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A study to assess the effectiveness of planned teaching programme on knowledge regarding breast self-examination among women in a selected Sri Shakthi Welfare Group at Mangaluru

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Abstract

Background: Breast cancer is the most prevalent cause of cancer morbidity and mortality among women in most parts of the world. Breast cancer has been considered as a major health problem in females, because of its high incidence in recent years. Breast cancer is the commonest form of cancer in women in western countries and second most common in women in developing countries like India. In the absence of an exact etiological agent for breast cancer, the most appropriate way of controlling it is by early detection and treatment. Breast self-examination (BSE) has a role in early diagnosis and prevention of morbidity and mortality rate of breast cancer.

Methodology: An evaluative research approach with Quasi experimental one group pre-test post-test design was adopted for this study. The design did not include any control group. Forty Samples were selected by simple random sampling technique. The study was conducted for the women in one group, as they gathered together for their monthly meeting at one place. On the first day, the demographic data was collected and pre-test was conducted by using structured knowledge questionnaire and planned teaching programme regarding BSE was administered. Post-test was conducted on the seventh day by using the same structured knowledge questionnaire.

Results: The mean post-test knowledge score ($\bar{x}_2=22.6$) was greater than pre-test knowledge score ($\bar{x}_1=13.2$). Also Area wise post-test mean score was higher in all the aspects such as meaning and purpose of BSE, breast changes and warning signs, risk factors and early detection, time schedule and instructions, steps and methods, and general information compared to the pre-test score.

The mean difference between the post-test and pre-test knowledge score was highly significant ($t_{39}=23.79$) (table value: $t_{39}=2.02$, $p \leq 0.05$) at 0.05 level of significance. The mean difference in post-test and pre-test was 9.4. The findings are highly significant and it can be inferred that planned teaching programme regarding breast self-examination was highly effective in improving the knowledge of women regarding breast self-examination.

There was no significant association between pre-test level knowledge score and selected demographic variables such as age ($\chi^2=2.19$), marital status ($\chi^2=0.5$), occupation ($\chi^2=0.327$), and education ($\chi^2=2.597$), at 0.05 level of significance.

Conclusion: Findings of the study showed that the knowledge of the self-help group women regarding breast self-examination was less before the administration of the PTP. The PTP facilitated them to gain more knowledge about breast self-examination which was evident from the post-test knowledge scores.

Keywords: Effectiveness, knowledge level, breast self-examination, planned teaching programme

Introduction

The female body is one of nature's most wonderful and complex creations. It is the origin of all human life. A woman's journey in life is punctuated by many milestones; childhood, puberty, matrimony, pregnancy, childbirth, motherhood and each milestone is special in its own way. The female reproductive system includes the external genital organs and the internal reproductive organs and breast is one of the external reproductive organs. The female breasts contain the mammary glands, which secrete milk. Although the primary function of the breasts is production of milk, the female breasts play an important part in female sexual behaviour.¹ Our relationship with the world starts from mother's breast milk. Breasts are very important organs for every woman as these are the symbols of motherhood and womanhood.

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So any diseases affecting breasts particularly breast cancer needs attention^[1]. Throughout history, the female breast has been regarded as a symbol of beauty, sexuality, and motherhood. 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 women maintain sanctity of this organ which symbolizes femininity. Breast problems are significant health concern to women. In a women's life time there is a one in 8th chance that she will be diagnosed with breast abnormalities such as lumps, fibroids, cancer etc. Intense feeling of shock, fear and denial often accompany the initial discovery of a lump or change in the breast. These feelings are associated both with fear of survival and with the possible loss of breast. The potential loss of breast or a part of a breast may be devastating for many women because of the significant psychological, social, sexual, and body image implications associated with it^[2].

Breast cancer is relatively easy to utter, but leaves frightening impression on women. The health of women is at hazard, as breast carcinoma is the leading causes of death in women internationally. In India among 144,937 women newly detected with breast cancer, 70,218 women died. In the present scenario, roughly for every 2 women newly diagnosed of breast cancer, one lady is dying of it. One major factor responsible for overwhelmingly scary mortality rate in breast cancer is late presentation. A common reason for late presentation of patients is lack of awareness of breast cancer and poor attitude towards breast self-examination (BSE). According to a study by Gupta H "cultural taboos make Indian women embarrassed to talk about their bodies." In India, cultural taboos, lack of self confidence in their ability to perform the technique correctly, fear of possible discovery of a lump and embarrassment associated with manipulation of breast are the major barriers^[3].

Breast cancer is any kind of malignant growth in the breast tissue. The major risk factors for breast cancer are: family history of breast cancer, menarche before 12 years of age, menopause after 55 years of age, nulliparity or first child after 30 years of age, obesity, and excessive exposure to the ionizing radiations before 30 years of age, personal history of breast cancer, hormonal dysfunction, stress, unhealthy lifestyle. Breast cancer is the most common form of cancer in women. Recommended preventive techniques to reduce breast cancer mortality and morbidity include breast self-examination, clinical breast examination and mammography^[4]. BSE is a relatively simple, convenient, non-invasive, minimal-risk, and inexpensive method of early detection recommended for women. Women should begin this routine in their 20s to learn the look and feel of their healthy breast so that they may report any changes in their breasts to a health expert immediately. BSE allows women to perform an examination independently. It also is often the only screening method available for women without access to professional health care services. And it is an effective diagnostic method for breast cancer which only takes five minutes to apply. Its purpose is to make women familiar with both the appearance and the feel of their breasts and to help women detect any changes in their breasts as early as possible. There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment and to yield a better

survival rate. The practice of BSE can help women to know the structure and composition of their normal breast thereby enhancing their sensitivity to detect any abnormality at the earliest time^[5].

Objectives of the study

The objectives of the study are

- To determine the pre-test knowledge score of women regarding breast self-examination as measured by a structured knowledge questionnaire.
- To determine the effectiveness of planned teaching programme among women regarding breast self-examination in terms of gain in post-test knowledge score.
- To find the association between pre-test knowledge score of women regarding breast self-examination with the selected demographic variables (Age, marital status, occupation, education etc.)

Hypothesis

The hypotheses will be tested at 0.05 level of significance

H₁: The mean post-test knowledge score of women regarding BSE will be significantly higher than the mean pre-test knowledge score.

H₂: There will be significant association between the mean pre-test knowledge score regarding BSE and selected demographic variables such as age, occupation, marital status and education.

Methodology

Research Approach: An evaluative research approach was adopted

Research design: Quasi experimental one group pre-test post-test design

Setting: Sri Shakthi welfare centre at Mangaluru

Sample size: 40 Sri Shakthi group women

Sampling Technique: Simple random sampling technique

Tool for data collection

Part I was the demographic proforma: consist of 7 items related to demographic data of participants

Part II was the structured knowledge questionnaire:

The final tool consisted of a structured knowledge questionnaire with 28 items. It was divided in to 6 areas and it included as follows.

1. Meaning and purpose of BSE
2. Breast changes and warning signs
3. Risk factors and early detection
4. Time schedule and instructions
5. Steps and methods
6. General information

Structured knowledge questionnaire was used to assess the knowledge regarding breast self-examination.

Method of data collection

The data collection period extended from 21st May to 28th May 2022. Prior to data collection, permission was obtained from the concerned authorities to conduct the study. The data collection date, time, and place were confirmed after

discussing with the co-ordinator. Simple random sampling technique was used for selecting 5 Sri Shakthi groups. From each selected group, 8 samples were selected to get 40 samples, by using simple random sampling technique who met the inclusion criteria. The study was conducted for the women in one group, as they gathered together for their monthly meeting at one place. Prior to data collection, researcher familiarised herself with the subjects and explained the purpose of study to them. The investigator assured the confidentiality of their response and consent was obtained from each patients. Privacy was given during the time assessment. Women were made to feel comfortable and relaxed. Women were made to sit in their meeting place and the average time taken was 30 minutes. On the first day, the demographic data was collected and pre-test was conducted by using structured knowledge questionnaire. The PTP was given soon after completing the pre-test and the investigator used flash cards, charts and ppt to teach the different areas. Information was given regarding the post-test, the date and the time was confirmed.

The post-test was conducted on 7th day by using the same structured knowledge questionnaire on 28th May 2022 at 4pm. All the women co-operated well with the investigator during the data collection period. Women understood the PTP regarding BSE and were happy about the information received. The women were advised to do the regular breast self-examination. The data collection was terminated by thanking the women for their participation, willingness to participate in the study, and co-operation. The data collected was compiled for analysis.

Results Section I: Sample characteristics

This section deals with the description of sample

characteristics of 40 subjects and is explained in frequency and percentage and is presented in Tables and Figures. The data obtained to describe the sample characteristics of Sri Shakthi group women are age, marital status, occupation, education, religion, income, diet, and are you taking any hormonal therapy.

Table 1: Frequency and percentage distribution of Sri Shakthi group women according to their demographic variables. n=40

Sl. No.	Variables	Frequency	Percentage
1	Age in years		
	30-40 years	13	32.5
	41-50 years	13	32.5
2	Marital status		
	Married	36	90
	Unmarried	4	10
3	Occupation		
	Employed	21	52.5
4	Education		
	Primary	17	42.5
	Middle school	16	40
	Higher Secondary	6	15
5	Religion		
	Hindu	24	60
	Muslim	0	0
6	Diet		
	Vegetarian	2	5
	Non vegetarian	38	95
7	Use of hormonal therapy		
	Yes	4	10
	No	36	90



Fig 1: Cylindrical diagram showing the distribution of subjects according to their age.

Data in Table 1 and Figure 1 shows that maximum numbers of samples (35%) were in the age group of 51- 60 years,

32.5% were between 41-50 years, 32.5% were between 30-40 years.

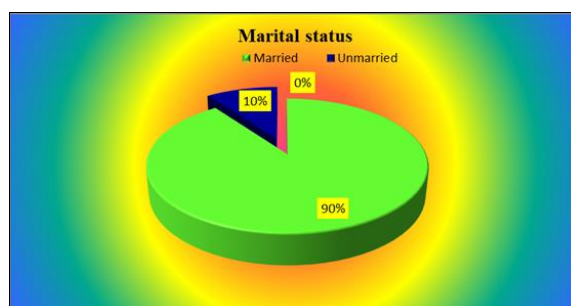


Fig 2: Pie diagram showing distribution of subjects according to marital status

Data in Table 1 and Figure 2 shows that majority of the sample (90%) were married and only 10% unmarried.

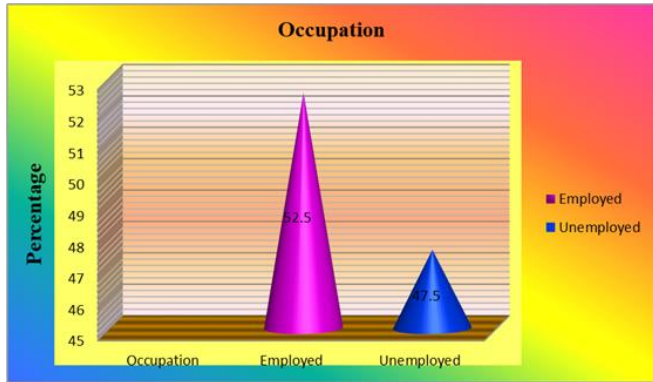


Fig 3: Cone diagram showing distribution of subjects according to occupation.

Data in Table 1 and Figure 3 shows that majority of the subjects (52.5%) were employed and (47.5%) were unemployed.

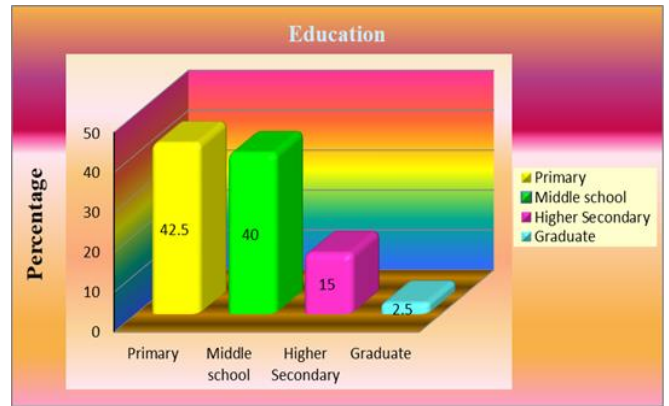


Fig 5: Bar diagram showing the distribution of the subjects according to their education.

Data in Table 1 and Figure 4 shows that 42.5% of the subjects were primary school, where as 40% were middle school, 15% had high school education, and 2.5% of the subjects were graduates.

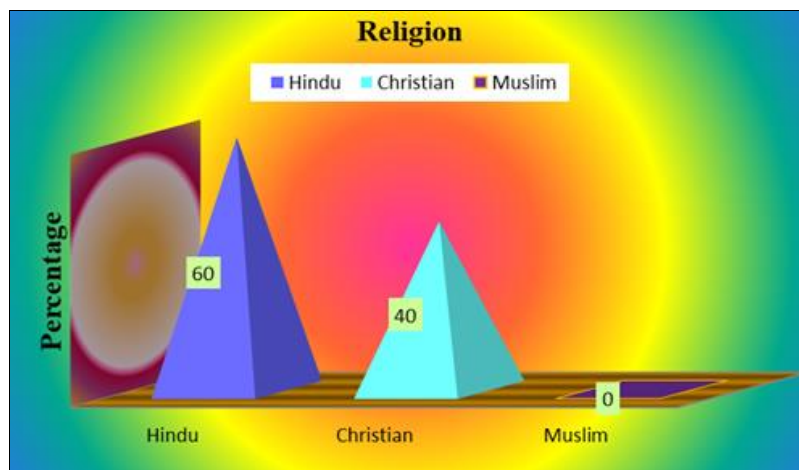


Fig 5: Pyramidal diagram showing the distribution of subjects according to their religion.

Data in Table 1 and Figure 6 shows that majority (60%) of the subjects were Hindu, less than half of the subjects (40%) were Christians, and 0% was Muslim.

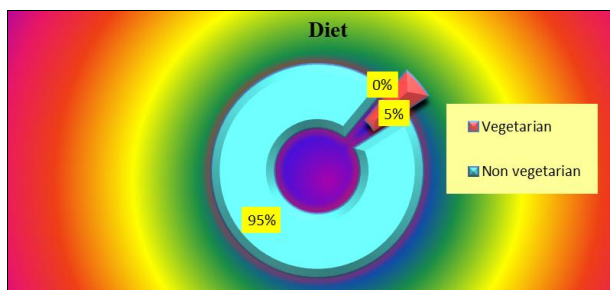


Fig 6: Doughnut diagram showing the distribution of the subjects according to their diet

Data in Table 1 and Figure 6 shows that maximum number of samples (96.7%) was non-vegetarian and only 3.3% were vegetarian.

Data in Table 1 shows that only 10% of women were taking the hormonal therapy and 90% of women were not taking the hormonal therapy.

Section II: Knowledge level of women before and after the planned teaching programme

Knowledge level of 40 Sri Shakthi group women regarding breast self-examination before and after the planned teaching programme was assessed using structured knowledge questionnaires and was analysed using descriptive statistics as represented in Table and figure.

Table 2: Frequency and percentage distribution of sample according to pre-test and post-test knowledge level n=40

Grading	Range	Percentage	Pre-test		Post-test	
			Frequency	Percentage	Frequency	Percentage
Poor	0-12	≤ 49	25	62.5	-	
Average	13-19	50-70	15	37.5	3	7.5
Good	20-28	71-100	0	0	37	92.5

Maximum score=28

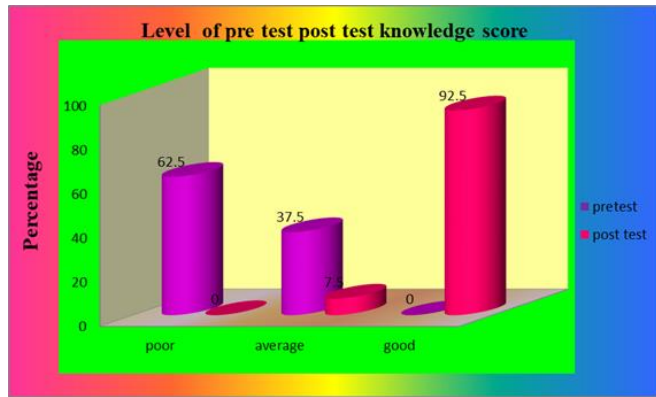


Fig 7: Cylindrical diagram showing distribution of samples according to their level of knowledge

Table 2 and Figure 10 shows that in the pre-test no women (0%) had good knowledge, 37.5% had average knowledge and 62.5% had poor knowledge. In the post-test the women 92.5% of the women had good knowledge and 7.5% had

average knowledge. The findings show that planned teaching has helped the women to improve their knowledge regarding breast self-examination.

Table 3: Range, mean, mean percentage scores, SD, and mean difference of pre and post-test knowledge score n=40

Area	Range	Mean	SD	Median	Mean percentage	Mean difference	SE
Pre-test	10-19	13.2	1.95	13	47.14	9.4	0.395
Post-test	20-26	22.6	1.87	21	80.89		

Maximum score=28

Data presented in Table 3 shows that in the pre-test the score ranged from 10-19 and the mean score was 13.2 with 1.95. In the post-test the score ranged from 20-26 and the mean score was much higher (22.6±1.87) than the pre-test score. The mean difference was 9.4

Table 4: Area wise pre-test mean knowledge scores of Respondents

SL.NO	Knowledge Aspects	Statements	Max Score	Respondents Knowledge			
				Mean	SD	Mean %	CV
1	Meaning and purpose	2	2	0.75	0.698	37.5	93.06
2	Breast changes and warning signs	5	5	2.5	1.095	50	43.8
3	Risk factors and early detection	6	6	2.85	1.1947	47.5	41.9
4	Time schedule and instructions	6	6	1.625	1.041	40.625	64.06
5	Steps and methods	4	4	2.675	1.126	44.583	42.09
6	General information	5	5	2.825	1.006	56.5	35.61

Data presented in Table 4 shows the Area wise pre-test knowledge of respondents regarding BSE. The highest mean percentage (56.5%) was seen in general information about

breast self-examination, followed by lowest score 37.5% seen in meaning and purpose of BSE.

Table 5: Area wise post-test mean knowledge scores of Respondents

Sl. No	Knowledge Aspects	Statements	Max Score	Respondents Knowledge			
				Mean	SD	Mean %	CV
1	Meaning and purpose	2	2	1.75	0.487	87.5	27.828
2	Breast changes and warning signs	5	5	3.925	0.876	78.5	22.318
3	Risk factors and early detection	6	6	4.725	1.161	78.75	24.571
4	Time schedule and instructions	6	6	3.15	0.759	78.75	24.095
5	Steps and methods	4	4	4.725	0.858	78.75	18.158
6	General Information	5	5	4.375	0.619	87.5	14.148

Data presented in Table 5 shows the Area wise post-test knowledge of respondents regarding BSE. The highest mean percentage (87.5%) was seen in general information and meaning and purpose about breast self-examination, followed by lowest score (78.5%) in breast changes and warning signs.

score
To test the effectiveness of planned teaching in terms of gain in post-test knowledge score the following null hypothesis was formulated:

Section III: Effectiveness of planned teaching on breast self-examination in terms of gain in post-test knowledge

H_{01} : There will be no significant difference in the mean pre-test and post-test knowledge score regarding breast self-examination among self-help group women at 0.05 level of significance

Table 6: Paired 't' test to test the significance difference between mean pre and post-test knowledge score n=40

	Mean score	Mean difference in score	SE	t value
Pre-test	13.2	9.4	0.395	23.79*
Post-test	22.6			

$t_{39}=2.02$ $p \leq 0.05$ * Significant

Data presented in Table 6 shows that the obtained 't' value ($t_{39}=23.79$) is higher than the table value ($t_{39}=2.02$, $p \leq 0.05$). The findings are highly significant and it can be inferred

that planned teaching programme regarding breast self-examination was highly effective in improving the knowledge of women regarding breast self-examination.

Therefore the null hypothesis (H_{01}) is rejected and research hypothesis is accepted.

Section IV: Association between pre-test level of knowledge and selected demographic variables

To test the significant association between pre-test level of knowledge and selected demographic variables, the

following null hypothesis was formulated:

H_{02} : There will be no significant association between pre-test level of knowledge and selected demographic variables such as age, marital status, occupation, education, at 0.05 level of significance. Chi-square using Yates correction formula was computed to test the hypothesis and is presented in Table 8

Table 8: Association between pre-test knowledge score of Sri Shakthi group women and selected demographic variables n=40

Sl. No.	Variable	< Mean	≥Mean	χ^2	Significance
1	Age in years			2.19	Not significant
	20-30 years	1	2		
	31-40 years	5	5		
	41-50 years	9	4		
	51-60 years	10	4		
2	Marital status			0.5	Not significant
	Married	23	13		
	Unmarried	2	2		
3	Occupation			0.327	Not significant
	Employed	14	7		
	Unemployed	11	8		
4	Education			2.597	Not significant
	Primary	12	5		
	Middle school	10	6		
	Higher Secondary	3	3		
	Graduate	0	1		

The data in above Table shows that Chi-square values computed to find out the association of the pre-test knowledge score with selected demographic variables like age ($\chi^2=2.19$), marital status ($\chi^2=0.5$), occupation ($\chi^2=0.327$) and education ($\chi^2=2.597$) are not significant at 0.05 level of significance. The calculated Chi-square values are less than the table value at one degree of freedom (Table value: $\chi^2=3.84$, $p<0.05$). Therefore the null hypothesis (H_{02}) is accepted and the research hypothesis is rejected. Hence it is inferred that there is no significant association between pre-test level knowledge score and selected demographic variables such as age, marital status, occupation and education.

Conclusion

Breast self-examination is the recommended method in developing countries because it is easy, convenient, private, and safe and requires no specific equipment. Its purpose is to make women familiar with both the appearance and feel of their breasts as early as possible, so that they will be able to easily detect changes in their breast. A positive association exists between the performance of BSE and detection of breast cancer and most of the early breast tumour detection has been self-discovered. Early detection plays an important role in reducing mortality rates and improving prognosis. There are three recommended screening methods for early detection of breast cancer; mammography, clinical breast examination and breast self-examination (BSE). The goal of health care system should be to make women aware of the various screening methods of breast cancer and to upgrade their knowledge about the warning signs of breast cancer.

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