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A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Breast Cancer and its Preventive Aspects among Woman at Selected Rural Area, Indore

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ABSTRACT

Breast cancer is a global health problem and also the leading cause of death in low resourced countries. It is the second leading cause of cancer deaths in India. The objective of this study was to determine the effectiveness of Structured Teaching Programme (STP) on knowledge regarding breast cancer and its preventive aspects among women in a selected rural area of Indore. A total of 50 women participated, and data were collected using a self-structured questionnaire before and after the intervention. Findings revealed a significant improvement in knowledge levels post-intervention: prior to the STP, 60% of participants demonstrated inadequate knowledge, while only 8% had adequate knowledge; following the STP, 78% achieved adequate knowledge. The mean knowledge score increased from 9.4 (SD = 3.96) to 16.86 (SD = 2.158), with a statistically significant t-value of 10.528 ($p < 0.05$). Demographic factors such as education and occupation showed a notable influence on knowledge gains. The study concludes that structured educational interventions are effective in enhancing awareness and preventive knowledge of breast cancer among rural women, emphasizing the importance of integrating such programs into community health services to promote early detection and reduce mortality.

KEYWORDS: *Breast cancer, Breast Self-Examination, Structured Teaching Programme.*

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INTRODUCTION

Cancer has become the major health problem in developing countries with about 6, 90, 000 cases. Breast cancer is the second leading cause of cancer death among women [(1)]. 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) [(2).] The cancer risk factors include age, family history, parity, age of menarche and menopause, hormonal factors, diet, socio economic status, modern life style and lack of knowledge regarding preventive measures[(1)].

Breast cancer is a global health issue and a leading cause of death among women internationally. It is the most common female malignancy in the world. Globally it accounts for 22 percent of all new cancers diagnosed in women. In the developing countries cancer ranks third as a cause of death and accounts for 9.5 percent (3.8 million) of all deaths [(3)]. It represents 7 percent of more than 7.6 million cancer-related deaths worldwide (NCI, 2010)[(4)].

Breast cancer is now the most common cancer in Indian women having recently overtaken cervical cancer. According to health ministry of India breast cancer ranks as the number one cancer among Indian females with rate as high as 25.8 per 100,000 women and mortality of 12.7 per 100,000 women[(5)]. 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 with breast cancer, a preventable disease [(2).] Now we are witnessing more and more numbers of patients being diagnosed with breast cancer to be in the younger age groups (in their thirties and forties). Breast cancer accounts for 19 - 34 percent of all cancer cases among women in India

(ICMR 2005) [4]. In India Arecent report published by NCRP (National cancer registry program) estimates that the number of cancer cases is likely to increase to 15.7 lakhs in 2025. Breast cancer can become a major health concern across Indian cities, especially in the metro Politian cities like Delhi, Bangalore and Chennai [1].

The early detection can reduce the risk of the disease. The knowledge of the risk factors of breast cancer is very important in the prevention of the disease. Owing to the lack of awareness of the disease and in absence of a breast cancer screening program, the majority of breast cancers are diagnosed at a relatively advanced stage [1].

The most effective way to detect breast cancer is by mammography screening. When breast cancer is detected in its early stages, chances for surviving the disease are greatly improved. Yet many factors that predispose women to the development of cancer will have been laid down before menopause in these genetic makeups or during adolescent year and to give women advised tailored to their own individual risk level. Life style change such as exercise; might reduce the risk of breast cancer. Breast density is strong risk factor for breast cancer [6].

Breast self-examination (BSE) is a tool that can be carried out by women themselves and women become familiar with both the appearance and the feel of their breast and detect any changes in their breasts as early as possible. 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 self-examination is a third component of breast cancer screening programs. The other two components are mammography and physical examination. Breast self-examination is a low cost, useful screening tool. It is a step-by-step method women can use to examine their breasts. However, because more than 40% of breast cancers are detected by the woman herself, self-examination remains an important component of any screening program [7].

Nurses are playing a pivotal role in teaching the patient to identify the problems. Breast self-examination is that should be perfect for nurses who can promote monthly breast self-examination by supporting realistic believes about screening and cancer as well as demonstrating breast self-examination so that they can do it themselves without consulting physician [8].

Objectives

1. To assess the knowledge regarding breast cancer and its preventive aspects among woman at selected rural area Indore
2. To find out the effectiveness of STP regarding breast cancer and its preventive aspects among woman on Attitude score.
3. To determine the association between knowledge on breast cancer and its preventive aspects among selected demographic variables.

Materials and Methods

A pre-experimental study with one group Pre-and Post-Test design was conducted to assess Effectiveness of STP on knowledge regarding breast cancer and its preventive aspects among woman at selected rural area Indore. A self-structured questionnaire was developed in Hindi and English. The questionnaire was divided into two parts i.e., first part questions were related to Bio – demographic data and the second part questions were related to knowledge on breast cancer and its preventive aspects. The total questions were 20 and the maximum score was 20 for knowledge. To interpret the level of knowledge, the score was distributed as a) 0 – 10 poor knowledge b) 11 – 15 moderate c) 16 – 20 Adequate.

Table: 1 Frequency and percentage distribution of respondents according to demographic variables.

S. No	Demographic Variable	Category	No	Percentage	P- Value	Chi Square
1	Age	20 - 25	11	22	0.52	5.216
		26 - 30	18	36		
		30 - 35	13	26		
		36 and above	8	16		
2	Religion	Hindu	39	78	0.061	12.02
		Muslim	7	14		
		Christian	2	4		
		Others	2	4		
3	Education	Uneducated	2	4	0.095	10.809
		Primary School	12	24		
		High School	30	60		
		High.Sec and above	6	12		

4	Food Pattern	Veg	8	16	0.783	0.492
		Mixed	42	84		
5	Occupation	Agriculture	24	48	0.083	8.33
		Employee	12	24		
		Housewife	14	28		
6	Type of Family	Joint	16	32	0.832	0.3672
		Nuclear	34	68		
7	Family History of Cancer	Yes	9	18	0.485	1.44
		No	41	82		

The above table shows the percentage distribution of respondents according to the demographic variables. In the age group, majority of respondents were in the 26–30 years age group (36%), followed by 30–35 years (26%), 20–25 years (22%), and 36 years & above (16%). In the category religion, most participants were Hindu (78%), followed by Muslim (14%), Christian (4%), and Others (4%). When coming to the educational status most respondents had high school education (60%), followed by primary school (24%), higher secondary and above (12%), and uneducated (4%). In food pattern majority followed a mixed food pattern (84%), while 16% were vegetarians. In demographic variable occupation almost half of the participants were involved in agriculture (48%), followed by housewives (28%) and employees (24%). In type of family most respondent's belonged to nuclear families (68%), and 32% were from joint families. In the category family history of cancer, a small portion reported a family history of cancer (18%) and remaining portion (82%) do not have a family history of cancer.

Table 2: Analysis of effectiveness of STP on knowledge regarding Breast cancer and its preventive aspects

S. No	Domain	Knowledge regarding Breast self-examination			
		Before STP		After STP	
		No	%	No	%
1	Inadequate Knowledge	30	60	2	04
2	Moderate Knowledge	16	32	9	18
3	Adequate Knowledge	04	08	39	78
4	Over all	**50**	**100**	**50**	**100**

Interpretation:

- Before the STP, a majority of participants (60%) had inadequate knowledge of cancer and breast self-examination, 32% had moderate knowledge and only 8% had adequate knowledge.
- After the STP, there was a marked improvement in knowledge:
- Only 4% remained in the inadequate category,
- 18% had moderate knowledge, and
- 78% demonstrated adequate knowledge.

This shift from lower to higher knowledge categories indicates a significant improvement in the participants' understanding the knowledge regarding breast cancer and breast self-examination following the Structured Teaching Programme.

Table 3: Mean, SD and mean score percentage of knowledge regarding Breast cancer and its preventive aspects.

S. No	Variable	Max Score	Before STP			After STP			t value	Df
			Range	Mean	SD	Range	Mean	SD		
1	Knowledge	20	3 - 18	9.4	3.96	6 - 20	16.86	2.158	10.528	98

Interpretation:

- The mean knowledge score before the STP was 9.4 (SD = 3.96)**,** with a range of 3 to 18**.**
- The mean score after the STP increased **to** 16.86 (SD = 2.158)**,** with scores ranging from 6 to 20.
- The computed t-value was 10.528 with df 98**,** indicating a statistically significant improvement in knowledge following the educational intervention.

Discussion

The present study aimed to assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding breast cancer and its preventive aspects among women in a selected rural area of Indore using a one-group pre-test and post-test design. The findings revealed a significant improvement in participants' knowledge after the implementation of the STP.

Before the intervention, the majority of women (60%) demonstrated inadequate knowledge of breast cancer and breast self-examination (BSE), while only 8% had adequate knowledge. These results highlight a significant knowledge gap in rural populations, likely due to limited access to health education and awareness initiatives. Similar findings were reported by Bansal *et al.*[9], who observed low baseline knowledge of breast cancer among rural women in India, emphasizing the need for structured educational interventions.

Following the STP, there was a marked improvement in knowledge levels: 78% of participants achieved adequate knowledge, 18% demonstrated moderate knowledge, and only 4% remained in the inadequate category. The mean knowledge score increased significantly from 9.4 (SD = 3.96) to 16.86 (SD = 2.158), with a statistically significant t value of 10.528 (df = 98, $p < 0.05$). This substantial gain in knowledge demonstrates the effectiveness of the structured teaching program in enhancing awareness and understanding of breast cancer and its preventive practices.

The findings are consistent with a study by Sharma *et al.*[10], who found that targeted educational interventions significantly improved knowledge and attitudes regarding BSE among women in rural settings. Similarly, a study by Gupta *et al.*[11] reported that health education programs conducted through interactive methods improved women's knowledge, attitude, and practice related to breast cancer screening in underserved areas.

The effectiveness of the STP may be attributed to the use of a culturally appropriate, bilingual (Hindi and English) questionnaire and content delivery tailored to the literacy levels of the participants. This is crucial in rural settings where educational attainment may be limited, as shown in the current study where 28% of respondents had primary education or were uneducated.

Demographic analysis revealed that education and occupation had a noteworthy distribution across knowledge levels. Participants with higher levels of education tended to perform better in the post-test, underscoring the positive correlation between educational attainment and health literacy, as supported by Das *et al.* [12], who emphasized education as a significant predictor of health awareness in women.

Despite the positive outcomes, certain limitations must be acknowledged. The study used a single-group design without a control group, which may limit the generalizability of findings. Moreover, the sample was restricted to a single rural area, which may not reflect the knowledge levels of women in other rural or urban areas. Future studies with larger sample sizes and randomized controlled trials are recommended to validate these findings and explore long-term retention of knowledge.

Conclusion

The results of this study demonstrate that the Structured Teaching Programme is highly effective in improving knowledge about breast cancer and its preventive aspects among rural women. Such educational interventions should be integrated into primary health care services to promote early detection and prevention of breast cancer, especially in resource-limited settings.

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