

Original Research Article

Awareness of nursing students towards cancer and their comparison with medical students

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Received: 07 May 2020

Accepted: 01 June 2020

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ABSTRACT

Background: Cancer is the 2nd leading cause of mortality worldwide. The three leading cancers in India are cervical cancer, breast cancer and upper aerodigestive tract carcinoma. Cervical carcinoma is the 2nd most common cancer in women next to breast carcinoma. This study has been done to assess the knowledge, causation and preventive methods about the common cancers in India amongst Medical and Nursing students in a tertiary care center in rural Kerala. Preventive measures and early diagnosis of cancer can lead to decrease in mortality and morbidity. This can be achieved by creating awareness. A special emphasis has been made regarding cervical cancer and HPV vaccination in this study.

Methods: A total of 337 medical and 148 nursing students from 1st year to final year were included in this study and the results were analysed by descriptive statistics.

Results: Out of 337 medical and 148 nursing students, there was significant difference in knowledge between pretest/posttest and amongst the medical/nursing students. Medical students were found to be more aware about the cancer, their causation and preventive methods as compared to the nursing students. 76.4% of nursing students were aware about the role of HPV (Human Papilloma Virus) in the causation of cervical cancer pretest. 98.6% of nursing students were aware about the role of HPV in causation of cervical cancer posttest following a short lecture. Following a short lecture both medical and nursing students were found to have more awareness.

Conclusions: Creating awareness to the medical and nursing students who are in touch with the community and the patients is essential. Targeted health education is very important in creating a great impact about the knowledge of cancer in the community, thereby leading to decrease in mortality and morbidity.

Keywords: Breast, Cancer awareness, Cervical, Medical students, Nursing students, Oral

INTRODUCTION

The meaning of the word cancer means “crab”. According to the World Health Organization, cancer is the second most common cause of mortality worldwide. Deaths from cancer worldwide are projected to continue to rise to over 13.1 million in 2030.¹

Amongst the cancer, the three leading cancers in India which causes high mortality and morbidity includes cervical cancer, breast cancer and upper aerodigestive

tract carcinoma.² Despite having population-based screening programmes like VIA-VILI (Visual inspection via Acetic acid- Visual inspection via Lugol’s Iodine) for cervical cancer, there are lots of persons diagnosed with cervical cancers due to lack of awareness about the screening modalities. There are certain measures by which cervical cancers can be prevented like use of condoms, avoiding promiscuous relationship, etc.³ HPV has been implicated in the causation of cervical cancer. So HPV vaccination is another means by which cervical cancer can be prevented.⁴ Likewise breast cancer can be

prevented by self breast examination and mammogram.⁵ Oral cancers can be prevented by explaining the ill effects of tobacco in the form of campaigning or as pictorial representation. Creating awareness to the public about cancer plays an important role in its prevention and early detection.

The objective of this study was to determine the level of awareness about cancers amongst medical and nursing students about the leading cancers in India so as to know the kind of education and awareness strategies that would be applicable to them. Government can employ cancer detection campaigns for prevention and early detection of cancers thereby leading to decrease in mortality and morbidity due to cancers.

METHODS

This study is a descriptive study which included 337 medical students and 148 BSc nursing students in Karuna medical college, Chittur, Kerala.

The data was collected by using a structured knowledge questionnaire about cancer awareness. The survey questionnaire was prepared after reviewing the literature for similar studies. The questionnaire was framed to gather information on demographics and knowledge, behavior and attitude.

A questionnaire containing 20 questions with 5 questions pertaining to the general information (like year of study, gender, marital status, etc.) of the student, 8 (yes/no type questions) and 7 questions (with 4 options) were given to the students. There was a pretest and a posttest with a short lecture about cancer awareness for 20 minutes between the pretest and the posttest. Anonymity of the subject and confidentiality of the data was maintained. Those who desired to participate were explained the purpose and objectives of the study.

Mean±SD was reported for continuous variables. Paired t-test was used to compare the pre and post scores. Two Independent sample t-test was used to compare the difference between Medical and Nursing students.

Inclusion criteria

- This study included all the medical and nursing students (First year to final year) willing to answer the questionnaire.

- Medical and nursing students who were not willing to answer the questionnaire were excluded from the study.

Categorical responses (Yes/No/Don't know) were applied for the knowledge items. The following scoring method was used: one mark for correct answer, and zero for don't know or incorrect answers.

The results were entered in Microsoft excel sheet and was analysed using descriptive methods.

Exclusion criteria

It includes medical and nursing students not willing to answer the questionnaire.

RESULTS

The present study included 337 medical students and 148 nursing students. Of the total score of 15 marks, those who scored more than 10 were considered to be aware about cancer.

Following a short lecture about cancer awareness, the awareness levels were found to be increased compared to the pretest.

Final year nursing students were found to be more aware about the causes and preventive methods of various carcinomas like oral carcinoma, cervical carcinoma and breast carcinoma (Table 1).

Table 1: Year wise awareness about cancer nursing students.

Year of study	No. of students	Percentage of awareness pretest	Percentage of awareness posttest
I year	44	2.3	84
II year	35	34	82.9
III year	35	37.1	77.1
IV year	34	97.1	91.2

Nursing students who belonged to 1st year and 2nd year were found to be less aware (about carcinomas compared to the 3rd year and 4th year students with significant p value of 0.000 (Table 2). In pretest 29% of nursing students were found to be aware about cancers as compared to 60.5% of medical students.

Table 2: Comparison of scores between students of different years – BSc. nursing.

Score	1 st year (n/%) N =44		2nd year (n/%) N =35		3rd year (n/%) N =35		4th year (n/%) N =34	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
≤10	43 (97.8)	7 (16)	20 (57)	6 (17.1)	22 (62.9)	8 (22.9)	20 (58.8)	3 (8.8)
>10	1 (2.2)	37 (84)	15 (42.9)	29 (82.9)	13 (37.1)	27 (77.1)	14 (41.2)	31 (91.2)

Table 3: Comparison of yearwise level of awareness – medical vs nursing students.

Year of study	Number of students Medical	Number of students Nursing	Percentage of awareness pretest Medical students	Percentage of awareness posttest Medical students	Percentage of awareness pretest (%) Nursing students	Percentage of awareness posttest (%) Nursing students
I year	95	44	31.58	95.24	2.3	84
II year	144	35	56.95	97.22	34	82.9
III year	77	35	94.81	100	37.1	77.1
IV year	21	34	90.48	100	97.1	91.2

In posttest, 83.4% of nursing students were found to be aware about cancers as compared to 97% of medical students (Table 3).

2.66, Mean of nursing students: -3.66, SD: 2.5 CI 0.95-0.09). This boxplot gives a better comparison amongst the pretest and posttest score of medical and nursing students (Figure 1 and 2).

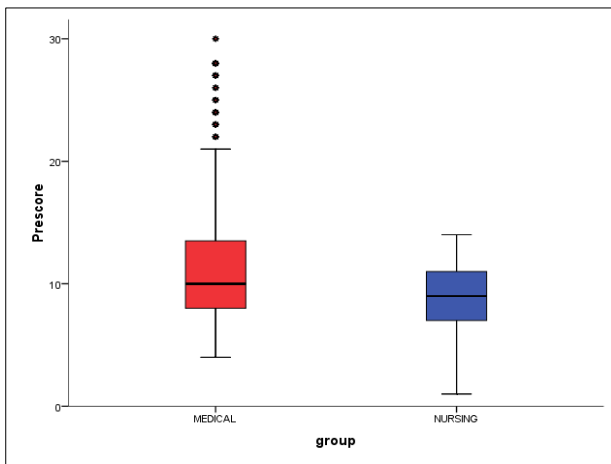


Figure 1: Comparison of pretest score of medical vs nursing students.

Total 77% of nursing students were found to be aware that cancers are preventable (Table 4).

Table 4: Questionwise awareness - are cancers preventable?

Year	Pretest (N/%)	Posttest (N/%)
1st year (44)	38 (86.4)	41 (93.2)
2nd year (35)	35 (100)	35 (100)
3rd year (35)	28 (80)	33 (94.3)
4th year (34)	13 (38.2)	28 (82.4)
Total (148)	114 (77)	137 (92.6)

About 79.1% of nursing students were found to be aware that virus has been implicated cervical cancer (Table 5).

Table 5: Questionwise awareness - does virus have a role in cervical carcinoma?

Year	Pretest (N/%)	Posttest (N/%)
1st year (44)	26 (59.1)	37 (84.1)
2nd year (35)	32 (91.4)	33 (97.1)
3rd year (35)	29 (82.9)	35(100)
4th year (34)	30 (88.2)	32 (94.1)
Total (148)	117 (79.1)	137 (92.6)

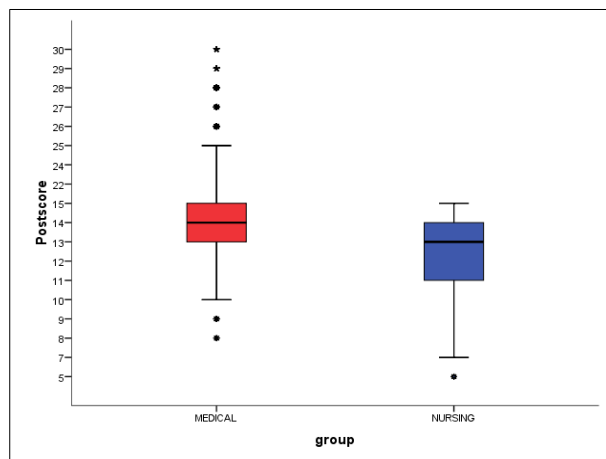


Figure 2: Comparison of posttest score of medical vs nursing students.

Table 6: Questionwise awareness - how can cancers be prevented?

Year	Pretest(N/%)	Posttest(N/%)
1st year (44)	8 (18.2)	37 (84.1)
2nd year (35)	7 (20)	23 (65.7)
3rd year (35)	7 (20)	32 (91.4)
4th year (34)	7 (20.6)	23 (67.6)
Total (148)	29 (20)	115 (77.7)

There was significant difference in the level of awareness between medical and nursing students with a significant p value of 0.107 (Mean of medical students: -4.09, SD:

In the pretest, only 29% of nursing students were aware about the methods of cancer prevention. Following a short lecture and post test 77.7% of nursing students were

aware about the various methods of prevention of cancer (Table 6).

Data wise 76.4% of nursing students were aware that HPV has been implicated in cervical carcinoma (Table 7).

Table 7: Questionwise awareness - which virus is associated with increased risk of cervical cancer?

Year	Pretest (N/%)	Posttest (N/%)
1st year (44)	14 (31.8)	44 (100)
2 nd year (35)	33 (94.3)	33 (100)
3 rd year (35)	33 (94.3)	35 (100)
4 th year (34)	33 (97.1)	34 (100)
Total (148)	113 (76.4)	146 (98.6)

Total 73% of nursing students were aware that cervical cancers are preventable (Table 8).

Table 8: Questionwise awareness - are cervical cancers preventable?

Year	Pretest (N/%)	Posttest (N/%)
1st year (44)	30 (68.2)	41 (93.2)
2 nd year (35)	33 (94.3)	32 (91.4)
3 rd year (35)	25 (71.4)	33 (94.3)
4 th year (34)	20 (58.8)	33 (97.1)
Total (148)	108 (73)	139 (93.9)

IIIrd year Medical students were better aware about the causation and prevention of carcinomas compared to the other year medical students.

Post test showed a drastic improvement in the awareness about cancers post test.

Table 9: Comparison of scores between students of different years - medical students.

Year of study	Number of students	Percentage of awareness pretest	Percentage of awareness posttest
I year	95	31.58	95.24
II year	144	56.95	97.22
III year	77	94.81	100
IV year	21	90.48	100

DISCUSSION

Population based cancer registries within the National Cancer Registry Programme and outside the network has provided a picture of the cancer pattern in India. Based on the cancer registry data it is estimated that there will be about 800,000 new cancers cases in India every year. At any given point there is likely to be 3 times this load that about 240,000 cases.⁶ Unfortunately, in developing country like India there is lack of awareness among

people about the various risk factors and preventive aspects of these common cancers, like early detection through screening and treatment of precancerous lesions.⁷

Awareness of public about warning signs of cancer in relation to early detection and prevention has been surveyed in a few countries, and results showed poor knowledge among them. An estimated 15 percent of all human cancers worldwide may be attributed to viruses, representing a significant portion of the global cancer burden.⁸

Knowledge and awareness about cancers can help in reducing the mortality and morbidity of cancers.⁹ 80% of the participants had average knowledge regarding HPV.¹⁰ In a study conducted by Hussain et al in Australia, 62.7% of the women and 38.3% of men has heard about HPV.¹¹ The rate of vaccination against HPV is less in developing countries. The most common reason for not getting vaccinated against cervical cancer is the lack of knowledge regarding the availability of the vaccine. There is a belief that HPV vaccination would have a significant health and economic impact by reducing the burden of cervical cancer.¹² Swarnapriya et al reported that 44.9% of the participants had good knowledge regarding HPV vaccination.¹³

Cancer prevention can be done at various levels. The purpose of primary prevention is to limit the incidence of cancer by controlling exposure to risk factors or increasing individuals resistance to cancers (e.g., by vaccination). Primary prevention is prevention of disease by reducing exposure of individuals to risk factors. Secondary prevention includes early detection and treatment of disease. Screening activities are an important component of secondary prevention. Tertiary prevention (appropriate in the clinical phase) is the use of treatment and rehabilitation programmes to improve the outcome of illness among affected individuals.

In the current study, authors aimed at analysing the importance of creating awareness in prevention and early detection of cancers. Authors found that imparting knowledge about the common cancers, their risk factors, early diagnostic tools and treatment modalities to the medical students created a change in their attitude towards cancer awareness.

CONCLUSION

In this 21st century, there has been increase in the rate of diagnosis of cancers due to advances in various diagnostic modalities like Papanicolaou smears. Most of the cancers have association with our dietary habits and our lifestyle changes. "Prevention is better than cure". So, creating awareness about the risk factors, early screening and preventive measures can help in prevention and early diagnosis of cancers. This study was conducted to emphasize the importance of creating awareness as it would help in early detection and prevention of cancer.

Doctors play a pivotal role in creating awareness to the public. Thus, there is a pressing need for medical and nursing students to be aware about cancer in order to increase cancer awareness amongst the lay public. This can help in achieving early detection and prevention of cancers.

ACKNOWLEDGEMENTS

Authors would like to thank Dr. Tharakeswari, Dr. Nirmala Perumal and Dr. Vibitha for helping them in conducting this survey.

Authors would also extend their thanks to Mrs. Grace Rebekah for helping with the Statistics.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Radhika S, Najma RA, Bharadwaj I. Awareness of nursing students towards cancer and their comparison with medical students. *Int J Res Med Sci* 2020;8:2542-6.