

Do We Need To Promote Breast Self -Examination In Rural Communities?

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I. Introduction

Cancer is one of the leading causes of mortality and morbidity in developed as well as developing countries. Breast cancer affects so many lives today. It is vital for women and men to understand the key factors about the disease, especially risk factors and methods of early detection. But how much do the rural women know about these aspects of breast cancer. The most cost effective and convenient method of detecting breast cancer is BSE. Keeping in this mind a study was conducted to determine the effectiveness of a planned teaching programme on 'prevention of breast cancer' among women of a selected village of Udupi District of Karnataka.

II. Materials and methods:

The study adopted evaluative approach using one group pretest post- test design, and was conducted among 50 rural women who were purposively selected following a need based survey who had low knowledge scores on breast cancer. Valid and reliable ($r = 0.83$) knowledge questionnaire and a checklist on breast self- examination ($r = 1$) was used to gather the data. The objectives of the study were to find the effectiveness of planned teaching program in terms of gain in knowledge and improvement in ability to perform BSE, find the relationship between pre-test and post-test knowledge scores and ability to perform BSE, find the association between pre-test knowledge scores on breast cancer and selected variables, and find the association between pre-test performance ability of BSE scores and selected variables.

Pre- test breast self- examination and training of breast self- examination was done on a mannequin, which was prepared by the investigator. The mannequin had inbuilt lumps with different colored press bulbs. When the participants firmly palpate the lump, the press bulb would glow. At same time the investigator also can rectify it by the presence of glowing light rather only depending on the participants' verbal response of palpating the lumps. The post - test return demonstration of breast self- examination was done on the participants own breast.

III. Results:

The study finding revealed that 50% belonged to the income group of 3001- 4001, their occupations were as follows; house wives were 48%, house maids were 34%. Among the samples 40% belonged to the age group of 30-39, 36% were in the age group of 40-49, and 26% were in the age group of 50- 60. Their educational status were 44% had lower primary (1-4 standard), 30% had upper primary (5-7 standard), 16% had higher secondary (8-10 standard), and 10% were graduates. All of the samples were married. Majority (54%) of them regularly and 46% of them occasionally obtained the health related information from newspaper or magazines. Pre-test knowledge score were; 10% of them were in the range of 0-2, 18% were 3-5, 42% of them were 6-8, 20% of them were in the range of 9-11, 10% of them were in the range of 12-14. Where as post- test knowledge scores revealed that 52% were in the range of 18-20, 32% were in the range of 15-17, 8% of them were in the range of 12-14. The pre – test knowledge scores range (3-14), mean (7.06) and median (7.01), where as the post-test knowledge scores range (12-23), mean (17.86), median (18.07).

Area wise knowledge scores actual and modified gain of knowledge on eight areas were as follows; on incidence of breast cancer mean pretest knowledge percentage was 13, post test mean percentage was 87, actual gain percentage was 74, modified gain percentage was 0.85, Structure of breast was pretest mean was percentage 37, post test mean percentage was 80, actual gain was 4 percentage 3, modified gain percentage was 0.68, in causes of breast cancer pretest knowledge mean percentage was 37.2, where as post test mean percentage was 70, actual gain was 3 percentage 2.8, modified gain was percentage 0.52. In warning signs of breast cancer pre-test mean knowledge percentage was 29, where as post test mean knowledge percentage was 71.5 percentage, actual gain was 42.5 percentage, modified gain percentage was 0.60, in early detection of breast cancer pre-test mean knowledge percentage was 41, where as post test mean knowledge percentage was 81 percentage, actual gain was 48 percentage, modified gain percentage was 0.68. Treatment pre-test mean knowledge percentage was 16, where as post test mean knowledge percentage was 64 percentage, actual gain was 48 percentage, modified gain percentage was 0.57, Prevention of breast pre-test mean knowledge percentage was 33.3, where as post test mean knowledge percentage was 84.7 percentage, actual gain was 51.4

percentage, modified gain percentage was 0.57, in breast self examination pre-test mean knowledge percentage was 45.5, where aspost test mean knowledge percentage was 78percentage, actual gain was 45.5 percentage, modified gain percentage was 0.67.

Table 1 : Frequency and percentage distribution of Women by sample characteristics (N=50)

Sl. No	Sample Characteristics	f	%
1	Age in Years		
	30-39	20	40
	40-49	18	36
	50-60	12	24
2	Educational Status		
	1-4	22	44
	5-9	15	30
	8-10	8	16
	11-12	00	00
	Graduates	5	10
3	Marital Status		
	Married	50	100
	Unmarried	00	000
4	Occupation		
	House Wives	24	48
	House Maids	17	34
	Coolie	4	8
	Teachers	5	10
5	Monthly Income		
	500-1000	0	0
	1001-2000	4	8
	2001-3000	9	18
	3001-4000	25	50
	4001-5000	7	14
	> 5000	5	10
6	Read health related programme (HRP) on news paper or magazines		
	Regular		
	Occasional	00	00
	Never	27	54
		23	46

Table 2 : Range mean, median and of pre-test and post test knowledge scores (N=50)

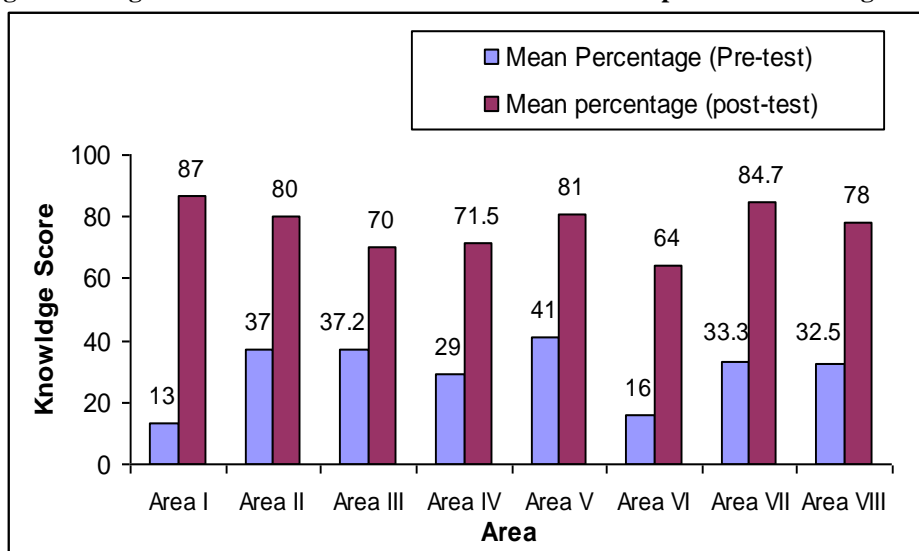
Sl.No		Range	Mean	Median
1	Pre-test	3-14	7.06	7.01
2	Post-test	12-23	17.86	18.07

Possible Maximum Score : 24

Table 3 : Area wise Mean percentage, pretest and post- test knowledge scores actual and modified gain of knowledge of eight areas of planned teaching program (N=50)

Sl No	Area of Knowledge	Mean Percentage		Actual gain Score	Modified gain Score
		Pre-test	Post-test		
1	Incidence of breast cancer	13	87	74	0.85
2	Structure of breast	37	80	43	0.68
3	Causes of breast cancer	37.2	70	32.8	0.52
4	Warning signs of breast cancer	29	71.5	42.5	0.60
5	Early detection of breast cancer	41	81	40	0.68
6	Treatment	16	64	48	0.57
7	Prevention of breast Cancer	33.3	84.7	1.4	0.77
8	Breast Self-Examination	32.5	78	45.5	0.67

Fig.1 Bar diagram on area-wise distribution of Pre-test and post-test knowledge scores



Area I : Incidence of breast cancer

Area II: Structure of breast

Area III : Causes of breast cancer

Area IV : Warning signs of breast cancer

Area V : Early detection of breast cancer

Area VI : Treatment

Area VII : Prevention of breast cancer

Area VIII : Breast Self Examination

Pre-test and post-test ability to perform Breast self- examination:

Pretest was ability to perform breast self-examination was done on the mannequin and the post test was done on participants' own breast. Pre- test ability to perform BSE range was 0-5, mean was 1.72, median was 2, where as post test range was 6-20, median was 12.64, median was 13.32. Distribution of mean percentage scores in ability to perform BSE showed in the area of inspection pre-test mean ability was 0 percentage where as post-test ability was 16.6, actual gain was 16.6 percentage, modified gain percentage was 0.17. In the area of palpation pre-test mean ability was 7.78 percentage whereas post-test ability was 59.96, actual gain was 51.78 percentage, and modified gain percentage was 0.56. In the area of detection of lumps pre-test mean ability was 12.5 percentage where as post-test ability was 80.5, actual gain was 68 percentage, modified gain percentage was 0.78. Among the 50 participants 4 (8%) reported had abnormal findings, among them one was detected with lump, other three reported to have severe pain while palpating.

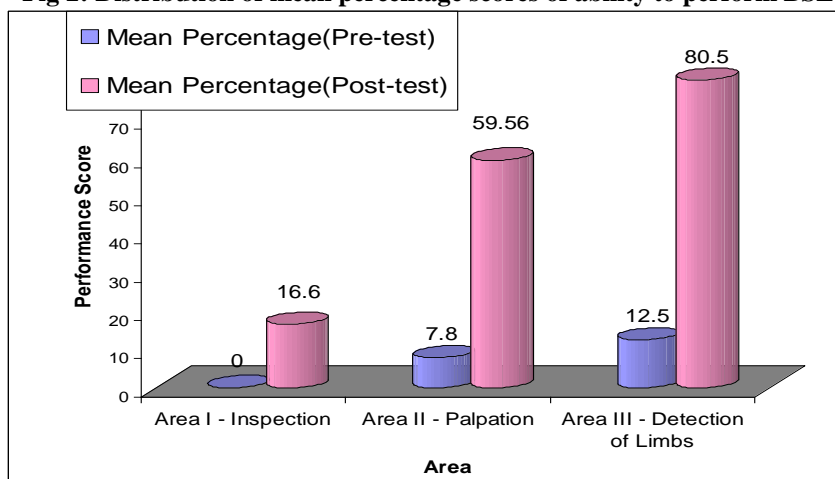
Table 4 :Mean median range and of pre-test and post-test ability to perform BSE (N=50)

Sl.No		Range	Mean	Median
1	Pre-test	0-5	1.72	2
2	Post-test	6-20	12.64	13.32

Table 5 : Distribution of mean percentage scores in ability to perform BSE (N=50)

Sl. No	Areas of Performance	Mean Percentage Score		Actual gain	Modified gain
		Pre-test	Post-test		
1	Inspection	0	16.6	16.6	0.17
2		7.78	59.56	51.78	0.56
3		12.5	80.5	68	0.78

Fig 2: Distribution of mean percentage scores of ability to perform BSE



Effectiveness of planned teaching program

The t value (16.31) computed between the mean pre-test (7.06) and post-test knowledge scores (17.86) of woman on breast cancer, prevention and BSE was significantly higher than the table value $t(49)$ 2.01 at 0.05 level. Whereas the mean post-test ability to perform BSE score (12.64) was evidently higher than the mean pre-test ability to perform BSE score (1.72) the t value was computed between pre-test and post-test ability to perform BSE scores. The t value given in table (8.8) shows that t value was significant which is higher than the table value $t(49)$ 2.01 at 0.05 level. Thus it can be interpreted that the teaching program was effective in improving the knowledge scores on breast cancer, prevention and breast self-examination.

Table 6 : The t value computed between the mean pre-test and post-test knowledge scores of woman an breast cancer, prevention BSE

	Mean	Mean D	SDD	SEMD	t
Pre-test	7.06				
Post-test	17.86	17	72.86	1.046	*16.306

$t(49) = 2.01$ $P < 0.05$ 2.68 $P < 0.01$ * significant

Table 7 : The t value computed between the mean pre-test and post-test ability to perform BSE scores

	Mean	Mean D	SD D	SE MD	t
Pre-test	1.72				
Post-test	12.64	11	8.755	1.250	*8.8

$t(49) = 2.01$ $P < 0.05$ 2.68 $P < 0.01$ * significant

IV. Relationship between knowledge on breast cancer and ability to perform BSE scores:

The relationship between pre-test knowledge on breast cancer and ability to perform BSE ($r = 0.785$) was significantly higher than the table value $r(48) = 0.273$, $P < 0.05$. Hence it can be interpreted that the knowledge scores breast cancer, prevention and breast self-examination and ability to perform breast self-examination was interrelated.

Table 8 : Relationship between pre-test and post-test knowledge on breast cancer prevention and ability perform BSE scores

S No	Area	r value	df	Significance
1	Pre-test knowledge on breast cancer and ability to perform BSE	0.785	48	S*
2	Post-test knowledge on breast cancer and ability to perform BSE	0.82	48	S*

$r(48) = 0.273$, $P > 0.05$ $r(48) = 0.354$, $P > 0.01$ S* = Significant

Association between pretest knowledge scores, and selected variables.

There was no significant association between pre-test scores of knowledge scores breast cancer, prevention, breast self-examination and the pre-test scores of ability to perform BSE and the selected variables like age, education, occupation, income and exposure to mass media at 0.05 levels of significance. Thus it can be concluded that the knowledge scores of breast cancer, prevention, breast self-examination and the pre-test scores of ability to perform BSE and the selected variables were not interdependent.

Table 9: Association between pre-test knowledge scores and selected variables
(N=50)

Sl. No.	Selected variables	Mdn _{≥ 7}	Mdn _{≤ 7}	χ ²	df	Significance
1	Age 30-44 45-60	13 8	13 6	.01728	1	NS*
2	Education > SSLC < SSLC	9 25	4 12	1.445	1	NS*
3	Occupation Housewife Others	14 10	10 16	2.101	1	NS*
4	Income < 5000 > 5000	14 3	27 6	1.1160	1	NS*
5	Exposure to mass media Awareness to Health related matters Awareness to breast cancer	8	26	.01289	1	NS*
6		4	12	.01289	1	NS*

t (1) = 3.841, P >0.05 NS* = Not significant

V. Conclusion:

The following conclusions were drawn based on the findings from the present study. Interactive method of teaching, individual teaching program with appropriate A.V aids is an effective method in increasing the knowledge and skill. Even after teaching, demonstration, return demonstration and reinforcement the women did not achieve 100% of learning thus results indicates the further need of reinforcement and reminders to ensure that the gain in knowledge and improvement in BSE performance integrate in their day to day life and practice. The enthusiasm, co-operation and interest of the women revealed the indication for a further innovative teaching programs on various health related aspects. Initially they were reluctant to expose, but they were interested to learn. The four participant those who had abnormal findings were referred to the nearby health centers for further evaluation.

VI. Implications:

The interest and the willingness of rural village women showed a strong need for further education programmes. It plays an important role in education for preparing the nurses for the wellbeing of the people at various areas. Nurses should have a thorough of knowledge about prevailing illness and all 3 levels of preventive care. Irrespective of the practice area, the nurses responsibility encompasses prevention detection and rehabilitation. Nursing practice needs to be based on scientific knowledge and evidence. Further studies could be conducted on chronic illness among the rural village women in India.

VII Discussion

Over the years, a variety of methods including mammography, breast ultrasound, magnetic resonance imaging (MRI), clinical breast examinations by a health professional, and breast self-examinations (BSE) have been used to screen for breast cancer. However, none of these screening tests is 100% sensitive in detecting breast cancer. Therefore, it is often recommended that a combination of these techniques be used in the screening process. Opinions vary as to which combinations of screening techniques are the most effective for identifying breast cancer. The BSE is the only procedure that medical clinicians teach their patients (who are often non-medically trained individuals) to perform. Recently, the effectiveness of BSE in detecting breast cancer has been questioned; however, most providers cannot even entertain the idea that BSE may be unnecessary. Hence it can be strongly suggested for the under privileged populations.

Breast Model And Steps Of Breast Self Examination

Model Prepared By : Ms Daisy Josphine Lobo, Associate Professor Manipal College of Nursing Manipal ,Manipal University

1. Stands erect or sits in front of the mirror.



2. Undress up to the waist.



3. Looks at the breast, keeping arms at the



4. Looks at the breast keeping arms raised overhead, presses



5. Looks at the breast keeping the palms on the hip and presses downwards



6. Looks at the breast keeping arms at side and leaning forward



7. Lies down and centralizes the nipple by folded towel under the Right / Left shoulder.



8. Keeps the Right /Left hand behind the head



9. Flattens the fingers of the Right / Left hand.



10. With the finger pads presses gently and firmly from the nipple to outer border of the Right / Left breast in a circular motion.



11. Feels every part of the breast includes up towards the collar bone into the armpit.



12. Encircles every part of the breast sternal border and axilla.



13. Moves finger pads continuously till one breast is over



14. Squeezes the nipple of breast gently between the thumb and the index finger.



15. Checks the other breast also in the same manner.



Right- Lower



Detects the lumps in the breast model



Left – Upper



Right Upper



Left- Lower



Reference

- [1]. Tiffany L, Brittany J. Van G, Debra J. Barksdale, Regina Mc, The Breast Self-Examination Controversy: What Providers and Patients Should Know. *The Journal of Nurse Practitioner*, 6(6), 2010 June, Pages 444–451.