



## **A comparative study to evaluate the effectiveness of constructive teaching program (CTP) and self-instructional module (Sim) on knowledge regarding breast cancer among B.Ed students of selected B.Ed College, Hubballi-Dharwad**

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### **Abstract**

A quasi-experimental; two group concurrent pre-test, post-test design was conducted to evaluate the effectiveness of Constructive Teaching Program (CTP) and Self-Instructional Module (SIM) on knowledge regarding Breast Cancer among 20 B.Ed students of selected B.Ed college who were divided into two groups (10 in Group-I with CTP and 10 in Group-II with SIM) were selected using Probability; Simple random sampling technique. Instruments used to measure the effectiveness are: Demographic variables and Structured Knowledge Questionnaire on various aspects of Breast cancer. Findings revealed that the ' $F_{cal}$  value (57.2\*) is greater than the ' $F_{tab}$  value (4.41). This indicates that the mean gain in knowledge scores of B.Ed students in Group-I who were exposed to Constructive Teaching Program was higher than those in the Group-II who were exposed to Self-Instructional Module. This signifies CTP is more effective than SIM.

**Keywords:** Breast cancer, B.Ed. students, knowledge, constructive teaching program, self-instructional module, socio demographic variables

### **Introduction**

"A lack of self-awareness is poison. Reflection and review is the antidote" -James Clear

The female breast has been regarded as a symbol of beauty, sexuality, and motherhood. From time immemorial breast has been a symbol of womanhood and ultimate fertility. It has been beautifully depicted in our art and culture, and even in modern times that women maintain the sanctity of this organ which symbolizes femininity. As a result any danger to the breast evokes fear of loss of femininity and hence fertility <sup>[1]</sup>.

Our relationship with the world starts from mother's breast milk and thus female breast turns out to be the source of life, which produces and secretes milk. Along with their major function in providing nutrition for infants, female breasts have social and sexual characteristics. Breasts and especially the nipples is an erogenous zone in women <sup>[2]</sup>. Thereby any diseases affecting breasts particularly breast cancer will have a deteriorating impact on womanliness <sup>[3]</sup>. Breast cancer is an uncontrolled growth of breast cells <sup>[4]</sup>. It is the commonest disease that shortens the life of a woman and that threatens the happiness and peace of home. Not only in the industrialized countries, but also among countries like India where the incidence of Breast cancer is increasing steadily since past two decades and it surely will go up further because the life expectancy is rising speedily

and with that the risk of breast cancer too is rising <sup>[5]</sup>.

Breast cancer is the most common female cancer worldwide representing nearly a quarter i.e. 23% of all cancers in women. The global burden of Breast cancer is expected to cross 2 million by the year 2030, with growing proportions from developing countries. Although age-standardized incidence rates in India are lower than in the United Kingdom (UK) of 25.8 versus 95 per 100,000, mortality rates are nearly as high as 12.7 versus 17.1 per 100,000, respectively as those of the UK <sup>[6]</sup>.

Breast cancer incidence rates within India display a 3-4 fold variation across the country, with the highest rates observed in the Northeast and in major metropolitan cities such as Mumbai and New Delhi <sup>[6]</sup>.

An educational interventional study found that there was about 25.71% of improvement of knowledge on Breast cancer and Breast Self-Examination (BSE) among school teachers, it was proved that Educational Interventional Program was effective, and also there is a need for a brief knowledge among school teachers regarding breast cancer <sup>[7]</sup>.

Educating the entire population is not feasible; instead educating a specific cadre society who can further educate others would be more useful <sup>[8]</sup>. Teachers (B.Ed students) play an effective role in communication and motivation of young students, so assessment of their knowledge is

essential to reduce the risk of breast cancer among future generations, if the knowledge is poor in those who teach others, there will be difficulty in promoting these life saving methods.

### Statement of the problem

“A comparative study to evaluate the effectiveness of Constructive Teaching Program (CTP) and Self-Instructional Module (SIM) on knowledge regarding Breast Cancer among B.Ed students of selected B.Ed College, Hubballi-Dharwad.”

### Objectives of the study

1. To assess the knowledge regarding breast cancer among B.Ed students who will be exposed to Constructive Teaching Program (CTP) and Self-Instructional Module (SIM).
2. To evaluate the effectiveness of Constructive Teaching Program (CTP) regarding breast cancer among B.Ed students in terms of gain in knowledge scores.
3. To evaluate the effectiveness of Self-Instructional Module (SIM) regarding breast cancer among B.Ed students in terms of gain in knowledge scores.
4. To compare the effectiveness of Constructive Teaching Program (CTP) and Self -Instructional Module (SIM) regarding breast cancer among B.Ed students in terms of gain in knowledge scores.
5. To find out an association between pre-test knowledge scores of B.Ed students and their selected socio-demographic variables who will be exposed to Constructive Teaching Program (CTP).
6. To find out an association between pre-test knowledge scores of B.Ed students and their selected socio-demographic variables who will be exposed to Self-Instructional Module (SIM).

### Hypotheses

**H<sub>1</sub>:** The mean post test knowledge scores of B.Ed students who will be exposed to Constructive Teaching Program will be significantly higher than the mean pre-test knowledge scores at 0.05 level of significance.

**H<sub>2</sub>:** The mean post-test knowledge scores of B.Ed students, who will be exposed to Self- Instructional Module, will be significantly higher than the mean pre-test knowledge scores at 0.05 level of significance.

**H<sub>3</sub>:** The mean post-test knowledge scores of B.Ed students regarding Breast cancer who have undergone constructive teaching program will be significantly higher than the mean post-test knowledge scores of B.Ed students regarding Breast cancer who have undergone Self-Instructional Module at 0.05 level of significance.

**H<sub>4</sub>:** There will be statistical association between the pre-test knowledge scores of B.Ed students regarding Breast cancer who will be exposed to Constructive Teaching Program with their selected socio demographic variables at 0.05 level of significance.

**H<sub>5</sub>:** There will be statistical association between the pre-test knowledge scores of B.Ed students regarding Breast cancer who will be exposed to Self- Instructional Module with their selected socio demographic variables at 0.05 level of

significance.

### Review of literature

The review of literature is organized under following headings

Section I	Review of literature related to knowledge regarding Breast cancer
Section II	Review of literature related to Self-Instructional Module
Section III	Review of literature related to Constructive Teaching Program
Section IV	Review of literature related to comparison of Constructive Teaching Program and Self-Instructional Module

### Materials and Method

- **Research approach:** An evaluative approach was adopted.
- **Research design:** Quasi-experimental; two group concurrent pre-test, post-test design was selected for this study.
- **Variables under the study**

Independent variable	Constructive Teaching Program (CTP) & Self-Instructional Module (SIM)
Dependent variable	Knowledge of B.Ed students regarding Breast Cancer

- **Research setting:** Sana College of Education, Shantiniketan, Hubballi. (Group-I) & Al-Meezan Educational Associations B.Ed College. Hubballi. (Group-II)
- **Research population:** The target population comprised of B.Ed students who were studying in Sana College of Education, Shantiniketan, Hubballi. & Al-Meezan Educational Associations B.Ed College. Hubballi.
- **Sample:** B.Ed students from B.Ed of Hubballi-Dharwad were selected.
- **Sample size:** Twenty (20) B.Ed students. [ $n_1=10$  &  $n_2=10$ ].
- **Sampling technique:** Probability; simple random sampling technique was adopted to select subjects according to the sample selection criteria.
- **Criteria for selection of samples:**  
The criteria for selection of samples in this study involves:

### Inclusion criteria: B.Ed students who were

- Studying in Sana College of Education, Shantiniketan, Hubballi. & Al-Meezan Educational Associations B.Ed College, Hubballi.
- Understanding Kannada and English.
- Willing to participate in the study.

### Exclusion Criteria: B.Ed students who were

- Sick at the time of data collection.

### Description of the Tool

#### Section I: Socio-demographic data variables

**Section II: Structured knowledge questionnaire** which contains totally of 45 items, and those were in turn divided under the following parts:-

Part A	04 Knowledge items on anatomy and physiology of breast
Part B	04 Knowledge items on introduction to Breast cancer.
Part C	08 Knowledge items on risk factors for Breast cancer.
Part D	04 Knowledge items on clinical features of Breast cancer.
Part E	13 Knowledge items on methods of early detection of Breast cancer.
Part F	05 Knowledge items on treatment of Breast cancer.
Part G	05 Knowledge items on prevention of Breast cancer.
Part H	02 Knowledge items on complications of Breast cancer.

- **Procedure for data collection:** After obtaining formal consent from the Principals of Sana College of Education, Shantiniketan, Hubballi. (Group-I) & Al-Meezan Educational Association's B.Ed College, Hubballi. (Group-II). The data for pre-test was collected through Structured knowledge questionnaire for Group I & Group II followed by administering Constructive Teaching Program for Group I & Self-

Instructional Module for Group II regarding Breast cancer, there after the post-test was collected by the same Structured knowledge questionnaire. The data was tabulated and analyzed manually.

## Results

The data presented under the following sections:

<b>Section I</b>	Distribution of sample characteristics according to socio demographic variables.
<b>Section II</b>	Analysis and interpretation of knowledge scores of B.Ed students who were exposed to Constructive Teaching Program (CTP) and Self-Instructional Module (SIM) regarding Breast cancer.
<b>Section III</b>	Testing hypotheses

## Section I: Distribution of sample characteristics according to socio demographic variables of respondents

**Table 1:** Frequency and percentage distribution of subjects in Group I and Group II according to socio-demographic variables

Sl. No.	Demographic Variables	Group I		Group II	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	<b>Age in years</b>				
	22-24yrs	3	30	4	40
	24-26yrs	5	50	2	20
	26-28yrs	2	20	4	40
2	<b>Religion</b>				
	Hindu	3	30	3	30
	Christian	5	50	2	20
	Muslim	2	20	5	50
	Others	0	0	0	0
3	<b>Habitat</b>				
	Rural	4	40	7	70
	Urban	6	60	3	30
4	<b>Course of the study</b>				
	B.Ed I yr	6	60	5	50
	B.Ed II yr	4	40	5	50
5	<b>Marital status</b>				
	Married	7	70	5	50
	Unmarried	3	30	5	50
6	Divorced	0	0	0	0
	Widow	0	0	0	0
	<b>Educational background</b>				
	B.A	6	60	5	50
	B.Sc	2	20	3	30
	B.Com	1	10	1	10
7	BBA	1	10	1	10
	Others	0	0	0	0
	<b>Age at menarche</b>				
	10-12yrs	4	40	5	50
8	12-14yrs	4	40	3	30
	14yrs & above	2	20	2	20
	<b>Family history of Breast cancer</b>				
9	Yes	0	0	0	0
	No	10	100	10	100
9	<b>Source of information</b>				
	Print media	1	10	0	0
	Electronic media	0	0	4	40

	Health professionals	1	10	0	0
	Peer group	1	10	2	20
	No information	7	70	4	40
10	Have you ever performed BSE				
	Yes	0	0	0	0
	No	10	100	10	100

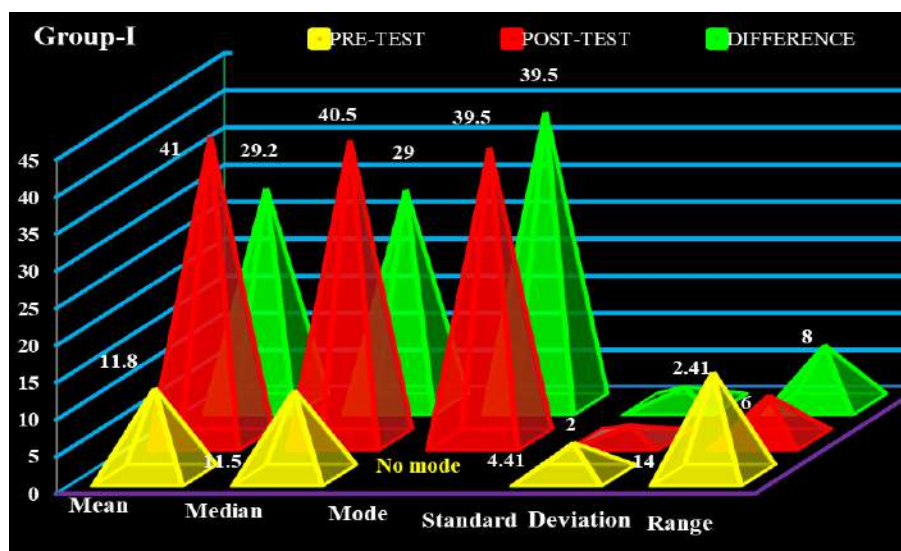
**Section II: Analysis and interpretation of knowledge scores of B.Ed students who were exposed to**

**Constructive Teaching Program (CTP) and Self-Instructional Module (SIM) regarding Breast cancer.**

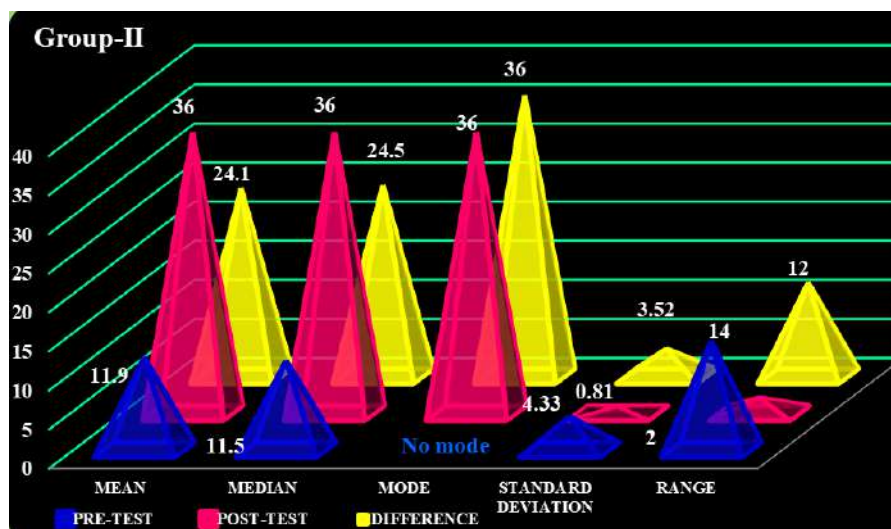
**Table 2:** Mean, Median, Mode, Standard Deviation and Range of knowledge scores of subjects regarding Breast Cancer in both Group I and Group II.  $n_1+n_2=20$

Area of Analysis	Groups	Mean	Median	Mode	Standard Deviation	Range
Pre-test	Group I	11.8	11.5	-----*	4.41	14
	Group II	11.9	11.5	-----*	4.33	14
Post-test	Group I	41	40.5	39.5	2	6
	Group II	36	36	36	0.81	2
Difference	Group I	29.2	29	39.5	2.41	8
	Group II	24.1	24.5	36	3.52	12

\*No mode



**Graph 1:** The pyramidal graph representing Mean, Median, Mode, Standard deviation & Range of B.Ed students in Group-I

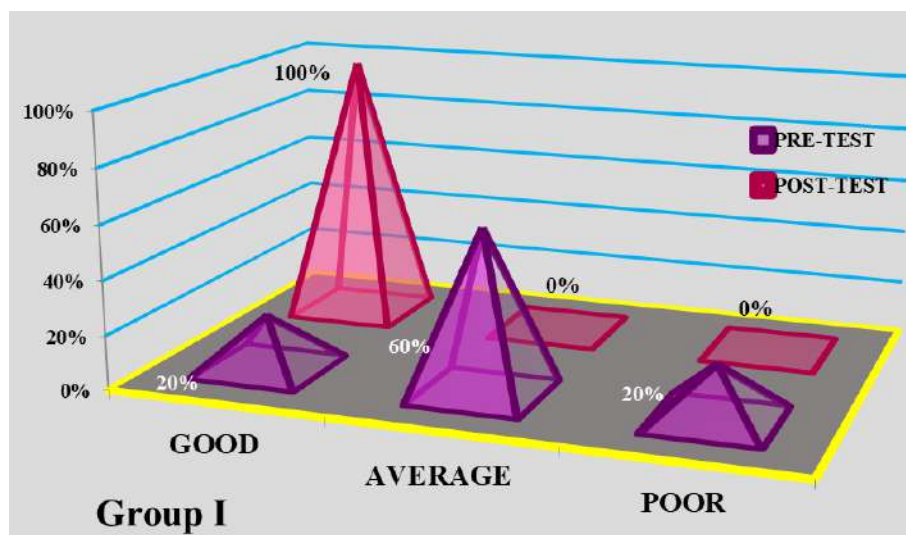
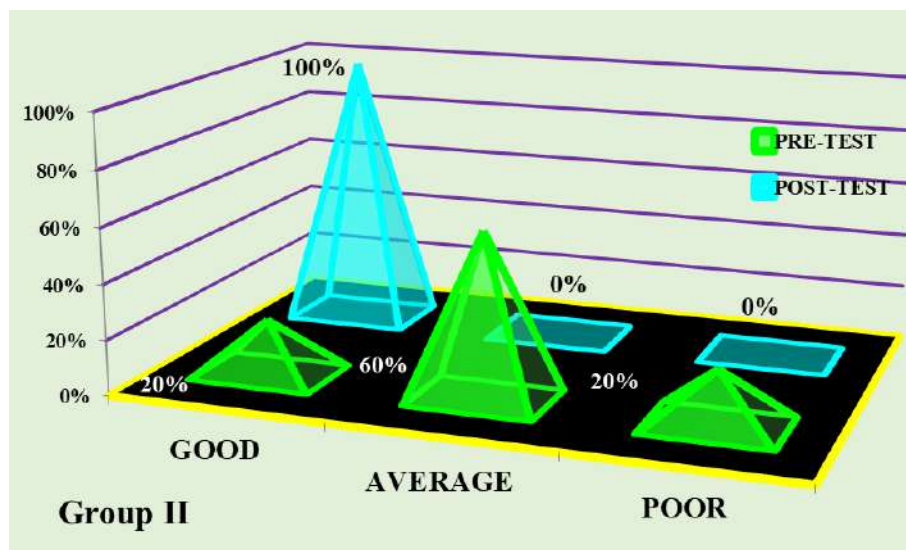


**Graph 2:** The pyramidal graph representing Mean, Median, Mode, Standard deviation & Range of B.Ed students in Group-II.

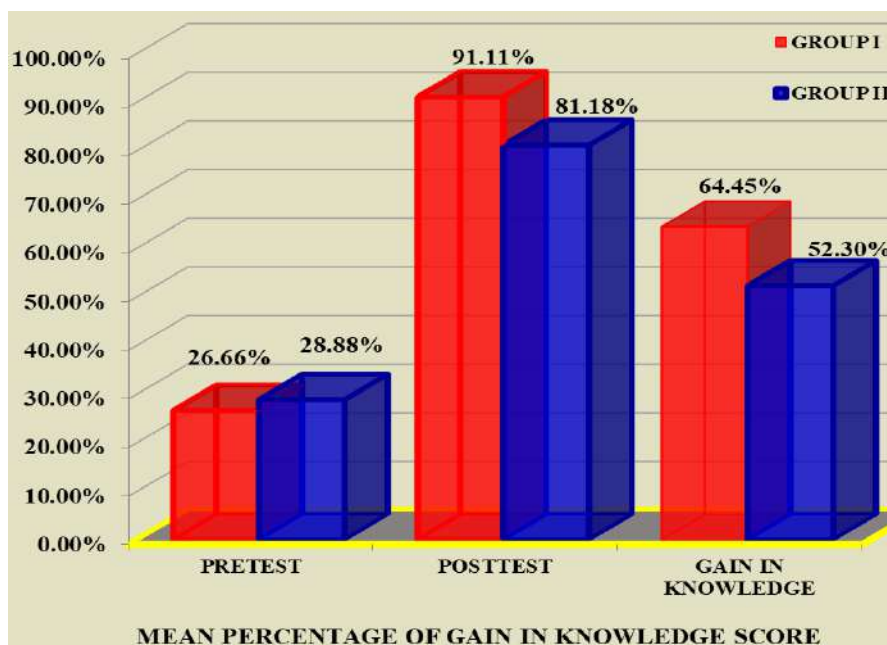


**Table 3:** Frequency and percentage distribution of knowledge scores of subjects regarding Breast Cancer in both Group I and Group II.  
 $n_1+n_2=20$ 

Knowledge score	Pre-test		Post-test	
	Frequency(f)	Percentage (%)	Frequency(f)	Percentage (%)
<b>Group I</b>				
Good (16.21 & above)	2	20%	10	100%
Average (8.37-16.21)	6	60%	00	0%
Poor (8.37 and below)	2	20%	00	0%
<b>Group II</b>				
Good (16.23 & above)	2	20%	10	100%
Average (8.57-16.23)	6	60%	00	0%
Poor (8.57 & below)	2	20%	00	0%

**Graph 3:** The pyramidal graph represents the percentage distribution of the subjects according to their level of knowledge scores in Group I.**Graph 4:** The pyramidal graph represents the percentage distribution of the subjects according to their level of knowledge scores in Group II.**Table 4:** Frequency and percentage distribution of knowledge scores of subjects regarding Breast cancer in both Group I and Group II.  
 $n_1+n_2=20$ 

Group	Mean % of knowledge score of subjects			
	Total score	Pre-test	Post test	Gain in knowledge
Group I	450	26.22%	91.11%	64.89%
Group II	450	26.44%	80%	53.56%



**Graph 5:** The column graph represents the mean percentage gain in knowledge of the subjects according to their level of knowledge scores in Group I and Group II.

### Section III: testing of hypotheses

**H<sub>1</sub>:** The mean post test knowledge scores of B.Ed students who will be exposed to Constructive Teaching Program will be significantly higher than the mean pre-test knowledge scores at 0.05 level of significance.

**H<sub>2</sub>:** The mean post-test knowledge scores of B.Ed students, who will be exposed to Self-Instructional Module, will be significantly higher than the mean pre-test knowledge scores at 0.05 level of significance.

**Table 5:** Mean difference (d), Standard Error of difference (SEd) and paired 't' values of knowledge scores of subjects regarding Breast cancer in both Group I and Group II.  $n_1+n_2=20$

Groups	Mean Difference ( $d^-$ )	Standard error of difference ( $S^- dE$ )	Paired 't' values	
			Calculated	Tabulated
Group I	29.2	1.74	16.78*	2.26
Group II	24.1	1.34	17.98*	2.26

\*Significant at 5% level

**H<sub>3</sub>:** The mean post-test knowledge scores of B.Ed students regarding Breast cancer who have undergone Constructive Teaching Program will be significantly higher than the

mean post-test knowledge scores of B.Ed students regarding Breast cancer who have undergone self-Instructional Module at 0.05 level of significance.

**Table 6:** One way Analysis of Variance (ANOVA) between Group I and Group II  $n_1+n_2=20$

Source of variance	Sum of squares	Degrees of freedom	Mean of sum, of squares	F ratio	
Between the groups	130.05	01	130.05	Cal. value	Tab. Value
				57.2*	4.41
Within the groups	40.9	18	2.27		

\*Significant at 5% level

**H<sub>4</sub>:** There will be statistical association between the pre-test knowledge scores of B.Ed students regarding Breast cancer who will be exposed to Constructive Teaching Program with their selected socio demographic variables at 0.05 level of significance.

The calculated chi-square value was less than tabulated value in all case of the variables. Hence there was no statistical association between knowledge scores and selected demographic variables.

**H<sub>5</sub>:** There will be statistical association between the pre-test knowledge scores of B.Ed students regarding Breast cancer who will be exposed to Self-Instructional Module with their selected socio demographic variables at 0.05 level of

significance.

The calculated chi-square value was less than tabulated value in all case of the variables. Hence there was no statistical association between knowledge scores and selected demographic variables.

### Discussion

- The overall pre-test knowledge scores of B.Ed students in Group I who were exposed to Constructive Teaching Program (CTP) revealed that in pre-test, majority of subjects 15(60%) had average knowledge, 3(20%) had poor knowledge and 3(20%) had good knowledge, whereas in post-test 20(100%) of them had good

knowledge regarding Breast cancer. The facts analyzed were matched with the findings of the research undertaken by Bhatakhande AH, Peerapur SM, who observed that in pre-test most of the women 15 (50%) had average knowledge, 08 (26.66%) had poor knowledge and 07(23.34%) had good knowledge. Whereas in post-test all 30 (100%) of them had good knowledge regarding Reproductive health after administration of CTP.<sup>[10]</sup>

- The overall pre-test knowledge scores of B.Ed students in Group II who were exposed to Self-Instructional Module (SIM) revealed that in pre-test majority of subjects 15(60%) had average knowledge, 3 (20%) had poor knowledge and 3(20%) had good knowledge, whereas in post-test 20(100%) of them had good knowledge regarding Breast cancer after administration of SIM. The facts analyzed were matched with the findings of the research undertaken by Walvekar SS, Mohite VR, Mohite RV, Kakade SV, who observed that in pre-test most of the women 48 (80%) had average knowledge, 11 (18%) had poor and 1 (2%) had good knowledge regarding Breast cancer. Whereas, in post-test, 59 (98%) had good, 1 (2%) had average and no participants had poor knowledge regarding Breast cancer after administration of SIM.<sup>[11]</sup>

### Recommendations

Keeping in the view the findings of the present study, the following recommendations were made:

- This study can be replicated to a larger sample to generalize the findings.
- A similar study can be undertaken between Constructive Teaching Program (CTP) and Self-Instructional Module (SIM).
- A similar study can be replicated in different settings with different samples respectively.
- A similar study can be conducted to compare and evaluate the effectiveness of various other teaching methods.
- A descriptive study can be conducted to assess the knowledge and attitude regarding Breast cancer among women.
- A true experimental study with experimental and control group can be conducted regarding Breast cancer.
- To conduct intensive Health Education Programs on awareness of Breast Cancer among women.
- To conduct screening programs for women who are at average risk of developing Breast cancer.

### Conclusion

**Based on the findings of the study, the following conclusions were drawn**

1. The overall pre-test knowledge level regarding Breast cancer was average in both Group I and Group II.
2. The post-test knowledge scores of Group I who were exposed to Constructive Teaching Program (CTP) showed significant improvement in the level of knowledge than Group II who were exposed to Self-Instructional Module (SIM) regarding Breast cancer.
3. The data from this study suggested that Constructive Teaching Program (CTP) was more effective than Self-

Instructional Module (SIM) for B.Ed students to escalate and update their knowledge regarding Breast cancer.

4. There was statistical association between knowledge scores of B.Ed students with age at menarche, educational background and source of information regarding Breast cancer who were exposed to Constructive Teaching Program (CTP).
5. There was statistical association between knowledge scores of B.Ed students with habitat and educational background who were exposed to Self-Instructional Module (SIM).

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