Original Research Paper

Oncology

AWARENESS ABOUT BREAST, CERVICAL AND ORAL CANCERS AMONG THE NURSING AND PARAMEDICAL STAFF OF A HOSPITAL IN CENTRAL INDIA

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ABSTRACT

BACKGROUND: Breast, cervical and oral cancers are the leading causes of cancers in India. High mortality with these cancers is due to presentation in the advanced stages. In India, doctors practically cannot treat each and every patient due to a huge doctor: patient ratio. In such a situation, nursing and paramedical staff can be helpful in providing their services in identification, screening and diagnosing of these cancers.

AIM: The present study was undertaken with an aim to evaluate the awareness of nurses and paramedical staff regarding breast, cervical and oral cancers.

STUDY SETTING AND DESIGN: The prospective, observational study was conducted at Smt. Rajmata Vijyaraje Sindhia Medical College & Hospital, Shivpuri and at District Hospital, Shivpuri.

PARTICIPANTS AND METHODS: 300 nursing and paramedical staff working in the above institutions were enrolled after verbal consenting. A self-administered structured questionnaire was administered to them. After an intervention in the form of discussion, the same questionnaire was readministered. The data from these questionnaires were evaluated and results presented. This questionnaire consisted of sections related to prevention, risk factors, associated symptoms and detection methods.

RESULTS: Before intervention, 17.3% participants had knowledge about prevention, 19% about risk factors, 10% about the symptoms and 8% about early detection technique. After intervention, there was an improvement in these domains. The mean post-test knowledge score was significantly higher than pre-test knowledge score (P<0.05).

CONCLUSION: Overall we found that nursing and paramedical staff lack knowledge about these three major cancers. After imparting knowledge, there was an improvement in their knowledge. To make these nursing and paramedical staff competent enough to identify, screen, diagnose these cancers, there is requirement of knowledge centers.

INTRODUCTION

Breast cancer, cervical cancer and oral cancers are the leading types of cancers among all the types of cancers in India,[1] accounting for 13.5%, 9.4% and 10.3% of all cancers, respectively.

The number of patients with cancer is projected to be 13,92,179 for the year 2020 and have identified breast, lung, mouth, cervix uteri and tongue as the most common sites.[2]

Statistics of Breast Cancer in India (2020), published that nearly 48% of patients having breast cancer are under the age of 50 years. Till the year 2008, cervical cancer was common among the Indian females followed by breast cancer. By 2012, breast cancer prevalence increased to 25 to 32% among females, while cervical cancer was still around 8 to 9%, making breast cancer the most common cancer. [3]

According to 2018 report, 1,62,468 new breast cancer cases were registered and 87,090 deaths from breast cancer were reported. Nearly half of the women were diagnosed in stage 3 and 4 of breast cancer with post-cancer survival rate of 60% for Indian women.

Cervical cancer is the second most common cancer among women in India. India contributes to nearly $1/5^{th}$ of the total global burden. Globocan in 2020 estimated cervical cancer cases to be 1,23,907 with 77,438 deaths[4] with a lower 5-year survival in India compared to other Asian countries.[5]The cause for high mortality being late presentation in majority of the cases (80%).

Oral cancer is the third common cancer in India. Nearly 77,000 new cases and 52,000 deaths are seen each year in India, contributing to 25% of the global incidence. [6]Compared to the developed countries of the West, in India nearly 70% of the cases present in the advanced stage of the disease.

This reduces the chances of cure; and the 5-year survival rates are only around 20%. [7] Tobacco-related oral cancer is more commonly seen in males across the globe.

The most common signs of oral cancer are erythroplakia, leukoplakia, mixed (erythro-leukoplakia) and ulceration. Detection at an early stage has a better prognosis with improved quality of life. [8]

In developed countries with initiation of population based screening for cervical cancer, there is a substantial reduction in annual incidence and mortality rate by 50-70%.[9] Cervical cancer is still a major cause of death in developing countries due to lack of nation-wise systematic screening program. Also there is dearth of infrastructure, financial support and persons having knowledge in this field.

India has only 1.34 doctors per 1000 population as of 2017.[10] It is practically not possible for a doctor to see each patient. There is a lot of gap between the number of patients and the required number of doctors. If the nursing staff and paramedical staff are trained in the diagnosis of these major cancers in patients coming to the institution, may help in early diagnosis and treatment of identified patients.

In this respect, the present study is an attempt to evaluate the knowledge about breast, cervical and oral cancers among nursing and paramedical staff of our institution.

PARTICIPANTS AND METHODS

The present cross-sectional study was conducted at Smt. Rajmata Vijyaraje Sindhia Medical College & Hospital, Shivpuri and at District Hospital, Shivpuri, which is a tertiary care hospital and a teaching institute. 300 nurses and paramedical staff were included for the study during a 3 months period (1st April 2021 to 30th June 2021). A verbal consent for participation was taken from these participants.

An expert group designed the self-administered structured questionnaire. The expert group consisted of an oncologist, nursing superintendent, specialists from public health and a medical social worker.

The self-administrated structured questionnaire consisted of 22 multiple choice questions related to breast, cervical and oral cancers. Only 1 option was correct. In case of multiple correct answers, unless the participant ticked all the correct options or selected the "All of the above" option, the response was considered as not correct. Apart from this demographic information like age, educational status, place of residence, marital status were also collected.

Before starting the main study, a pilot study with the self-administered structured questionnaire was done to find out the lacunae in the questionnaire.

None of the participants were allowed to discuss with colleagues about the responses being entered.

After that these participants were given an intervention in the form of **discussion** and the same set of self-administered structured questionnaire was re-administered and post-test evaluation was done.

The total score of the questionnaire (i.e. 22) was graded as Score 0-7 : Poor knowledge; 8-14 : Good knowledge and 15-22 : Excellent knowledge.

The data so obtained from these questionnaires was entered into the Microsoft Excel for analysis and online statistical software GraphPad was used for calculating the paired 't' test. P value of less than 0.5 was taken as statistically significant.

RESULTS

The present study had included 300 nurses and paramedical staff for the study on awareness about breast, cervical and oral cancers. The mean age of the patients was 28.74 ± 8.20 years, ranging from 17 to 52 years. Majority of the patients were in the age group 21-30 years (55.7%) and less than 20 years (15.7%).

There were 240 (80%) females and 60 (20%) males in the study. 259 (86.3%) participants were married and only 41 (13.7%) were unmarried.

These participants had working experience of 7.46 ± 4.89 years, ranging from 0 to 25 years. Majority of the participants had a working experience between 5-10 years (38%) and 0-5 years (37.7%).

Table 1 : Work experience of participants

Years of experience	Number	Percentage
0-5 years	113	37.7
5-10 years	114	38.0
11-15 years	66	22.0
>15 years	7	2.3
Total	300	100.0

These participants had working experience in cancer department of 0.33 ± 0.95 years, ranging from 0 to 5 years. 254 (84.7%) had not worked in cancer department, while 46 (15.3%) had worked in the cancer department. Of these 46, 22 (47.8%) had 1 year of experience, 9 (19.6%) had 2 years of experience and 15 (32.6%) had more than 2 years of experience.

Only 24 (8%) participants had earlier attended this type of discussion on cancer.

Prior to the discussion, 52 (17.3%) participants had knowledge about prevention of these three types of cancers. 57 (19%) knew about the risk factors, 30 (10%) were aware about the symptoms associated with these cancers and 24 (8%) had knowledge about early detection

technique.

Then the participants had the discussion with the researcher and the participants had to fill the questionnaire again. In the post-test, 59 (19.7%) participants had knowledge about prevention of these three types of cancers. 62 (20.7%) knew about the risk factors, 40 (13.3%) were aware about the symptoms associated with these cancers and 33 (11%) had knowledge about early detection technique.

Table 2: Comparison of prevention, risk factors, symptoms and early detection technique

Parameters	Pretest		Posttest	
	No.	%	No.	%
Prevention	52	17.3	59	19.7
Risk factors	57	19.0	62	20.7
Associated symptoms	30	10.0	40	13.3
Early detection technique	24	8.0	33	11.0

Before the discussion, 198 (66%) participants obtained poor knowledge grade and 102 (34%) obtained good knowledge grade.

After the discussion, 102 (34%) participants obtained poor knowledge grade, 172 (57.3%) obtained good knowledge grade and 26 (8.7%) participants obtained excellent grade.

Table 3: Comparison of knowledge grades

Knowledge Grades	Pretest		Posttest	
	No.	%	No.	%
Poor	198	66.0	102	34.0
Good	102	34.0	172	57.3
Excellent	0	0.0	26	8.7
Total	300	100.0	300	100.0

After the discussion, there was an improvement in knowledge of the participants regarding prevention, risk factors, symptoms associated and knowledge about these three types of cancers.

The mean pre-test knowledge score was 5.41 ± 3.41 and the mean post-test knowledge score was 9.56 ± 3.36. There was a significant improvement in the mean knowledge score after discussion (P=0.001).

Table 4 : Comparison of mean knowledge scores

	Mean Knowledge Score	't' value	P value
Pretest	5.41 ± 3.41	-66.225, df=299	0.001*
Posttest	9.56 ± 3.36		

Paired 't' test applied.

DISCUSSION

We had conducted a study on 300 nursing and paramedical staff regarding the knowledge about breast, cervical and oral cancers. All the nursing and paramedical staff came from various departments such as oncology, medical & surgical, obstetrics & gynaecology, critical care, trauma and emergency.

The mean age of patients in Desaraju et al[11] study was 32.9 years ranging from 21-54 years, which is comparable to the mean age seen in our participants.

Chawla et al[12] in their study had reported a female preponderance (526 females vs. 64 males), which corroborates with our study results. The main reason could be that nursing and paramedical courses are more often taken up by females in comparison to males. Only a small proportion of our study participants had worked in the cancer department.

We found that prior to the intervention (discussion method), these nursing and paramedical staff had very less knowledge about these cancers with regard to prevention, risk factors, associated symptoms and early detection technique. A study done by Oswal et al also reported lower level of awareness of cancer in their study. Only 59% had heard about oral cancer, 50% about breast cancer and 31% about cervical cancer. Understanding of risk factors, symptoms and signs of oral cancer were seen in 45%, about breast cancer in 54% and about cervical cancer in 63% participants.[13] Similarly, Patil et al in their study reported a lower awareness about risk factors, while knowledge about etiology of cancers was high among the primary healthcare

providers.[14] Desaraju et al in their study found that only 72% of the nurses were aware about the HPV vaccine for cervical cancer. Low knowledge in comparison to the doctors was reported regarding cancer etiology and screening. 94% of their participants were aware about cervical cancer.[11] The participants in the present study had much lower knowledge in comparison to the Oswal and Desaraju study participants.

Heena et al reported 4% had good and 14.7% had fair level of knowledge regarding risk factors, vulnerability, signs and symptoms, prevention and screening of cervical cancer.[15] Our study participants fared better than the study participants of Heena.

Our discussion type of intervention was very successful in providing information about these three cancers to the nursing and paramedical staff. Patil et al reported an overall improvement in knowledge about screening methods and HPV vaccine and its dosage (65% pretest vs. 95% posttest) showing a positive impact on the knowledge improvement.

Our study lacked a more descriptive questionnaire, which could have touched other aspects related to breast, cervical and oral cancers also. We found lacunae of work in India and this study will form a base for the further extensive studies that are required. Imparting knowledge had improved the awareness of these nursing and paramedical staff and any hospital or institution should conduct programs, workshop, etc. on regular basis.

CONCLUSION

Breast cancer, cervical cancer and oral cancers are the leading cancers in India. The doctor : patient ratio in our country is large. This gap puts lot of pressure on the doctor, but there are practically many limitations to his providing the service to all the patients. In such a resource scarce situation, nursing and paramedical staff can be given proper training for identification, evaluation, screening and advising on appropriate diagnostic tests of these cancers. This will help in early diagnosis and improve the 5-years survival rates in these patients.

The governments and hospital authorities should develop knowledge centers where these nursing and paramedical staff can obtain regular training, not only in cancer, but other faculties too.

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