Original Article

GRT JOURNAL OF EDUCATION, SCIENCE AND TECHNOLOGY

Published by GRT College of Education ISSN: 2584-301X

# Effectiveness of planned teaching program on knowledge of breast self-examination among students

Nirmala M*, Padmavathi R, Chitra I

GRT College of Nursing, Tiruttani, Tamil Nadu, India

*Article History:*

Received on: 13 Jan 2024
Revised on: 18 Mar 2024
Accepted on: 20 Apr 2024

*Keywords:*

Quantitative research, Self-exam, Breast Cancer, Planned teaching

Abstract

A quantitative research approach using a one-group pre-test and post-test design assessed the effectiveness of a planned teaching program on breast self-examination (BSE) knowledge among students. A total of 131 students were selected by non-probability convenient sampling. Knowledge levels were assessed using a structured self-administered questionnaire. In the post-test, the majority (21, 70%) had adequate knowledge, and 9 (30%) had moderately adequate knowledge, with none having inadequate knowledge. In the pre-test, the majority (16, 53%) had inadequate knowledge. The post-test mean score was 16.13 with a standard deviation (SD) of 3.43, compared to the pre-test mean score of 6.3 with an SD of 4.47. The significant increase in knowledge was demonstrated by a 't' value of 9.27 at $p<0.0001$, indicating the effectiveness of the teaching program. The study concludes that the planned teaching program significantly improved students' knowledge of BSE, highlighting the need to organize awareness programs on BSE among students.

*Corresponding Author
Name: Nirmala M
Phone: +91 9790116464
Email: thirumavalavannirmala@gmail.com

Journal Home Page: www.grtjest.com
https://doi.org/10.26452/grtjest.v2i1.35

Production and hosted by
GRT College of Education


## INTRODUCTION

Breast self-exam, or regularly examining the breasts on their own, can be an important way to find a breast cancer early, when it's more likely to be treated successfully. While no single test can detect all breast cancers early, Breastcancer.org believes that performing breast self-exam in combination with other screening methods can increase the odds of early detection.

With being the most common type of cancer in women, breast cancer accounts for 14% of cancers in Indian women. It is reported that with every four minutes, an Indian woman is

diagnosed with breast cancer. Breast cancer is on the rise, both in rural and urban India. A 2018 report of Breast Cancer statistics recorded 1, 62,468 new registered cases and 87,090 reported deaths.

As the most common cancer type in Indian women, women in their early thirties till fifties are at considerable risk to develop breast cancer, and the incidence risk increases till its peak by the time they reach 50 – 64years of age. One in twenty-eight Indian women is likely to develop breast cancer during her lifetime. It is more (1 in 22) for urban women than the rural group (1 in 60). A report stated that cancer caused 5% of the total disability-adjusted life years(DALYs) in the Indian population in 2016. Palliative care has proved helpful for patients to alleviate them of the disability from cancer.

The numbers are staggering and constantly rising. The Indian Council for Medical Research recently published a report which stated that in 2016 the total number of new cancer cases is expected to be about 14.5 lakhs. This figure will likely increase to 17.3 lakhs in 2020.

According to the American Cancer Society (ACS), there are more than 3.1 million breast cancer survivors in the United States. The chance of any woman dying from breast cancer is around 1 in 38 (2.6%). Awareness of the symptoms and the need for screening are important ways of reducing the risk. In rare instances, breast cancer can also affect men, but this article will focus on breast cancer in women.

The Tamil Nadu Cancer Registry report, compiled for 2012-2015, showed that the Crude Incidence Rate (CIR) of breast cancer among women in Chennai was 47.7 for one lakh population of women. The CIR refers to the number of cases occurring in a specified population in a year. In contrast, the report, which is to be published in a month, showed that the CIR for Kanniyakumari District is 31.7 per lakh population of women while the figure for the whole State is only 20.7. The Cancer Statistics-2015 by sex showed that the CIR of breast cancer was 22.7 among the 8,706 women surveyed. The CIR of cervical cancer was 17.7 for the 6,788 surveyed women, while it was 4.9 for ovarian cancer among the 1,891 women participants.

As per the registry, Tamil Nadu had around 10,269 breast cancer cases in 2018. In 2016, the state had 9,486 cases, which went up to 9,870 in 2017. Tamil Nadu's numbers are only lower than Uttar Pradesh, which had the highest number of estimated cases at 24,181, Maharashtra 16,358 cases, West Bengal 12,234 cases and Bihar 11,378 cases. While Karnataka's figures are at least 10% lower than Tamil Nadu's figures, Andhra Pradesh and Kerala's estimates in 2018 are at least 40% lower.

Breast cancer cases in Tamil Nadu rising by 4% yearly (Times of India) end of fifth decade and sixth decade, but in India we are seeing a majority in the fifth decade, and number of women getting it in their third and fourth decade itself. So, more women should do self-examinations after they turn 30 and importantly approach at least their family doctor if they notice any abnormal swelling, lump or nipple discharge," says Dr P Guhan. However, doctors say all the above issues are present in other states too. "It could be a hereditary factor with many women today getting the gene mutation from their mothers or grandmothers, but we don't see too many breast cancer cases due to this in Tamil Nadu. It could be better reporting of cases and more diagnosis also contributing to the numbers," says Chennai based oncology consultant Dr.Bellaramine.

Dolar Doshi et al, (2012) study done to assess the knowledge, attitude, and practice (KAP) regarding breast self-examination (BSE) in a cohort of Indian female dental students. A cross-sectional descriptive questionnaire study was conducted on dental students at Panineeya Institute of Dental Sciences, Hyderabad, Andhra Pradesh, India. The total scores for KAP were categorized into good and poor scores based on 70% cut-off point out of the total expected score for each. *P*-value of <0.05 was considered statistically significant. The study was highlighted the need for educational programs to create awareness regarding regular breast cancer screening behavior among students.

Rakesh Singh, AlkaTuruk (2017) conducted a study to assess the knowledge regarding breast cancer and practices of breast self-examination among women in urban area. A community based cross sectional study was conducted. Total 100 subjects were selected by multistage sampling technique. Structured questionnaire were used to test their knowledge about breast cancer and practice regarding BSE. Out of 100 women, 58% had knowledge that breast cancer was the most prevalent cancer among women, 52% knew what breast self-examination is and 28% were practicing breast self-examination. The study concluded that, there is a need for developing health education programs about symptoms and early signs of breast cancer with emphasis on the importance of early breast cancer detection. Breast self-examination should be encouraged. The health education programs and mass media education should be targeted towards females in the age group between 20 years and above.

Women who give birth to their first child after age 30, having never been pregnant, postmenopausal hormone therapy may have an increased risk of breast cancer**.** Women who take hormone therapy medications that combine estrogen and progesterone to treat the signs and symptoms of menopause have an increased risk of breast cancer. The risk of breast cancer decreases when women stop taking these medication and drinking alcohol.

**Objectives**

- To assess the pretest and posttest level of knowledge regarding breast self-examination among students
- To evaluate effectiveness of planned teaching programme on knowledge regarding breast self-examination among students.
- To find out the association between post-test knowledge regarding breast self-examination among students with selected demographic variables

**RESEARCH METHODOLGY**

A quantitative research approach and one group pre-test and post-test research design was used to assess the effectiveness of Planned teaching programme on knowledge of breast self-examination among students. The 131 students were chosen by non-probability convenient sampling technique. The level of knowledge score was assessed by structured self - administered questionnaire. Structured self-administered questionnaire consists of 16 questions. Each correct answer carried 1 mark. Each question had only one right answer. The total score of the tool was 16 & the scores were interpreted as below,

- 75% - 100% - Adequate knowledge (above 12)
- 50% - 74% - Moderately adequate knowledge (8 - 11)
- <50% - Inadequate knowledge (<8)

A formal permission obtained from the Principal, GRT College of Nursing, Tiruttani. The data was collected from 21.10.2020 to 24.10.2020. The total sample were selected who fulfills the inclusive criteria by non –

probability convenient sampling technique. Detailed explanation regarding the purpose of the study and procedure instruction was given to the students. The researcher obtained consent from the students in Google forms and the confidentiality of the responses were assured. After obtaining data the researcher has given the health talk about breast self examination were given by an expert Dr.Suresh Anand, Consultant Breast Surgeon.

## RESULTS

The table 1 depicts the frequency and percentage distribution of demographic variables like age, education, type of family, family monthly income, dietary pattern, religion, family history of breast cancer, age at menarche, area of residence and source of information of the students.

With regard to age, most of them were in the age group of 17 -18 yrs 63 (48 %). In relation to education many of them were IV yr students 46 (35 %). In regard to type of family most of them were belongs to Nuclear family 82 (62 %). In relation to the family monthly income many of their family earns <10,000 income group 52 (40%). And in regard to their dietary pattern, most of them were belongs to Non-vegetarian 97 (74 %) and only 6 (20%) were completed higher education.

With regard to religion, majority were Hindu 23 (76.7%). In relation to family h/o breast cancer majority of them were had nephew 123 (93 %). In regard to age at menarche most of the students were attained menarche between the ages of 13 – 15 yrs 77 (59 %). In relation to the area of residence many of them were live in rural region 84 (64 %). With regard to the sources of information regarding breast self-examination were gained through educational media 52 (39%).

The table – 2 shows frequency and percentage distribution of level of knowledge among students in pre-test and post-test, which reveals that in the post test majority were had adequate knowledge 92 (70 %) and 39 (30%) had moderately adequate knowledge and none of them had inadequate knowledge. In the pre test 34 (26%) were had inadequate knowledge, most of them 69 (53%) had moderately adequate knowledge and 28 (21%) of them had adequate knowledge.

The table – 3 highlights the effectiveness of planned teaching program regarding breast self examination among students. The findings unfolded that, the post test mean value was 16.13 and standard deviation (SD) of 3.43 and in the pre test mean value was 6.3 and standard deviation (SD) of 4.47. It showed that after the planned teaching program regarding breast self examination, there was a high significant difference in the level of knowledge among students with a 't' value of 9.27 at $p<0.0001$ level.

## DISCUSSION

Breast cancer is cancer that develops in breast cells. Typically, the cancer forms in either the lobules or the ducts of the breast. Lobules are the glands that produce milk, and ducts are the pathways that bring the milk from the glands to the nipple. Cancer can also occur in the fatty tissue or the fibrous connective tissue within the breast.

Breastcancer.org still believes that breast self-examination is a useful and important screening tool, especially when used in combination with regular physical exams by a doctor, mammography, and in some cases ultrasound and/or MRI. Each of these screening tools works in a different way and has strengths and weaknesses. Breast self-exam is a convenient, no-cost tool that can use on a regular basis and at any age. Breastcancer.org recommends that all women routinely perform breast self-exams

**Table 1 Frequency and percentage distribution of demographic variables (n=30)**

| Demographic variables | No. | % | Demographic variables | No. | % |
|---|---|---|---|---|---|
| Age in year | | | Religion | | |
| 17 – 18 yrs | 34 | 26% | Hindu | 115 | 88% |
| 19 – 20 yrs | 63 | 48% | Christian | 15 | 11% |
| 21 – 22 yrs | 28 | 21% | Muslim | 1 | 1% |
| >23 yrs | 6 | 5% | | | |
| Education | | | Family history of breast cancer | | |
| I yr | 32 | 25% | Mother | 5 | 4% |
| II yr | 15 | 11% | Aunt | 2 | 2% |
| III yr | 29 | 22% | Sibling | 1 | 1% |
| IV yr | 46 | 35% | Nephew | 123 | 93% |
| Others | 9 | 7% | None | 0 | 0 % |
| Type of family | | | Age at menarche | | |
| Joint | 49 | 37% | <12 yrs | 30 | 23% |
| Nuclear | 82 | 63% | 13 – 15 yrs | 77 | 59% |
| | | | 16 – 18 yrs | 23 | 18% |
| Family monthly income | | | Area of Residence | | |
| Rs.<10,000 | 52 | 40% | a. Rural | 84 | 64% |
| Rs.10,000 – Rs. 15,000 | 42 | 32% | b. Urban | 30 | 23% |
| Rs. 16,000 – Rs.20,000 | 15 | 11% | c. Semi-urban | 17 | 13% |
| >Rs.20,000 | 22 | 17% | | | |
| Dietary pattern | | | Source of information | | |
| Vegetarian | 34 | 26% | Educational media | 52 | 39% |
| Non-vegetarian | 97 | 74% | Social media | 25 | 19% |
| | | | Newspaper | 10 | 8% |
| | | | TV | 23 | 18% |
| | | | Family members | 13 | 10% |
| | | | Health care Worker | 8 | 6% |

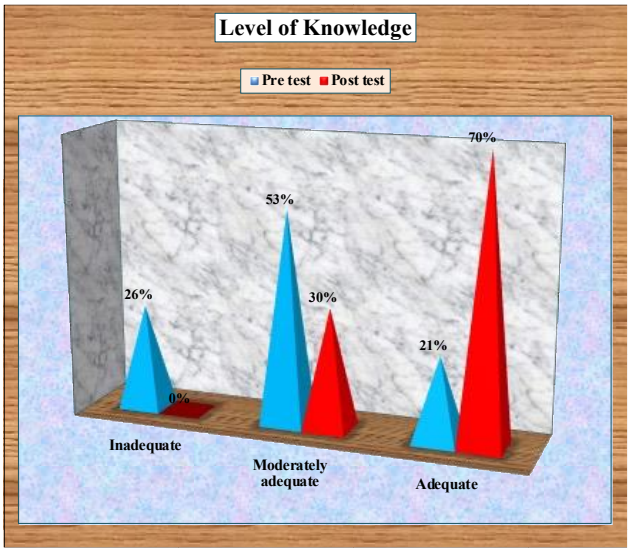
**Table 2 Frequency and percentage distribution of effectiveness of planned teaching program on knowledge regarding self-breast examination among students in pre-test and post-test**

| Level of knowledge | Pre test | | Post test | |
|---|---|---|---|---|
| | Frequency | Percentage (%) | Frequency | Percentage (%) |
| Inadequate | 34 | 26% | 0 | 0 |
| Moderately adequate | 69 | 53% | 39 | 30% |
| Adequate | 28 | 21% | 92 | 70% |

**Table 3 Effectiveness of planned teaching program on knowledge regarding breast self examination among students in pre-test and post-test**

| Knowledge | Pre test | | Post test | | Paired 't' test |
|---|---|---|---|---|---|
| | Mean | S. D | Mean | S.D | |
| Level of knowledge | 6.3 | 4.47 | 16.13 | 3.43 | t = 9.27***; p = 0.0001; S |

***p<0.001, S =Significant




as part of their overall breast cancer screening strategy.

The frequency and percentage distribution of level of knowledge regarding breast self examination among students were assessed. The findings revealed that, in the post test majority were had adequate knowledge 92 (70 %) and 39 (30%) had moderately adequate knowledge and none of them had inadequate knowledge. In the pre test 34 (26%) were had inadequate knowledge, most of them 69 (53%) had moderately adequate knowledge and 28 (21%) of them had adequate knowledge. In the post test mean value was 16.13 and standard deviation (SD) of 3.43 and in the pre test mean value was 6.3 and standard deviation (SD) of 4.47. It showed that after the planned teaching program on breast self examination, there was a high significant difference in the level of knowledge among students with a 't' value of 9.27 at $p<0.0001$ level which in turn indicates that Planned teaching programme was effective in improving the knowledge of students. Therefore, the study concludes that Planned teaching programme was effective method to improving the knowledge regarding breast self-examination among students. So we need to organize awareness program on BSE among students.

## CONCLUSION

The findings of the study showed that the knowledge score of students in GRT group of Institution was less before Planned Teaching programme. The PTP facilitate them to gain knowledge about Breast Self Examination which was evident from the pos test knowledge score. Therefore, the study concludes that the Planned Teaching programme was an effective method to improving the knowledge regarding BSE among students.

## IMPLICATIONS

As a Nursing personnel need to screen all the females and create awareness about BSE among adolescents & women. And show them the ways to identify the risks at the earliest an provide them prompt treatment.

## RECOMMENDATIONS FOR NURSING EDUCATION

- Nursing leaders may organize training programme to prevent breast cancer for the adolescents & women, etc.
- School Health Nurse may utilize PTP to create awareness among adolescents during regular school visits.
- As Nurse administrator may organize screening camps to screen breast cancer by BSE among the adolescent girls in school children.
- True experimental study can also be conducted to evaluate the knowledge, attitude and practices of BSE among adolescent girls & women.

### Ethical Approval

No ethical approval was necessary for this study.

### Author Contribution

All authors made substantial contributions to the conception, design, acquisition, analysis, or interpretation of data for the work. They

were involved in drafting the manuscript or revising it critically for important intellectual content. All authors gave final approval of the version to be published and agreed to be accountable for all aspects of the work, ensuring its accuracy and integrity.

**Funding Support:** The Author declares that there is no funding.

**Conflict of Interest:** The Author declares that there is no conflict of interest.

**REFERENCES**

[1] Memis, S., Balkaya, N. A., & Demirkiran, F. (2009, January). Knowledge, attitudes, and behaviors of nursing and midwifery students regarding breast self-examination in Turkey. In *Oncology nursing forum* (Vol. 36, No. 1).

[2] Mazzini, C. (2016). Knowledge and Practice of the Breast Self-Exam on Students from a Public University in Lima. *Arch Can Res*, *4*, 1-4.

[3] Sapountzi-Krepia, D., Rekleiti, M., Lavdaniti, M., Psychogiou, M., Chaliou, M., Xenofontos, M., & Savva, M. (2017). Evaluating female nursing students' knowledge and attitudes regarding breast self-examination. *Health care for women international*, *38*(8), 786-795.

[4] Birhane, K., Alemayehu, M., Anawte, B., Gebremariyam, G., Daniel, R., Addis, S., ... & Negash, W. (2017). Research Article Practices of Breast Self-Examination and Associated Factors among Female Debre Berhan University Students.

[5] Madhukumar, S., Thambiran, U. R., Basavaraju, B., & Bedadala, M. R. (2017). A study on awareness about breast carcinoma and practice of breast self-examination among basic sciences' college students, Bengaluru. *Journal of family medicine and primary care*, *6*(3), 487-490.

[6] Ahmed, A., Zahid, I., Ladiwala, Z. F. R., Sheikh, R., & Memon, A. S. (2018). Breast self-examination awareness and practices in young women in developing countries: A survey of female students in Karachi, Pakistan. *Journal of education and health promotion*, *7*(1), 90.

[7] Getu, M. A., Kassaw, M. W., Tlaye, K. G., & Gebrekiristos, A. F. (2018). Assessment of breast self-examination practice and its associated factors among female undergraduate students in Addis Ababa University, Addis Ababa, Ethiopia, 2016. *Breast Cancer: Targets and Therapy*, 21-28.

[8] Fondjo, L. A., Owusu-Afriyie, O., Sakyi, S. A., Wiafe, A. A., Amankwaa, B., Acheampong, E., ... & Owiredu, W. K. (2018). Comparative assessment of knowledge, attitudes, and practice of breast self-examination among female secondary and tertiary school students in Ghana. *International journal of breast cancer*, *2018*.

[9] Dadzi, R., & Adam, A. (2019). Assessment of knowledge and practice of breast self-examination among reproductive age women in Akatsi South district of Volta region of Ghana. *PLoS One*, *14*(12), e0226925.

[10] Dinegde, N. G., Demie, T. G., & Diriba, A. B. (2020). Knowledge and practice of breast self-examination among young women in tertiary education in Addis Ababa, Ethiopia. *Breast Cancer: Targets and Therapy*, 201-210.

GRT JOURNAL OF EDUCATION, SCIENCE AND TECHNOLOGY