevention. Promoting proper breast self-examination techniques can empower women to detect symptoms early, improving outcomes.⁴

Currently, lack of awareness about correct BSE methods remains a significant barrier to early detection and prevention.

Every country in the world is striving toward the goal of "Health for All." However, various challenging health issues make this journey complex and demanding. Cancer is one of the most frequently discussed and feared diseases, having rapidly evolved over the past two decades. Among women worldwide, breast cancer is both the most common cancer and the leading cause of cancer-related death. It is especially feared because it impacts a woman's self-image more profoundly than many other cancers.⁵

The incidence of breast cancer is rising globally, particularly in developing countries like India. Despite advances in treatment, India continues to have a relatively low survival rate for breast cancer, with only 66.1% of women diagnosed between 2010 and 2016 surviving. To combat this, breast cancer prevention and control programs have been organized at both national and international levels with the aim of reducing the burden of this disease.⁶

Globally, breast cancer remains a major public health issue, particularly in developing countries. Strengthening awareness, screening, and early detection programs is essential to reduce morbidity and mortality.⁷

Recent studies emphasize that lifestyle factors such as obesity, delayed childbirth, and lack of physical activity increase the risk of breast cancer.⁸ Additionally, genetic factors like BRCA1 and BRCA2 mutations significantly contribute to susceptibility in certain populations.⁹ Early screening methods such as mammography have been shown to reduce mortality rates when implemented effectively.¹⁰

Diseases related to the female reproductive system are a taboo for society. Females feel embarrassed while talking about these parts, i.e., breasts. Many women residing in the community don't have knowledge regarding breast cancer and how to detect it early by screening techniques like breast self-examination. As we already know, breast cancer is the deadliest disease that women face, and it can be identified by self-breast examination. Therefore, the researchers felt that there is a need to conduct the study on the assessment of knowledge and expressed practices about breast self-examination.

Aim

The aim of the study was to assess the baseline knowledge, determine the effectiveness of a Video-Assisted Teaching Programme, and identify the association between knowledge scores and selected demographic variables among B.Sc. Nursing students regarding Breast Self-Examination at a selected nursing college of Anantnag, Kashmir.

Hypothesis

- **H0:** There will be no significant difference between pre-test and post-test knowledge scores of BSc nursing 4th and 5th semester students regarding breast self-examination at a selected college of Kashmir at 0.05 level of significance.
- **H1:** There will be significant difference between pre-test and post-test knowledge scores of BSc nursing 4th and 5th semester students regarding breast self-examination at a selected college of Kashmir at 0.05 level of significance

Research Methodology

Research Approach and Design

A quantitative research approach was adopted to assess the effectiveness of a Video-Assisted Teaching Programme (VATP) on knowledge regarding Breast Self-Examination (BSE) among B.Sc. Nursing students. A pre-experimental one-group pre-test and post-test research design was used to evaluate the effectiveness of the educational intervention.

Setting and Population

The study was conducted at a selected nursing college in Anantnag, Kashmir. The target population comprised B.Sc. Nursing students enrolled in the 4th and 5th semesters of the college.

Sample and Sampling Technique

A total of 60 B.Sc. Nursing students who met the eligibility criteria were recruited for the study using a purposive sampling technique.

Eligibility Criteria

The inclusion criteria were B.Sc. Nursing students of the 4th and 5th semesters who were present during the period of data collection and were willing to participate in the study. Students who were absent during data collection or had previously received formal training on Breast Self-Examination were excluded from the study.

Variables

The independent variable was the Video-Assisted Teaching Programme on Breast Self-Examination, while the dependent variable was the knowledge of B.Sc. Nursing students regarding Breast Self-Examination. The demographic variables included age, gender, parents' occupation, place of residence, and source of information regarding Breast Self-Examination.

Description of the Tool

Data were collected using a self-structured questionnaire developed by the investigator after an extensive review of the literature and consultation with subject experts. The tool comprised two sections.

Section A: Demographic Variables: This section consisted of five items designed to obtain baseline information about the participants, including age, gender, parents' occupation, place of residence, and source of information regarding Breast Self-Examination.

Section B: Structured Knowledge Questionnaire: This section comprised 30 multiple-choice questions (MCQs) developed to assess the participants' knowledge regarding Breast Self-

Examination. The questionnaire covered concepts related to breast cancer, risk factors, warning signs, benefits of early detection, timing and frequency of Breast Self-Examination, and the correct procedure for performing Breast Self-Examination. The same questionnaire was administered before and after the Video-Assisted Teaching Programme to evaluate the effectiveness of the intervention.

Scoring and Interpretation

Each correct response was awarded one mark, while incorrect or unanswered responses received zero marks. Thus, the maximum attainable score was 30 and the minimum score was 0. Knowledge scores were interpreted using the following criteria.

Validity of the Tool

The content validity of the structured knowledge questionnaire and the Video-Assisted Teaching Programme was established by a panel of experts in Nursing and Obstetrics & Gynaecology. The tool was revised based on their suggestions before final administration.

Reliability of the Tool

The reliability of the structured knowledge questionnaire was established using the split-half method, and the reliability coefficient was calculated using the Spearman-Brown prophecy formula. The obtained reliability coefficient was $r = 0.86$, indicating that the tool was reliable for assessing knowledge regarding Breast Self-Examination.

Description of the Intervention

The Video-Assisted Teaching Programme on Breast Self-Examination included information on definition, anatomy of the breast, importance of BSE, timing and frequency, steps of BSE, and precautions. The video was shown to the students after the pre-test and lasted for approximately 20–30 minutes.

Data Collection Procedure

After obtaining formal permission from the concerned authorities, the investigator explained the purpose of the study to the participants and obtained informed consent. A pre-test was conducted using the structured knowledge questionnaire. Following the pre-test, the Video-Assisted Teaching Programme was administered. A post-test was conducted after 7 days using the same questionnaire to assess the effectiveness of the intervention.

Ethical Considerations

Ethical approval was obtained from the Institutional Ethical Committee of the selected nursing college. Written informed consent was obtained from the participants. Confidentiality

and anonymity of the subjects were maintained throughout the study.

Findings of the Study

The data findings were organized and presented under following sections:

- **SECTION A:** Findings related to distribution of respondents as per their demographic data.
- **SECTION B:** Findings related to Comparison of pre-test and post knowledge score to evaluate effectiveness of video assisted teaching programme regarding breast self- examination.
- **SECTION C:** Association of mean pre-test knowledge score with their selected demographic variables by using chi-square method.

SECTION A

The demographic characteristics of the participants showed that all 60 (100%) B.Sc. Nursing students were aged between 20 and 25 years. Female students constituted the majority of the sample (56.7%), while males accounted for 43.3%.

With regard to parents' occupation, 45.0% belonged to the "other" occupational category, followed by private employment (36.6%), government employment (11.6%), and business (6.7%). Most participants were from urban areas (81.7%), whereas 18.3% resided in rural areas.

Regarding the source of information on Breast Self-Examination, the majority of participants reported media (television, internet, and journals) as their primary source (56.7%), followed by peer groups (23.3%) and healthcare workers (20.0%).

SECTION B

The mean knowledge score increased from $23.25 \pm SD$ in the pre-test to $25.85 \pm SD$ in the post-test, indicating an improvement in participants' knowledge following the Video-Assisted Teaching Programme. The reduction in the standard deviation in the post-test suggested greater consistency in the knowledge scores among the participants. The observed improvement was statistically significant; therefore, the research hypothesis (H_1) was accepted.

SECTION C

Interpretation of Results

- Parent occupation, residence, and source of information have significant associations ($p < 0.05$) with pre-test knowledge scores, meaning these factors may influence students' knowledge.
- Age, and gender show no significant association ($p > 0.05$), suggesting they do not have a strong impact on knowledge scores.

Table I. Representing criteria for interpretation of knowledge scores

Knowledge Score	Level of knowledge
26-30	Good
15- 25	Average
< 15	Poor

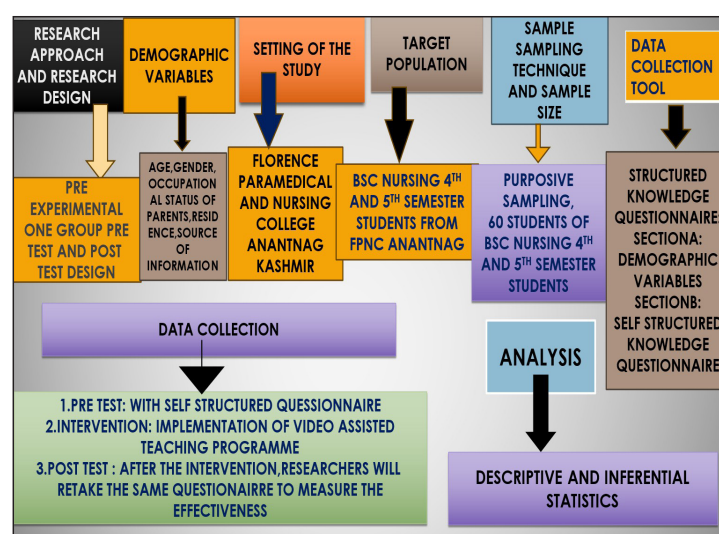


Figure I. Research Methodology

Table 2. Frequency and percentage Distribution Table for Demographic Variables

n= 60

Variable	Category	Frequency	Percentage (%)
Age	20-25 years	60	100%
	26-30 years	0	
	>31 years	0	
Gender	Male	26	43.3%
	Female	34	56.7%
Parent Occupation	Government job	7	11.6%
	Private job	22	36.67%
	Businessman	4	6.67%
	Others	27	45.0%
Residence	Rural	49	81.7%
	Urban	11	18.3%
Source of Information	Health care worker	12	20%
	Peer group	14	23.3%
	Media (TV, internet, journals)	34	56.7%

Table 3. Comparison of Pre-Test and Post-Test Knowledge Scores

n= 60

Statistic	Mean(average)	Median	Mode	Standard deviation	Minimum score	Maximum score	Total students	Paired t-test value
Pre-test	23.5	24	25	3.14	16	28	60	4.27
Post- test	25.85	26	27	2.90	19	29	60	-

Table 4. Association Between Pre-Test Knowledge Score and Demographic Variables by using chi-square method

n= 60

Demographic Variable	df	χ^2 Value	p-Value	Interpretation
Age	2	4.27	0.12	Not significant
Gender	1	3.68	0.06	Not significant
Parent Occupation	2	5.94	0.05	Significant
Residence	1	6.21	0.02	Significant
Source of Information	2	8.47	0.01	Significant

*Significant at 0.05 level of significance, $p < 0.05$. Non-significant at 0.05 level of significance, $p > 0.05$

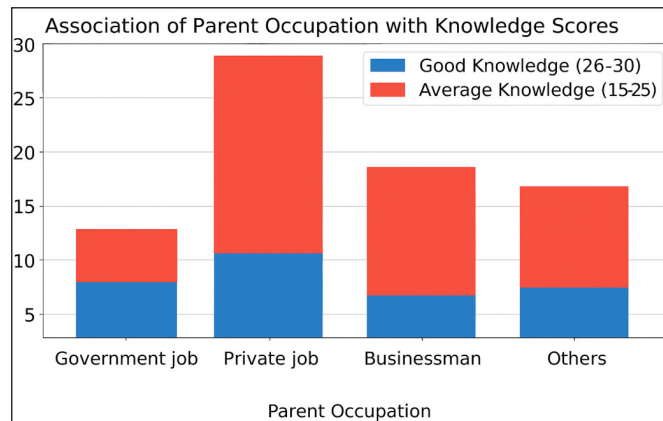


Figure 2.Bar graph showing association between parent occupation and pre-test knowledge score using chi-square method

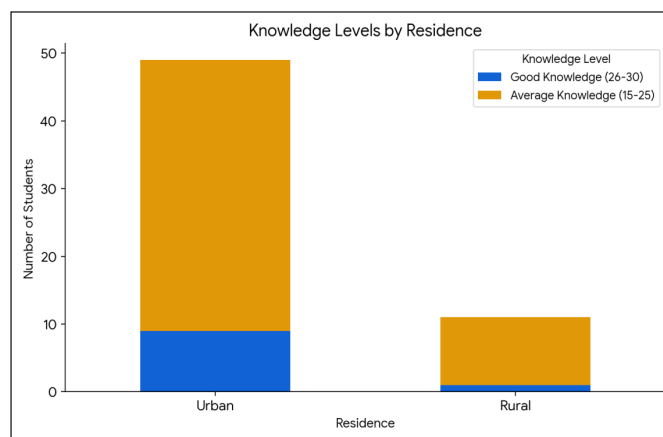


Figure 3.Bar graph showing association between residence and pre-test knowledge score using chi-square method

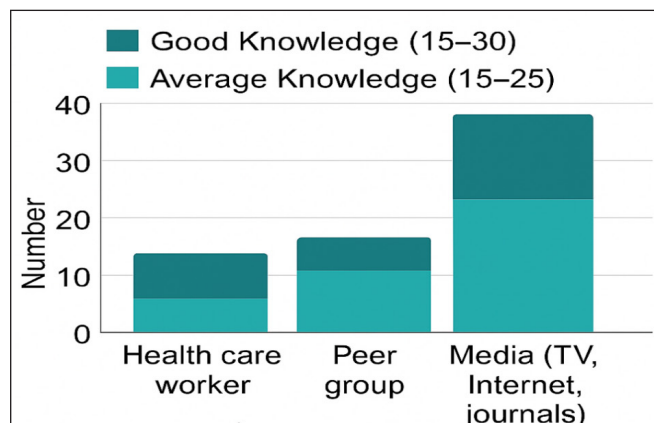


Figure 4.Bar graph showing association between source of information and pre-test knowledge score using chi-square method

χ^2 Value: 8.47, 0.01 p-Value: Significant Source of Information

Discussion

The present study aimed to assess the effectiveness of video assisted teaching programme on knowledge of BSc nursing 4th and 5th semester students regarding breast self-examination at a selected nursing college of Anantnag Kashmir. The findings of the present study are supported

by several previous studies that highlight the effectiveness of educational interventions in improving knowledge.

A study conducted by Nandaprakash P¹¹ in 2024 assessed the effectiveness of a video-assisted teaching programme among adolescent girls at Maharani's Science College, Mysore. The study adopted a pre-test and post-test

evaluative design without a control group, using purposive sampling to select 50 participants. The results demonstrated a significant increase in knowledge following the intervention, indicating that video-assisted teaching is an effective method for enhancing awareness about BSE.

Further support is provided by a study conducted by Uma Parvathi and Rinu Mathew¹² in 2019 among women in a hospital setting in Bangalore. The majority (86.7%) of participants initially had inadequate knowledge. After a video-assisted teaching programme, a significant improvement was observed, with 73.3% attaining moderately adequate knowledge and 16.7% achieving adequate knowledge. The statistically significant difference between pre-test and post-test scores ($t=12.679$, $p<0.05$) confirmed the effectiveness of the intervention in enhancing knowledge and confidence.

Similarly, Syed Arifa and Syed Shahid Siraj¹³ conducted a study among FMPHW first-year students in Srinagar, which demonstrated a significant increase in knowledge scores following a structured teaching programme. The mean post-test score (31.9 ± 2.86) was considerably higher than the pre-test score (16.8 ± 3.50), reinforcing the effectiveness of structured educational strategies.

Additional studies further corroborate these findings. Kaur et al.¹⁴ (2021) reported a significant improvement in knowledge among nursing students in Punjab following a structured teaching programme. Likewise, Sharma et al.¹⁵ (2020) found that health education interventions in a community setting in Delhi led to improved knowledge and practice of BSE among women, with a notable shift from inadequate to adequate knowledge levels post-intervention.

Overall, these studies consistently demonstrate that educational interventions, including video-assisted teaching and structured programmes, are highly effective in improving knowledge and awareness regarding BSE. This highlights the critical role of health education in promoting early detection and prevention of breast-related diseases.

Nursing Implications

- **Nursing Education:** Video-assisted teaching can be effectively integrated into nursing curricula to enhance knowledge of Breast Self-Examination (BSE).
- **Nursing Practice:** Improved knowledge enables nursing students to educate women on BSE, promoting early detection of breast abnormalities.
- **Nursing Administration:** Use of audio-visual teaching methods should be encouraged in training programmes to improve learning outcomes.
- **Nursing Research:** Further studies are needed to assess long-term knowledge retention and compare different teaching strategies.

- **Community Health Nursing:** Nursing students can contribute to community awareness by educating women about BSE for early detection and prevention of breast cancer.

Conclusion

It was found that in pre-test (10)16.7% students were having good knowledge regarding breast self-examination, (50)83.3% were having average knowledge regarding breast self-examination and none of the students were having poor knowledge. After the video-assisted teaching programme, in the post-test (22)36.7% students were having good knowledge regarding breast self-examination, (38)63.3% students were having average knowledge regarding breast self-examination and no students fell in the category of poor knowledge, indicating a reasonable baseline awareness.

Limitations

- Sample size was small.
- The study was limited within the college premises.
- The study was limited to the individuals aged between 20 and 30 years.

Recommendations

- A similar study can be done on a larger sample size.
- The same study can be conducted in different research setting.
- A similar pre-experimental study regarding knowledge of breast self-examination can be done among students of other institutions.

List of Abbreviations

- BSE – Breast Self-Examination
- VATP – Video-Assisted Teaching Programme
- B.Sc. – Bachelor of Science
- FMPHW – Female Multipurpose Health Worker
- MMINSR – Moulana Azad Memorial Institute of Nursing Sciences and Research
- SKIMS – Sher-i-Kashmir Institute of Medical Sciences
- n – Sample size
- SD – Standard Deviation
- df – Degrees of Freedom
- p-value (p) – Probability Value
- χ^2 – Chi-square Test
- t-test (t) – Student's t-test

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Conflict of Interest: None

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