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A study to assess the effectiveness of structured teaching programme on knowledge regarding breast self-examination among undergraduate students of Shree Sahajanand girls institute at Bhuj-Kachchh, Gujarat

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Abstract

A Breast Self-Examination involves checking your breasts for lumps or changes. Many breast problems are first discovered by women themselves, often accidentally. Breast lumps can be noncancerous (benign) or cancerous (malignant). Breast cancer can occur at any age, though it is most common in women older than 50. Lumps or changes also could be signs of other breast conditions, like mastitis or a fibroadenoma. Breast cancer is third most common cancer following Kaposi's sarcoma and Cervical cancer with incident rate of 22 per 100,000 women. It is recommended that ladies over the age of 20 years perform monthly Breast Self-Examination. Breast Self-Examination (BSE) is a screening method used in an attempt to detect early breast cancer. The method involves the woman herself looking at and feeling each breast for possible lumps, distortions or swelling. The present study aimed to assess the level of knowledge regarding Breast Self-Examination.

Methodology: To assess the knowledge regarding Breast Self-Examination among undergraduate Students. The Pre Experimental study was conducted among 60 undergraduate Students of Shree Sahajanand Girls Institute, Bhuj-Kachchh, between ages of 19 to 30 years. The data were collected with a structured questionnaire and variables included age, family history of breast cancer, daily exercise, regular Breast Self-Examination, clinical breast examination, following the pre-test, structured teaching programme was administered and post-test was conducted. The obtained data was analyzed in terms of the objectives and hypothesis using descriptive and inferential statistics.

Results: The mean score of pre-test level of knowledge is 8.43 and SD value is 15.43. The mean score of post-test level of knowledge is 18.91 and SD value is 6.42 Mean difference is 10.48. The obtained "t" value is $t = 13.06$ which is statistically significant at $p < 0.05$ level (DF = 59, table value is $p = 3.46$). Thus, the intervention was very helpful in improving the mean post-test knowledge score. Therefore, the researcher rejected null hypothesis.

Conclusion: Structured Teaching Programme helps undergraduate students to take proper knowledge regarding Breast Self-Examination.

Keywords: Structured teaching programme, self-examination among undergraduate, Bhuj-Kachchh, Gujarat

Introduction

Breast cancer is a global health issue and a leading cause of death among women internationally. In 2022, approximately 287,850 new cases of invasive breast cancer and 51,400 cases of Ductal Carcinoma *in situ* will be diagnosed among United State women. In India, it accounts for the second most common cancer in women. The national average of cancer cases for 2022 is 100.4 per 100,000, with a large number of women (105.4 per 100,000) being diagnosed www.nursingjournal.net

with breast cancer, a preventable disease.

Many women feel that doing a Breast Self-Examination is an important part of their health care. It helps them learn how their breasts normally feel, so that if they find a lump they will know whether it is something to discuss with their health care provider.

Breast is an anatomical structure of women in the front part of the body from the neck to the abdomen it's called chest, either of the two soft fleshy milk-secreting glands on the

chest in sexually mature human females.

Breast cancer can occur most commonly in women when some breast cells begin to grow abnormally and forming a lump or mass. The cells may spread (metastasize) to the lymph nodes or other parts of the body. Breast cancer mostly begins with cells in the milk-producing ducts (invasive ductal carcinoma) or in the glandular tissue called lobules (invasive lobular carcinoma).

The causes of breast cancer being 55 or older increases age risk for breast cancer. If in family have parents, siblings, children or other close relatives who've been diagnosed with breast cancer, you're more likely to develop. About 5% to 10% of breast cancers are passed down from parents to children. Smoking, tobacco, alcohol, radiation exposure use has been linked to many different types of cancer. People who use hormone replacement therapy have a higher risk of being diagnosed with breast cancer.

Breast Self-Examination is a screening method used in attempt to detect early breast cancer. The method involves the woman herself looking at and feeling each breast for possible lumps, distortions or swelling.

In this research, we want to study the knowledge regarding Breast Self-Examination adopted by undergraduate students to early detection of breast cancer.

Objectives of the study

1. To assess the knowledge regarding Breast Self-Examination, before and after structured teaching program among undergraduate students of Shree Sahajanand Girls Institute.
2. To find out the association between pre-test level of knowledge among undergraduate students & with their selected demographic variables age, family history of breast cancer, regular Breast Self-Examination, clinical breast examination and daily exercise.
3. To determine the effectiveness of structured teaching program on knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute.

Assumption

Structured teaching program will be effective to increase the knowledge regarding Breast Self-Examination among undergraduate students at Shree Sahajanand Girls Institute of Bhuj-Kachchh, Gujarat.

Research methodology

The methodology of the research study defined as the way data are gathered in order to the research question or analyze research problem, research methodology involves a systematic procedure by which the researcher starts from the initial identification of the problem to its final conclusion.

Research approach

Quantitative approach was found to be appropriate for this study. Content validity and reliability of the instrument was done from the respective experts and by conducting a small scale study using split half method of Karl Pearson's test.

Research design

In this study the pre-experimental (one group pre-test &

post-test) design is used to evaluate the effectiveness of structured teaching programme among the undergraduate students regarding breast Self-Examination.

Research variables: In this study independent variable was structured teaching programme and dependent variable was knowledge regarding Breast Self-Examination among undergraduate student.

Setting of the study: The main study was conducted at Shree Sahajanand Girls.

Population: In this study the population were those undergraduate students who were available at the time of data collection in Shree Sahajanand Girls Institute at Bhuj-Kachchh, Gujarat.

Sample and sample technique: A Stratified sampling technique was used to select the 60 undergraduate students.

Data collection technique and tool: In this study the tool was structured teaching questionnaire to assess the knowledge regarding Breast Self-Examination among the undergraduate student at Shree Sahajanand Girls Institute at Bhuj-Kachchh, Gujarat. The tool was edited by experts of various disciplines such as nursing and medical profession.

Description of tool

Section 1: Demographic variables: It dealt with the demographic variables such as age, family history of breast cancer, daily exercises, regular Breast Self-Examination and clinical breast examination.

Section 2: Structured knowledge questionnaires: It dealt with the knowledge regarding Breast Self-Examination among undergraduate students. It has 30 knowledge questionnaires. Each right answer awarded by '1' mark, for each wrong answer had '0' mark and no any negative marks. Total score is 30.

Validation of tool: In this present study validity of the tool was estimated by submitting the tools to 4 experts, 2 experts from field of nursing & 2 expert from the field of medical. They suggested certain modifications in the tool. After establishing the validity, the tool was formed in English and validated by expert in English.

Reliability: in this study the reliability of the tool was assessed by using Split-Half method and findings were compared. Karl Pearson's Correlation-Coefficient formula was used for computing the results and finding out reliability of the tool. The "r" value is $r=0.97$ it shows the positive correlation. Hence, the tool is reliable to conduct the study.

Data collection procedure

The investigator obtained permission from the Ethical committee prior to data collection. The time scheduling for data collection was 09.00am-11:00am on date of 4/7/2023 to 14/7/2023. Stratified sampling technique was used to select 60 undergraduate students from Shree Sahajanand Girls

Institute at Bhuj- Kachchh, Gujarat. The undergraduate students were given the demographic and structured questionnaire (30 multiple choice questions)

Data analysis and interpretation

Kerlinger (1974) Defines Analysis as The “Categorizing, Ordering, Manipulating and Summarizing of Data to Obtain to Research Question”.

Polite and Hungler (1999) Described Analysis as “Process of Organizing and Synthesizing Data Such a Way That Research Question Can Be Answered and Hypothesis Tested.”

Section I: Frequency and percentage distribution of demographic variables [N=60]

Table 1: Shows the information regarding frequency and percentage distribution of demographic variables.

Sr. No	Demographic Variables	Frequency	Percentage
1. Age			
1.1	19-21 year	30	50%
1.2	22-23 year	27	45%
1.3	25-27 year	02	03.33%
1.4	28-30 year	01	1.66%
2. Family History			
2.1	Yes	02	03.33%
2.2	No	58	96.66%
3. Daily Exercise			
3.1	Yes	10	16.66%
3.2	No	50	83.33%
4. Regular Breast Self-Examination			
4.1	Yes	02	03.33%
4.2	No	58	96.66%
5. Clinical Breast Examination			
5.1	Yes	02	03.33%
5.2	No	58	96.66%

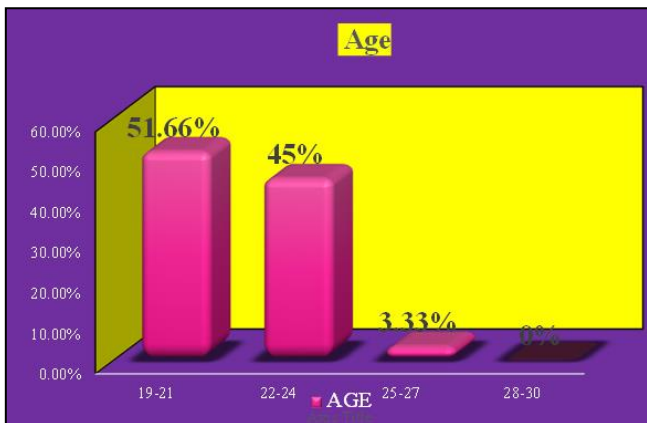


Fig 1: Frequency and percentage distribution according to age of undergraduate students

Regarding age of undergraduate students, 51.66% (31) of undergraduate students were between 19-21years, 45% (27) were between 22-24 years, 3.33% (02) were between 25-27years, 00% (00) were between 28-30 years of age.

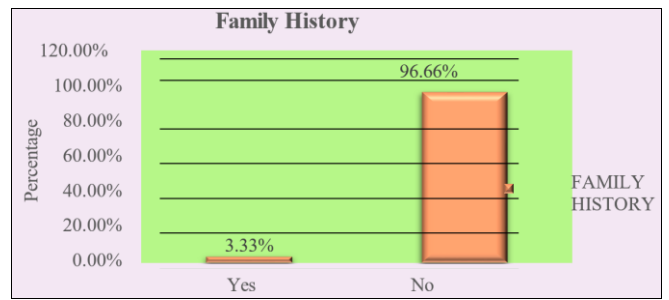


Fig 2: Frequency and percentage distribution according to family history of undergraduate students

Regarding family history of undergraduate students, 3.33% (02) has a family history, 96.66% (58) has no family history.

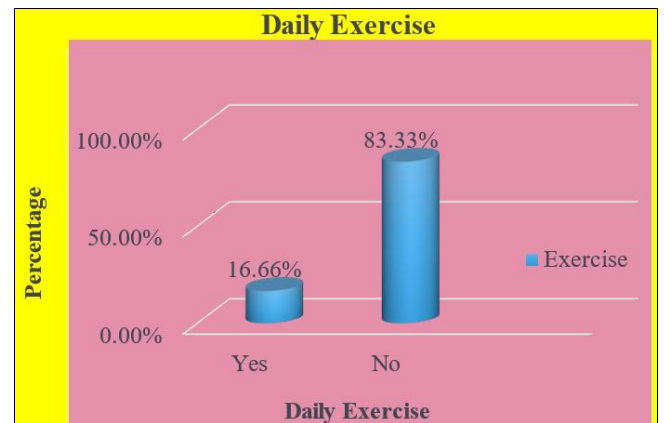


Fig 3: Frequency and percentage distribution according to daily exercise of undergraduate students.

Regarding daily exercise of undergraduate students, 16.66% (10) do daily exercise, 83.33% (50) do not do daily exercises.



Fig 4: Frequency and percentage distribution according to regular Breast Self-Examination among undergraduate student

Regarding regular Breast Self-Examination of undergraduate students, 3.33% (02) do regular Breast Self-Examination, 96.33% (58) not do regular Breast Self-Examination.

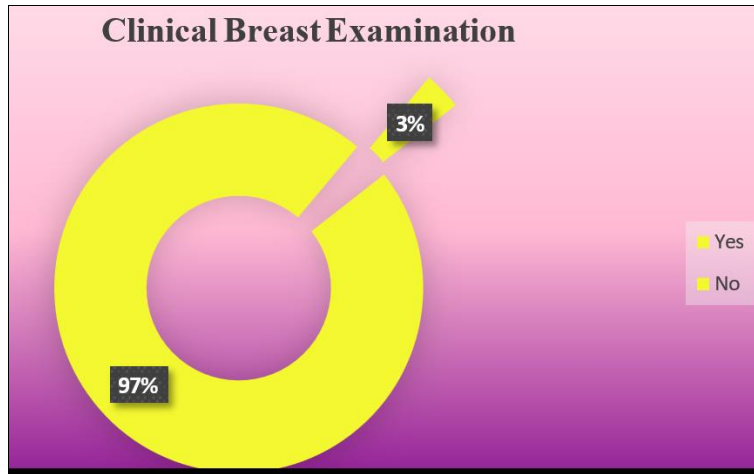


Fig 5: Frequency and percentage distribution according to clinical breast examination of undergraduate students.

Regarding clinical breast examination of undergraduate students, 3.33% (02) of done clinical breast examination,

96.33% (58) never done clinical breast examination.

Section II: Level of knowledge

Table 1: Frequency and percentage distribution of pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute at Bhuj-Kachchh, Gujarat. [N=60]

Sr. No.	Level of knowledge	Pre-test		Post-test	
		Fr	%	Fr	%
1.	Adequate Knowledge	01	01.66%	25	41.66%
2.	Moderately adequate knowledge	07	11.66%	29	48.33%
3.	Inadequate Knowledge	52	88.66%	06	10%

Table 1 depicts the frequency and percentage distribution of pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute. As per, pre-test knowledge score, 88.66% (52) of undergraduate students had inadequate knowledge, 11.66% (07) of undergraduate students had moderately adequate knowledge, whereas 01.66% (01) of undergraduate students had adequate knowledge. Post-test

knowledge score reveals that, 41.66% (25) of undergraduate students had adequate knowledge, 48.33% (29) of undergraduate students had moderately adequate knowledge, and only 10% (06) of undergraduate students had inadequate knowledge. The numerals show that, most of the undergraduate students gained moderately adequate knowledge in post-test.

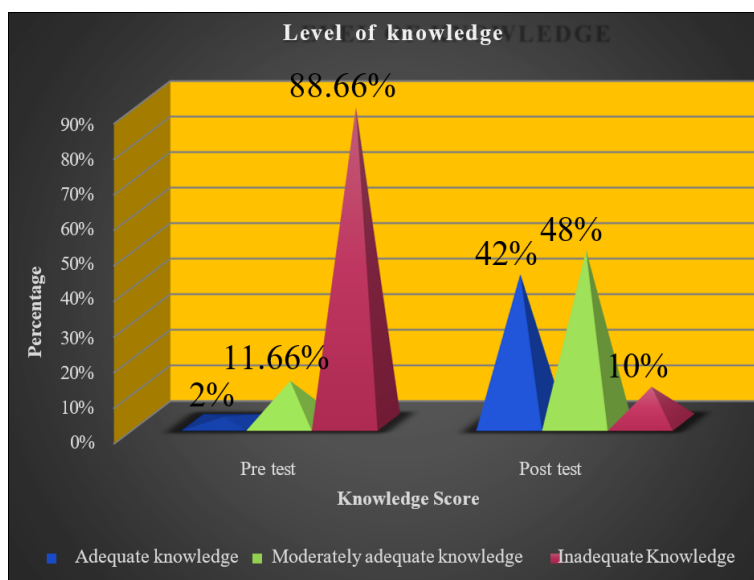


Fig 6: Frequency and percentage distribution of pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute.

The reliability refers to consistency and accuracy of measuring tool. The reliability of the tool was assessed by using Split-Half method and finding were compared. Karl Pearson’s Correlation-Coefficient formula was used for computing the results and finding out reliability of the tool. The “r” value is r=0.97 it shows the thus second objective is achieved.

$$r = \frac{\Sigma (x - \bar{x}) (y - \bar{y})}{\sqrt{\Sigma (x - \bar{x})^2 \Sigma (y - \bar{y})^2}}$$

Section-III

Table 2: Association between the pre-test levels of knowledge regarding Breast Self-Examination among undergraduate students. [N=60]

Sr. No.	Demographic Variables	Inadequate Knowledge		Moderately Adequate knowledge		Adequate Knowledge		Chi Square
		Fr	%	Fr	%	Fr	%	
1	Age							X ² =65.250* df =6 P =12.59 P<0.05 S
	19-21 years	25	41.56	5	8.33	0	0.00	
	22-24 years	26	43.33	1	1.66	0	0.00	
	25-27 years	1	1.66	1	1.66	0	0.00	
	28-30 years	0	0.00	0	0	1	1.66	
2	Family History							X ² =29.56* df =2 P =5.99 P<0.05 S
	Yes	1	1.66	0	0	1	1.66	
	No	51	85.00	7	11.66	0	0.00	
3	Daily Exercises							X ² =17.17* df =2 P =5.99 P<0.05 S
	Yes	5	15.00	5	1.66	0	0.00	
	No	47	71.66	2	10	1	1.66	
4	Regular Breast Self-Examination							X ² =2.96* df =2 P =5.99 P<0.05 NS
	Yes	0	3.33	2	10	0	0.00	
	No	52	83.33	5	11.66	1	1.66	
5	Clinical Breast Examination							X ² =2.96* df =2 P =5.99 P<0.05 NS
	Yes	0	3.33	2	10	0	0.00	
	No	52	83.33	5	11.66	1	1.66	

[Key: Significant at p<0.001 level***, Significant at p<0.01**, Significant at p<0.05 level*, Ns- Not significant, S Significant.]

Regarding age of undergraduate students, the calculated chi-square value is 65.250 and degree of freedom is 6. The table value for df=6 is p=12.59 a p<0.05 level. The calculated chi-square value is greater than the table value Therefore, there is significant association between pre-test level of knowledge regarding Breast Self-Examination among undergraduate students Hence the researcher accepted the research hypothesis for this variable.

The calculated chi-square value regarding family history of breast cancer is 29.56, daily exercise is 17.17 among undergraduate students and degree of freedom is 2. The table value of DF =2 is p = 5.99 at p<0.05 level. The calculated chi-square value is greater than the table value.

Therefore, there is significant association between pre-test levels of knowledge regarding Breast Self-Examination among undergraduate students. And regular Breast Self-Examination is 2.96 and clinical breast examination is 2.96 among undergraduate students and degree of freedom is 2.96 the table value of DF=2 is p=5.99 at p<0.05 level. The calculated chi-square value is less than the table value. Therefore, there is non-significant association between pre-test levels of knowledge regarding Breast Self-Examination among undergraduate students

Section IV

Table 3: Comparison of mean and standard deviation of pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute. [N=60]

Level of knowledge	Mean	Mean difference	SD	"t" Value
Pre-test score	8.43	10.48	15.43	t = 13.06* DF= 59 p=3.46 (p<0.05)
Post-test knowledge score	18.91		6.42	

Key: Significant at p<0.001 level***, Significant at p<0.01**, S -Significant at p<0.05 level*, Ns- Not significant

The mean score of pre-test level of knowledge is 8.43 and SD value is 15.43. The mean score of post-test level of knowledge is 18.91 and SD value is 6.42 Mean difference is 10.48. The obtained “t” value is t = 13.06 which is statistically significant at p<0.001 level (DF = 59, table

value is p = 3.46). It shows that there is significant between the pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute.

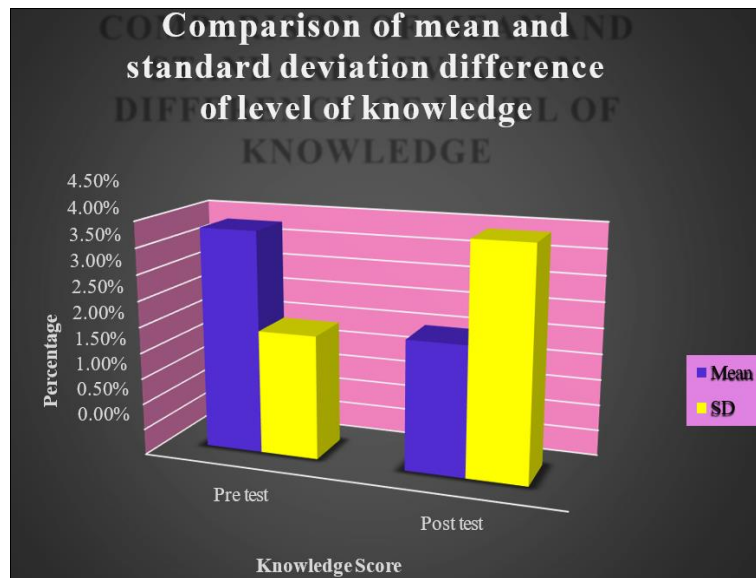


Fig 7: Comparison of mean and standard deviation of pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students.

Major findings of the study

Demographic variables

Study results shows that,

- 51.66% (31) of undergraduate students were 19-21 years of age.
- 03.33% (02) of undergraduate students has family history of breast cancer.
- 16.66% (10) of undergraduate students do daily exercises.
- 03.33% (02) of under graduate students do regular Breast Self-Examination.
- 03.33% (02) of undergraduate students done clinical breast examination.

Level of knowledge

Study result shows that pre-test knowledge score, 88.66% (52) of undergraduate female students had inadequate knowledge, 11.66% (7) of undergraduate students had moderately adequate knowledge, whereas 01.66% (1) of undergraduate students had adequate knowledge. Post-test knowledge score reveals that, 41.66% (25) of undergraduate students had adequate knowledge, 48.33% (29) of undergraduate students had moderately adequate knowledge, and only 10% (06) of undergraduate students had inadequate knowledge. The numerals show that, most of the undergraduate students gained adequate knowledge in post-test. Which satisfy the first objective of the study.

Association between the pre-test level of knowledge and demographic variable

There is highly significant association between pre-test level of knowledge and demographic variable such as undergraduate student’s age (65.25), family history (29.56), daily exercise (17.17), regular Breast Self-Examination (15.66), and clinical breast examination (15.66). Which satisfy the second objective of the study.

Effectiveness of Structured Teaching Programme on pre-test and post-test level of knowledge regarding Breast Self-Examination among undergraduate students Study result

explains that the mean score of pre-test level of knowledge is 8.43 and SD value is 15.43. The mean score of post-test level of knowledge is 18.91 and SD value is 6.42 Mean difference is 10.48. The obtained “t” value is t = 13.06 which is statistically significant at $p < 0.05$ level (df = 59, table value is p = 3.46).

Nursing implication

The findings of the study recommended the implications on nursing education, nursing administration and nursing research.

Nursing education

With the emerging health care trends nursing education must focus on innovations of theory is a vital need and it is important in nursing education, nursing curriculum. The assessment of level of knowledge regarding Breast Self-Examination among undergraduate students. Therefore, the student should introduce Breast Self-Examination.

Nursing administration

- Nursing administration should take an initiative step in creating policies or plan in providing education to nurses in hospital.
- Nursing personnel should be motivated and provide the time for development of educational materials like flip chart, poster, power point presentation and pamphlet.
- Provision should be made access of educational material which are already developed.

Nursing research

The findings of the study contribute to the body of knowledge effectiveness regarding Breast Self-Examination among undergraduate students. In future the researcher can use the findings and the methodology as reference materials. It highlights the area that requires future exploration. Other researchers conducting further studies in the same field can utilize the studies suggestions and recommendations.

Further recommendation

- A similar study can be done on a large sample and to generalize the findings to a large population of undergraduate students.
- An experimental study can be done to assess the level of knowledge regarding Breast Self-Examination among undergraduate students.
- A comparative study can be done on undergraduate students to assess the level of knowledge regarding Breast Self-Examination.
- A structured teaching programme can be done to improve the level of knowledge among the undergraduate students regarding Breast Self-Examination.

Conclusion

This study was conducted to assess the knowledge regarding Breast Self-Examination among undergraduate students of Shree Sahajanand Girls Institute at Bhuj-Kachchh, Gujarat. The pre-test finding of the study suggested that there was a need for structured nursing intervention. Post-test results suggested that structured teaching programme was effective in increasing the knowledge of the sample. Thus, the researcher concludes that the structured teaching programme on the Breast Self-Examination was feasible and effective in increasing the knowledge among the undergraduate students of Shree Sahajanand Girls Institute at Bhuj-Kachchh, Gujarat.

Conflict of Interest

Not available

Financial Support

Not available

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