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Original Article

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Prevention of Breast Cancer and Cervical Cancer among Staff Nurses in National Cancer Institute, Jamtha, Nagpur

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Abstract

Introduction: Breast and cervical cancers are the two most common women's cancers worldwide. Countries have invested for decades in early detection programs for breast and cervical cancer through screening, community education, and opportunistic case detection by health professionals. However, effectiveness in low- and middle-income countries has been limited due to low coverage, insufficient laboratory capacities for diagnosis, health information systems that are not designed to track patients or monitor program performance, barriers that inhibit women's uptake of services, and inadequate treatment options.

Aim: The aim of the study is to assess the effectiveness of structured teaching program on knowledge regarding prevention of breast cancer and cervical cancer among staff nurses in National Cancer Institute (NCI), Jamtha, Nagpur.

Objectives: The objectives of the study were to assess the pre-test knowledge regarding prevention of breast cancer and cervical cancer, to assess the effectiveness of structured teaching program on knowledge regarding prevention of breast cancer and cervical cancer, to assess the post-test knowledge regarding prevention of breast cancer and cervical cancer, and association of knowledge score with selected demographic variables.

Material and Method: The research design used in this study is experimental design. One-group pre-test post-test design is used; the samples were 150 staff nurses which fulfill the inclusion criteria. Setting of the study was NCI, Jamtha, Nagpur.

Conclusion:There was a significant increase in the knowledge of staff nurses after the introduction of structured teaching programme on knowledge regarding prevention of breast cancer and cervical cancer among staff nurses "*t*"-value was applied and "*t*"-value was calculated; post-test score was significant higher at 0.05 level than that of pre-test score. Thus, it was concluded that structured teaching program on prevention of breast cancer and cervical cancer was found effective. Hence, based on the above cited findings, it is clear that the structured teaching programme helped the staff nurses to improve their knowledge regarding prevention of breast cancer and cervical cancer.

Keywords: Assess, breast cancer, cervical cancer, staff nurses

Introduction

Breast and cervical cancers are the two most common women's cancers worldwide. Countries have invested for decades in early detection programs for breast and cervical cancer through screening, community education, and opportunistic case detection by health professionals. However, effectiveness in low- and middle-income countries has been limited due to low coverage, insufficient laboratory capacities for diagnosis, health information systems that are not designed to track patients or monitor program performance, barriers that inhibit women's uptake of services, and inadequate treatment options. Even where some screening

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activities exist, there has not been sufficient attention to ensuring completion of appropriate diagnosis and treatment after women receive a positive screening test result or report symptoms suggesting cervical or breast cancer. Because of this failure to provide adequate follow-up care, these women miss the potential benefit from early detection and have a higher than average risk to develop cancer or progress to more advanced cancer stages that could have been avoided.[1]

Cervical cancer is a deadly disease once it reaches the invasive stages, but out of all the female genital tract cancers, it is the only preventable cancer if detected at its early stages. Population-based screening with Pap smear is an important secondary preventive measure for cervical cancer that leads to a high cure rate among cervical cancer patients. The facilities to carry out Pap smear are available in the institute where the study has been carried out. Furthermore, under the National Cancer Control Programme, screening camps for early detection of cervical cancer are organized in various regions of Gujarat at regular intervals by the Gujarat Cancer Research Institute which is one of the regional cancer care institutes of India.[2]

Problem statement

"A study to assess the effectiveness of structured teaching program on knowledge regarding prevention of breast cancer and cervical cancer among staff nurses in National Cancer Institute (NCI), Jamtha, Nagpur."

Objectives

The objectives of the study were as follows:

- To assess the pre-test knowledge regarding prevention of breast cancer and cervical cancer
- To assess the effectiveness of structured teaching program on knowledge regarding prevention of breast cancer and cervical cancer
- To assess the post-test knowledge regarding prevention of breast cancer and cervical cancer
- Association of knowledge score with selected demographic variables.

Hypothesis

- H0 – There will be no significant difference in pre-test and post-test knowledge score regarding prevention of breast cancer and cervical cancer among staff nurses
- H1 – There will be a significant difference in pre-test and post-test knowledge score regarding prevention of breast cancer and cervical cancer among staff nurses.

Methodology

In this study, descriptive research design was used**.** The samples were 150 staff nurses. Setting of the study was surgical NCI, Jamtha, Nagpur, and sampling technique was non-probability convenience sampling technique. Inclusion criterions staff nurses present at the time of data collection. Exclusion criteria, staff nurses those who are absent were excluded from the study. Structured questionnaire was used to assess the knowledge of staff nurses in NCI. For this study, we have used structured teaching program[3].

Results

The present study has been taken up to the knowledge of the staff nurses in prevention of breast cancer and cervical cancer. Analysis and interpretation are based on the objectives of the study. A structured questionnaire used for data collection.

- According to Table 1, the age in years reveals that majority of the finding 98 (65.33%) were belonging to the 20–30 years and it followed by 34 (22.66%) were belonging to the 31–40 years, 12 (8%) were belonging to the 41–50 years, and 6 (4%) were belonging to the 50 years and above.
- According to Table 1, the gender reveals that majority of the finding 136 (90.66%) belonging to the female and followed by minority of the male 14 (9.33%)
- According to Table 1, the qualification status reveals that majority of the finding 80 (53.33%) were GNM/RGNM and it followed by 44 (29.33%) were ANM nursing, 23 (15.33%) were B.Sc./PBBSc nursing, and 3 (2%) were MSc (Nursing).
- According to Table 1, the marital status reveals that

Table 1: Percentagewise distribution of staff nurses according to their demographic characteristics

Demographic variables	Frequency (n)	Percentage (%)
Age in years		
20–30 years	98	65.33
31–40 years	34	22.66
41–50 years	12	8
50 years and above	6	4
Gender		
Male	14	9.33
Female	136	90.66
Qualification		
ANM	44	29.33
GNM	80	53.33
B.BSC/PBB.SC nursing	23	15.33
M.Sc. nursing	3	2
Marital status		
Married	89	59.33
Unmarried	57	38
Widow	4	2.66
Divorcee	0	0
Separated	0	0
Residential area		
Urban	45	30
Semi-urban	59	39.33
Rural	46	30.66
Years of experience at NCI		
<1 year	15	10
1–2 years	57	38
3–4 years	61	40.66
More than 4 years	17	11.33
Religion		
Hindu	89	59.33
Muslim	0	0
Buddhist	59	39.33
Christian	2	1.33
Other	0	0
Types of family		
Nuclear	81	54
Joint	63	42
Extended	6	4

majority of the finding 89 (59.33%) were married and it followed by 57 (38%) were unmarried, 4 (2.66%) were widow/widower, and 0 (0%) divorced and separated.

- According to Table 1, the residence reveals that majority of the finding 59 (39.33%) were semi-urban, it followed by 46 (33.66%) were rural and it followed by 45 (30%) were urban
- According to Table 1, the year of clinical experience at NCI reveals that majority of the finding 61 (40.66%) were belonging to the 3–4 years, and it followed by 57 (38%) were belonging to the 1–2 years, 17 (11.33%) were belonging to the more than 4 years, and 15 (10%) were belonging to the <1 years.
- According to Table 1, the religion reveals that majority of the finding 89 (59.33%) were Hindu, and it followed by 59 (39.33%) were Buddhist, 2 (1.33%) were Christian, and 0 (0%) were Muslim 0 (0%) were others.
- According to Table 1, the type of family reveals that the majority of the finding 81 (54%) were nuclear family, followed by 63 (42%) were joint family and 6 (4%) were extended family[4].
- According to Table 2 and Figure 1, the findings show that majority of the staff nurses 78 (52%) had average knowledge, and 52 (34.66%) had poor knowledge, 20 (13.33%) of staff nurses had good knowledge, and none of the sample 0 (0%) had very good or excellent knowledge. The mean pre-test score was 15.86 and SD was 3.66.
- The findings show that majority of the staff nurses 75 (50%) had very good knowledge, 59 (39.33%) had excellent knowledge, 16 (10.66%) had good knowledge, and 0 (0%) had poor knowledge and average knowledge. The mean post-test score was 39.98 and SD was 2.47[4].

Significance of difference between knowledge scores in pre- and post-test of staff nurses in relation to the prevention of breast cancer and cervical cancer.

According to Table 3, the overall mean knowledge scores of pre-test and post-test reveal that post-test mean knowledge score was higher 39.98 with SD of ±2.47 when compared with pre-test mean knowledge score value which was 15.86 with SD of ±3.66.

The statistical Student's paired t-test implies that the difference in the pre-test and post-test knowledge score found to be 54.53 statistically significant at 0.05% level. Hence, it is statistically interpreted that structured teaching program on knowledge regarding prevention of breast cancer and cervical cancer was effective. Thus, H1 is accepted and H0 is rejected.

From Table 4, qualification of staff nurses has significant effect on awareness regarding prevention of breast cancer and cervical cancer[4].

All other demographic variables have no significant association of knowledge score of staff nurses in relation to prevention of breast cancer and cervical cancer.

Table 2: Assessment of pre-test and post-test knowledge of staff nurses regarding prevention of breast cancer and cervical cancer

Knowledge score	Score range	Pre-test		SD	Post-test		SD
		F (*n*)	%		F (*n*)	%	
Poor	0-10	52	34.66	3.66	0	0	2.47
Average	11-20	78	52		0	0	
Good	21-30	20	13.33		16	10.66	
Very good	31-40	0	0		75	50	
Excellent	41-50	0	0		59	39.33	

Table 3: Analysis of effectiveness of structured teaching program on knowledge regarding prevention of breast cancer and cervical cancer among staff nurses, *n*=150

Overall	Mean	SD	Mean percentage	*t*-value	*P*-value
Pre-test	15.86	3.66	31.66	54.53	0.0001*HS
Post-test	39.98	2.47	79.96		p<0.05

*HS: Highly significant

Table 4: Association of post-test knowledge regarding prevention of breast cancer and cervical cancer among staff nurses with selected demographic variables, *n*=150

Demographic variables	Df	Chi-square	Level of significance	Significance
Age	6	5.76	*P*=0.45 *P*>0.05	NS
Gender	2	0.002	*P*=0.99 *P*>0.05	NS
Qualification	8	15.25	*P*=0.50 *P*<0.05	Significant
Marital status	6	5.39	*P*=0.49 *P*>0.05	NS
Residential area	6	6.55	*P*=0.36 *P*>0.05	NS
Years of experience at NCI	6	10.74	*P*=0.60 *P*>0.05	NS
Religion	8	6.34	*P*=0.60 *P*>0.05	NS
Family type	6	6.35	*P*=0.38 *P*>0.05	NS

In the study, qualification of staff nurses has significant effect on awareness of disease.

Discussion

Finding of the study was based on the objective of the study qualification of staff nurses has significant effect on awareness regarding prevention of breast cancer and cervical cancer. All other demographic variables have no significant association of knowledge score of staff nurses in relation to prevention of breast cancer and cervical cancer. In the study, qualification of staff nurses has significant effect on awareness of disease. Mean standard deviation and mean score percentage values are compared and t-test is applied at 5% level of significance. The tabulated value for *n* = 150

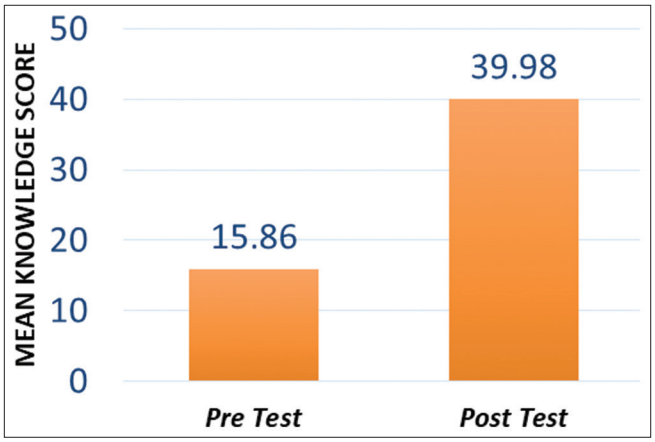

Figure 1: Bar diagram showing significance of difference between knowledge scores in pre- and post-test of staff nurses in relation to the prevention of breast cancer and cervical cancer

−1, that is, 59° of freedom was 8.00. The calculated value was respectively for the knowledge regarding prevention of breast cancer and cervical cancer; the calculated "*t*" value is much higher than the tabulated value at 5% level of significance which is statistically acceptable level of significance in addition; the calculated "*P*" value for all the areas of knowledge regarding prevention of breast cancer and cervical cancer was 0.000 which is ideal for any population. Hence, it is statistically interpreted that the structured teaching program regarding prevention of breast cancer and cervical cancer was effective. Thus, the H0 is rejected and H1 is accepted that there is a significant difference between pre-test and post-test knowledge score of staff nurses regarding prevention of breast cancer and cervical cancer which is measured by structured questioner at level of significance, $P < 0.05$.[4]

Conclusion

After the detailed analysis, this study leads to the following conclusion:

There was a significant increase in the knowledge of staff nurses after the introduction of structured teaching programme on knowledge regarding prevention of breast cancer and cervical cancer among staff nurses "*t*"-value was applied and "*t*"-value was calculated; post-test score was significant higher at 0.05 level than that of pre-test score. Thus, it was concluded that structured teaching program on prevention of breast cancer and cervical cancer was found effective.

Hence, based on the above-cited findings, it is clear that the structured teaching program helped the staff nurses to improve their knowledge regarding prevention of breast cancer and cervical cancer[5].

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