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Effectiveness of planned teaching programme on Knowledge of early detection of breast cancer among Anganwadi teachers in selected Anganwadi's of Maharashtra

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Abstract

Breast cancer is ranked the number one cancer among Indian women with a rate as high as 25.8 per 1, 00,000 women and mortality of 27.7 according to health ministry report 2017. Medical advances have shown that one third of all cancers are preventable and a further one third, if diagnosed sufficiently early, is potentially curable. This observation demands that cancer control should be of increasing priority in the health care programms of developing countries. One potentially important strategy in reducing breast cancer mortality is the use to achieve earlier detection of cancer. The main methods of screening involve mammography, clinical breast examination (CBE), and breast self examination (BSE). Despite the advent of modern screening methods, more than 90% of cases of cancers of the breast are detected by women themselves, stressing the importance of breast self examination. Planned teaching programm is one of the methods through which awareness can be created among women regarding early detection of breast cancer.

This study was conducted to find the "Effectiveness of planned teaching programme on Knowledge of early detection of breast cancer among Anganwadi teachers in selected Anganwadi's of Maharashtra.

Keywords: Effectiveness; Planned Teaching Programme; Knowledge; Early Detection; Breast Cancer; Anganwadi Teachers

1. Introduction

A women's journey in life is punctured by many milestones; Childhood, puberty, matrimony, pregnancy, childbirth, motherhood and each milestone special in its own way. The female reproductive system includes the external genital organs and the internal reproductive organs and breast is the one of the external genital organs. The female breasts contain the mammary gland, which secrete milk. Although the primary function of the breasts is production of milk, the female breasts play an important part in the female sexual behaviour; Stimulation of the female breasts enhances the sexual pleasure of women. However breast can become a source of malaise, soreness and discomfort.

Breast cancer is a cancer that starts, usually in the inner lining of the milk ducts or lobules. There are different types of breast cancer, with different stages of spread, aggressiveness and genetic makeup. Breast cancer is defined as a group of malignant diseases that commonly occur in the female breast and infrequently in the male breast.

Breast cancer is overwhelming diseases of female. According to a study by international agency for Research on Cancer, there will be approximately 250,000 new cases of breast cancer in India and approximaltely1, 02,377deaths reported in India in the year 2024. The number of breast cancer cases is projected to continue with an rising incidence in the future and significantly mortality with advanced stages (3&4) due to poor screening leading to lower survival rates around 60%.This study is aimed to bring about an awareness among women regarding the early detection of breast can with simple method of self breast examination.

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2. Review of Literature

2.1. Literature related to knowledge of breast cancer and early detection

A cross sectional survey was conducted to determine the level of knowledge about risk factors for breast cancer screening behaviours among 468 female teachers in Sivas, Turkey. A self administered questionnaire was used for data collection. The study revealed that up to one- half (54, 4 %) of the teachers thought that they had enough knowledge about breast cancer. . Among the total participants 58.5% of the teachers had a sufficient knowledge level about breast cancer risk factors and 43. 9% had performed breast self examination; yet only 10.5% of them performed it monthly. Only 22.3% of the teachers having at least one clinical breast examination. Among the 136 women over the age of forty years, only 37.5% had at least one Mammogram. This study revealed a relatively low awareness about the knowledge and practice of screening method among teachers. The relatively low rates of breast self examination, clinical breast examination, and mammography practiced by this group of teachers are of concern and suggest that increased awareness of these methods, their value, and how they should be conducted is needed.

2.2. Literature related to planned educational programme on breast cancer

A study was conducted to assess the effect of planned teaching programme regarding breast cancer and breast self examination among working women in the age group of 20-45 years in Pune city. A non probability convenient sampling technique was used for the study. The data was collected by structured knowledge questionnaire Data was interpreted in frequency, percentage, mean, standard deviation and 't' test. The finding of the study revealed the mean pre-test knowledge on breast cancer and breast self examination was 7.5 and in post test 13, 5. The study concluded by stating that the planned teaching on breast cancer and breast self examination was found to be effective in increasing the knowledge of women. Planned teaching in the form of mass education is an effective method of educating the working women.

2.3. Statement of the problem

"Effectiveness of planned teaching programme on Knowledge of early detection of breast cancer among Anganwadi teachers in selected Anganwadi's of Maharashtra.

Objectives of the study

- Determine the level of knowledge on early detection of breast cancer among school teachers using structured knowledge questionnaire
- Find the effectiveness of planned teaching programm on early detection of breast cancer among school teachers in terms of gain in knowledge score
- Find the association between the mean pre test knowledge score and selected baseline characteristics (Age, marital status , number of children if married and previous source of information)

2.4. Assumptions

The study means that:

- Anganwadi teachers have some knowledge on early detection of breast cancer
- Anganwadi teachers are able to communicate information on early detection of breast cancer.

2.5. Research approach

This study was used to test the effectiveness of planned teaching programme on knowledge of early detection pf breast cancer among Anganwadi teachers.

2.6. Research design

Pre experimental one group pre-test post test design (O_1 X O_2) was adopted for the study. This can be represented as

Subject	Pre-test	Treatment	Post-test
Anganwadi teachers working in selected anganwadi	O_1	X	O_2

2.7. Population

This present study the accessible population consisted of all the Aganwadi teachers between the age group of 21- 50 years working different Aganwadi's of Maharashtra

2.8. Sampling Technique

The sample in this study was selected by purposive sampling technique. Purposive or judgmental sampling is a method of non-probability sampling in which the researcher's knowledge about the population can be used to hand-pick the sample members. Here, the researcher might purposively decide to select subjects who are judged to be typical of the population. In the present study the sample consisted of 60 Aganwadi teachers who meet the inclusion criteria

2.9. Sapling criteria

Inclusion criteria

- Anganwadi teachers who are willing to participate
- Teachers between the age group of 21 – 60 years.
- Anganwadi teachers as fulltime employees.

2.10. Data Collection Instrument

A structured questionnaire was method of gathering self report information from respondents through self administration of questionnaire in a paper and pencil format.

2.11. Hypothesis

All hypotheses were tested at 0.05 level of significance,

- H_1: There will be significant difference between the mean pre-test and post-test knowledge score on early detection of breast cancer among Anganwadi teachers
- H_2 : There will be significant association between the mean pre-test knowledge score and selected baseline characteristics(age, marital status, number of children and previous scouse of information)

2.12. Baseline characteristics

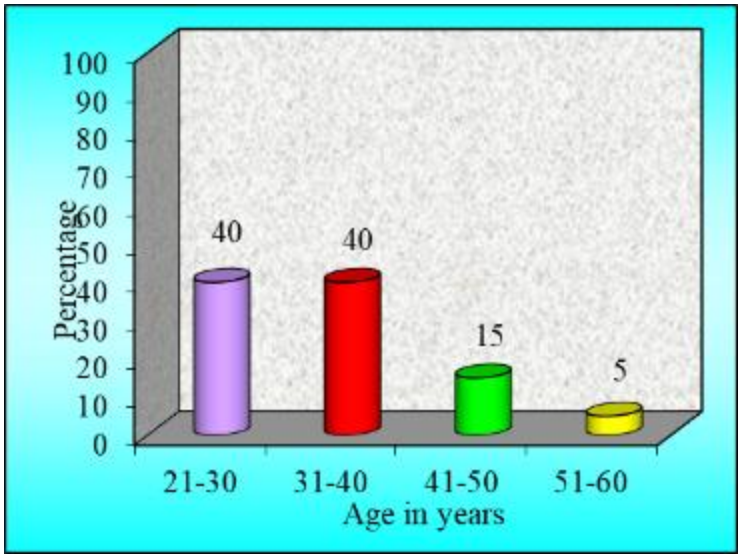

Figure 1 Percentage distribution of Anganwadi teachers according to their age

Data presented in figure 5 represents that 40% of the teachers were between the age group of 21 to 30 and an equal proportion of 40% were found even in the age group of 31 to 40 years whereas 15% were in the age group of 41-50 years and the least (5 %) of them belonged to the age group of 51- 60 years of age.

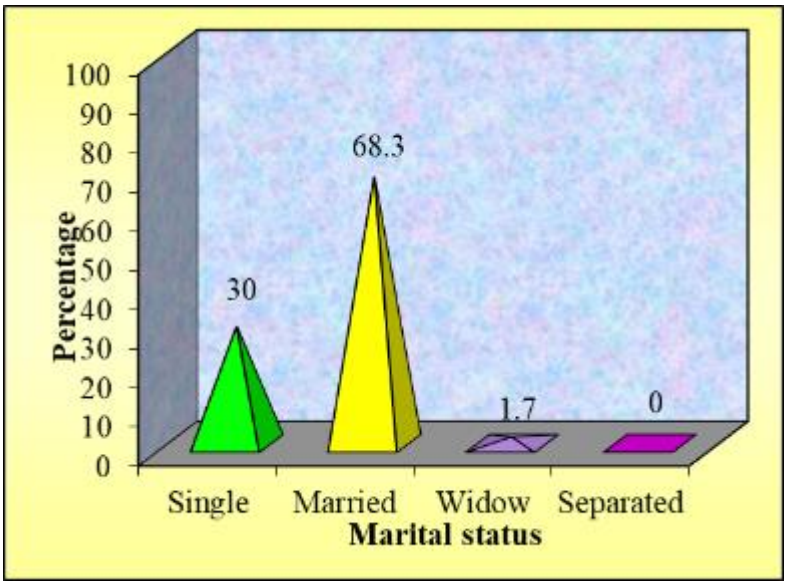

Figure 2 Percentage distribution of Anganwaddi teachers according to their marital status

Data presented in Figure 6 shows that majority (68.3%) of the teachers were married, while 30 % were single, whereas 1.7% were widows and none of them were living separately.

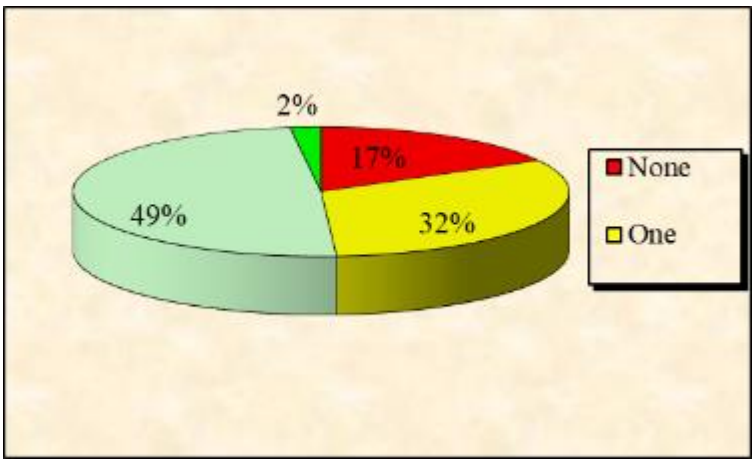

Figure 3 Percentage distribution of Anganwadi teachers according to the number of children

Data presented in Figure 7 depicts that among the married teachers majority (49.0%) of the teachers had two children, and 32% of them had one child, whereas 17% did not have children, and least(2%) of them had three children and above.

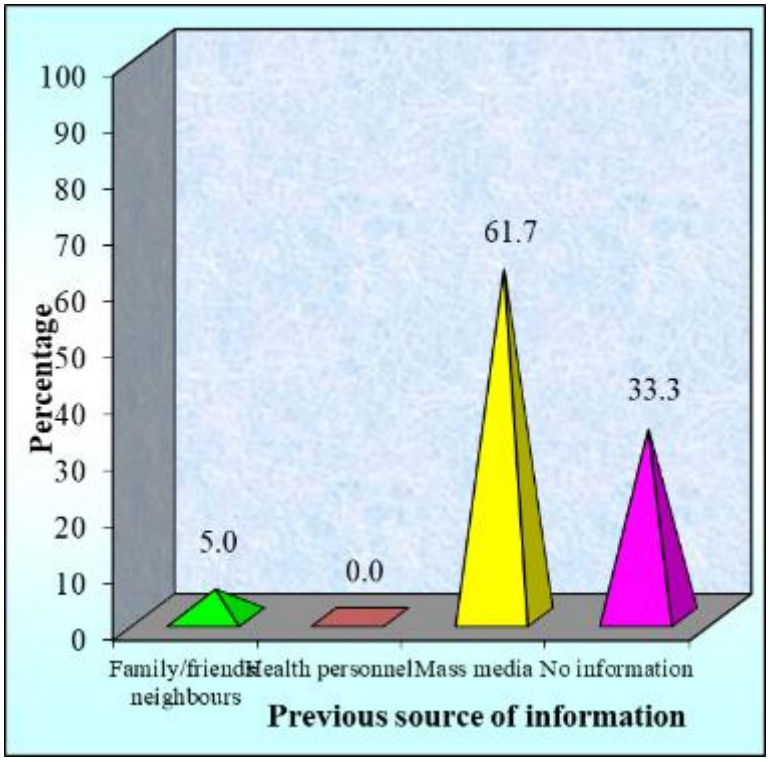

Figure 4 Percentage distribution of Anganwadi teachers according to the previous source of information

Data presented in figure 8 denotes that majority (61.7%) of the teachers received information from mass media, whereas 5% of them had information from the family members, friends and neighbours, while 33.3% of them had no previous information, and no teacher received information from the health personnel.

3. Analysis of pre-test knowledge level of Anganwadi teachers on early detection of breast cancer

3.1. Assessment of the of existing knowledge level of Anganwadi teachers

Existing knowledge of the Anganwadi teachers on early detection of breast cancer was assessed using structured knowledge questionnaire. The total knowledge score obtained was arbitrarily graded.

Table 1 Assessment of the level of knowledge of Angnwadi teachers on early detection of breast cancer

		n= 60	
Grading of knowledge level	**Percentage of scores**	**Frequency**	**Percentage**
Poor (0-12)	0-40	27	45. 0
Average (13-18)	41-60	31	51.7
Good (19-24)	61-80	2	3.3
Very good (25-30)	81-100	0	0.0

Assessment of the level of knowledge of Anganwadi teachers on early detection of breast cancer revealed that majority 31 (51.7%) of the teachers had average knowledge, and 27 (45%) of the teachers had poor knowledge, whereas 2 (3.3%) of the teachers possessed good knowledge and no one possessed very good knowledge.

3.2. Area-wise analysis of knowledge level of teacher

Table 2 Description of area-wise mean, SD, mean percentage knowledge score n=60

Sl. No.	Knowledge Area	Maximum score	Mean	SD	Mean percentage	Level of knowledge
1.	Anatomy of breast and meaning, site of occurrence	7	2.45	1.254	35.00	Poor
2	Risk factors, signs and symptoms	7	2.70	1.331	38.57	Poor
3	Early detection	16	7.33	1.847	45.83	Average
	Overall	30	12.48	3.000	41.61	Average

The data presented in Table 2 indicates that out of 30 maximum possible scores the total mean score was 12.48, which is 41.61% of maximum score. The highest mean percentage (45.83) was found in the area of early detection with mean ± SD of 7.33±1.847 respectively. Area-wise mean percentage knowledge score in the area of anatomy and meaning of breast cancer was 35% with mean ± SD of 2.45 ± 1.254 and in the area of risk factors and signs and symptoms was 38.57% with mean ± SD of 2.70±1.331 respectively.

The findings revealed that the teachers had average knowledge on early detection of breast cancer

3.3. Evaluation of the effectiveness of PTP on knowledge of teachers on early detection of breast cancer

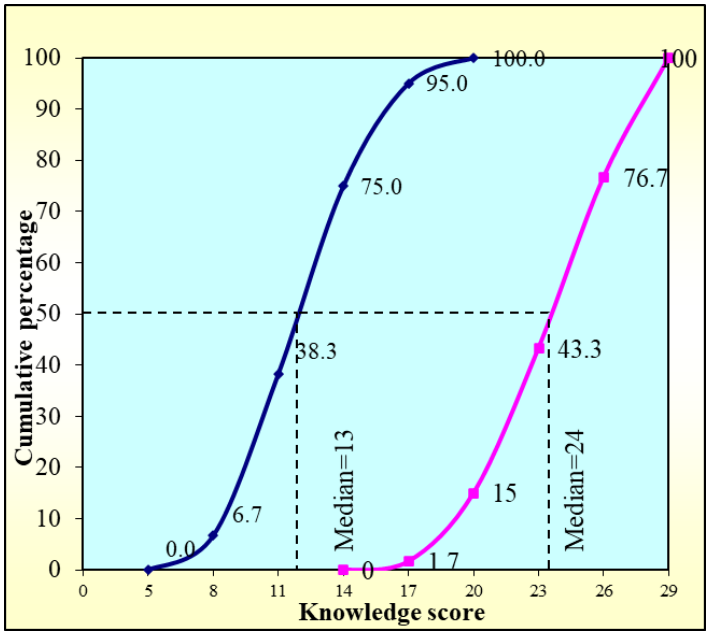

Figure 5 Cumulative frequency percentage distribution of teachers according to their pre-test post-test knowledge scores on early detection of breast cancer

The data in figure 9 shows the cumulative frequency distributions of the pre-test and post-test. The post-test Ogive lies to the right of the pre-test Ogive over the entire range. The data presented in the Ogives show significant difference between pre-test and post-test knowledge scores. The pre-test median score was 13; whereas post-test median score was 24 showing a difference of 11. This indicates that the administration of PTP on early detection of breast cancer was effective.

Table 3 Area-wise effectiveness of planned teaching programme with mean, SD and mean percentage of pre-test post-test knowledge scores of teachers n=60

Knowledge Area	Pre-test(O_1)		Post-test (O_2)		Effectiveness (O_2 - O_1)	
	Mean ± SD	Mean%	Mean ± SD	Mean%	Mean ± SD	Mean%
Anatomy and meaning	2.45 ± 1.254	35	5.38 ± 1.403	76.90	2.93 ± 1.65	41.90
Risk factors, signs and symptoms	2.70 ± 1.331	38.57	5.60 ± 1.224	80.00	2.90 ± 1.36	41.43
Early detection	7.33 ± 1.847	45.83	13.07±1.885	81.67	5.73 ± 2.52	35.83
Over all	12.48± 3.000	41.61	24.05±3.207	80.17	11.57 ±3.71	38.56

Comparison of area-wise mean and SD and mean percentage of the knowledge scores as presented in table 3 and figure 10, shows that in the area of anatomy and meaning the pre-test mean percentage knowledge score was 35 % with mean ±SD of 2.45±1.254. The post-test mean percentage knowledge score was 76.90 % with mean ±SD of 2.93±1.65 showing the maximum increase of 41.90% mean percentage knowledge score of teachers.

In the area of risk factors and signs and symptoms 41.43 increase in the mean percentage knowledge score was observed with 38.57 % in the pre-test and 80% in the post-test respectively. The effectiveness of PTP was 35.83% in the area of early detection of breast cancer with a pre-test mean percentage knowledge score of 45.83 and post-test knowledge score of 81.67 percentages.

However, the result reveals that the overall percentage of post-test knowledge score (80.17) was highly significant compared to the percentage of the pre-test knowledge score (41.61). The findings reveal that there was a significant difference in pre-test and post-test percentage knowledge score with an increase of 38.56%. Hence it is observed that the PTP was effective in improving the knowledge of teachers on early detection of breast cancer.

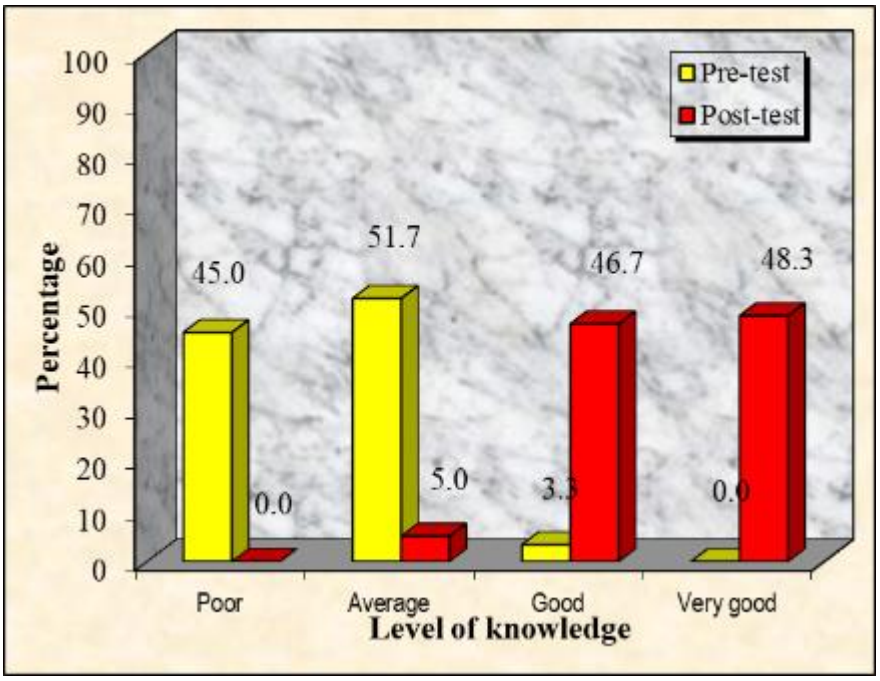

Figure 6 Area-wise percentage distribution of teachers according to their pre-test and post-test knowledge level

Data presented in figure 10 reveals that in the pre-test none of the teachers possessed very good knowledge whereas in the post-test majority (48.3%) of them obtained very good knowledge.

3.4. Testing of hypotheses

To evaluate the effectiveness of the PTP a null hypothesis was formulated.

H_{01}: There will be no significant difference between the mean pre-test and post-test knowledge scores on early detection of breast cancer among school teachers.

The hypothesis was tested using paired 't' test. The value of 't' was calculated to analyze the difference between mean pre and post-test knowledge scores of teachers on early detection of breast cancer.

Table 4 Significant difference between pre-test and post-test knowledge scores n=60

	Range	**Mean**	**Median**	**SD**	**Mean difference**	**'t'**
Pre-test	5-20	12.48	13	3.000	11.57	24.14*
Post-test	15-29	24.05	24	3.207		

t_{59}=1.67, p <0.05 * Significant

Data in table 4 shows that the mean post-test knowledge score (24.05 i.e. 80.17%) was higher than the mean pre-test knowledge score (12.48 i.e. 41.61%). The computed 't' value (24.14) was higher than the table value (1.67) at 0.05 level of significance. Hence the null hypothesis was rejected and research hypothesis was accepted and it was inferred that the mean difference between pre- and post-test knowledge score was statistically significant. This indicates that the PTP was effective in increasing the knowledge of teachers on early detection of breast cancer.

3.5. Association between pre-test knowledge scores and selected baseline characteristics

This section deals with the association between the pre-test knowledge scores and selected baseline characteristics (age, marital status, and number of children if married and the previous source of information). To test the association between the two, chi-square test was computed. To determine the association the following null hypothesis was stated:

H_{02}: There will be no significant association between the mean pre-test knowledge score and selected baseline characteristics (age, marital status, number of children if married and previous source of information)

Table 5 Baseline characteristics n=60

Variable	Knowledge score		χ^2	P value	Inference
	< Median	≥ Median			
Age in years					
21-30	10	14	0.404	0.817	NS
31-40	12	12			
41-60	5	7			
Marital status					
Single/widow	10	9	0.654	0.419	NS
Married	17	24			
Number of children if married					
None	3	4	0.221	0.895	NS
One	6	7			
Two and above	8	13			
Previous source of Information					
Got information	18	22	0.000	1.000	NS
No information	9	11			

Table value 5.99, 3.84; P <0.05 NS= No Singnificance

The data presented in table 5 reveal that calculated chi square values were less than the table value for all the variables. Hence it is inferred that there was no association between the pre-test knowledge score and the selected baseline characteristics. Hence the null hypothesis was accepted for all the baseline characteristics

3.6. Nursing Implementation

Based on the findings of the present study measures can be taken at various levels to improve the Knowledge. One of the most important aim of the nursing research is to contribute for the society with knowledge and service. Educating the Anganwadi workers will help to impart the awareness to women of the different society. This study has highlighted the effectiveness of PPT on early detecting of breast cancer

Limitations of the study

- This study samples were only from Anganwadi teachers
- A structures knowledge questionnaire was used for data collection, which restricts the amount of information that could be obtained from the respondents.
- No attempts were made to have the check of utilization of knowledge

4. Conclusion

In 2022, Breast cancer was diagnosed as 2.3million women worldwide resulting in 670000 deaths. If affects women in every country and can occur at any age after puberty. Breast cancer is the leading cause of cancer related mortality among females. In underdeveloped and developing regions of the world, lack of awareness about breast cancer and facilities for early detection and treatment, results in seeking medical care hence in poorer prognosis. This present study was under taken to evaluate the effectiveness of planned teaching programme on knowledge.

Compliance with ethical standards

Disclosure of conflict of interest

The author declares no conflict of Interest.

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