

Original Research Article

Awareness of medical students towards cancer

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ABSTRACT

Background: Cancer is the second leading cause of mortality worldwide. Amongst the cancers, the three leading cancers in India which causes high mortality and morbidity includes cervical cancer, breast cancer and upper aerodigestive tract carcinoma. High mortality and morbidity due to cancers can be reduced by preventive measures and early diagnosis of cancer, which can be achieved by creating awareness.

Methods: A total of 337 medical students from 1st year to 4th year (1st year students-preclinical, 2nd year students-paraclinical and 3rd and 4th year students- clinical students) were included in this study and the results were analysed by descriptive statistics, Pearson's Chi square test and paired 't' test.

Results: Out of 337 students, 120 were males, 204 were females and 13 students have not mentioned their gender. There was significant difference in knowledge of the students between pretest and posttest (following a short lecture) and amongst the preclinical, paraclinical and clinical students. Clinical students were found be more aware about the cancer compared to the preclinical and paraclinical students.

Conclusions: Creating awareness to the medical students who are future doctors is the need of the hour. A short talk on cancer awareness can create a great impact on the awareness.

Keywords: Cancer awareness, Breast, Medical 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

In India, one woman dies cervical cancer every 8 minutes, nearly 2500 persons die due to tobacco related disease. Cancer takes a toll of life's of so many people. 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 for certain malignancies like cervical cancer, there are lots of persons diagnosed with cervical cancers due to lack of awareness about the

screening modalities. Certain cancers can be prevented. Condom use offers partial protection against human papilloma virus (HPV) infection.³ Vaccines against HPV infections represent another tool to reduce the incidence of cervical cancer.⁴ Self breast examination, a simple screening tool can be help in detecting breast cancers at an early stage aided by clinical examination and mammogram.⁵ In India, because of cultural, ethnic, geographic factors and the popularity of addictive habits, the frequency of oral cancer is very high. Simple measures like creating awareness by targeting the vulnerable group about the risk factors like use of tobacco and its ill effects can to great extent reduce the incidence of oral cancers. Certain cancers can be cured if they are diagnosed at an early stage. Awareness about cancer plays an important role in its prevention and early detection. Public awareness about the early warning signs and proper screening can lead to prevention, early

detection and better outcome of patients with cancer.⁶ The objective of this study was to determine the level of awareness about cancers amongst medical students about the leading cancers in India so as to know the kind of education and awareness strategies that would be applicable to them. Cancer awareness and symptom based early detection campaign can be conducted by the Government to reduce the mortality and morbidity due to cancers.

METHODS

This study is a descriptive study and was conducted amongst 337 medical 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.

Inclusion criteria

It includes medical students willing to answer the questionnaire.

Exclusion criteria

It includes medical students not willing to answer the questionnaire.

Medical students who belonged to 1st year were included under preclinical students, 2nd year students were considered paraclinical and those who belonged to 3rd year and 4th year were included under clinical students.

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 SPSS software. Descriptive methods and χ^2 test for difference in proportions were used for univariate analysis. Pearson's Chi square test and Paired 't' test were also used. A p-value of <0.05 or less was considered significant.

RESULTS

In the present study, out of 337 medical students, 120 (35.61%) were males and 204 (60.53%) were females and 13 (3.86%) has not entered their gender (Table 1).

Table 1: Demographic details of the participants.

Sex distribution	Number of students (N)	%	Number of preclinical students (N)	Number of paraclinical students (N)	Number of clinical students (N)
Male	120	35.61	30	48	42
Female	204	60.53	64	88	52
Not mentioned the gender	13	3.86	1	8	4
Total	337	100	95	144	98

Table 2: Year wise awareness about cancer.

Year of study	Number of students	Number of questions asked	Percentage of awareness pretest	Percentage of awareness posttest
I year	95	15	31.58	95.24
II year	144	15	56.95	97.22
III year	77	15	94.81	100
IV year	21	15	90.48	100

Table 3: Comparison of scores between preclinical, paraclinical and clinical students.

Score	Preclinical students (n/%), N=95		Paraclinical students (n/%), N=144		Clinical students (n/%), N=98	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
>10	65(68.42)	0	62(43.06)	4(2.78)	6(6.12)	0
≤10	30(31.58)	95(100)	82(57)	140(97.22)	92(98.88)	98 (100)

An answer key was prepared, and the questionnaire was corrected. One mark for correct answer, and zero for don't know or incorrect answers.

Year wise awareness

Medical students who belonged to 1st year were included under preclinical students, 2nd year students were considered paraclinical and those who belonged to 3rd year and 4th year were included under clinical students. Of the total score of 15 marks, those who scored ≥ 10 , were considered to be aware about cancer.

Awareness was better amongst 3rd and 4th year students compared to 1st and 2nd year students (p value=0.00) (Table 2 and 3).

Following a short lecture about cancer awareness, the awareness levels were found to be increased compared to the pretest (p value=0.00) (Figure 1).

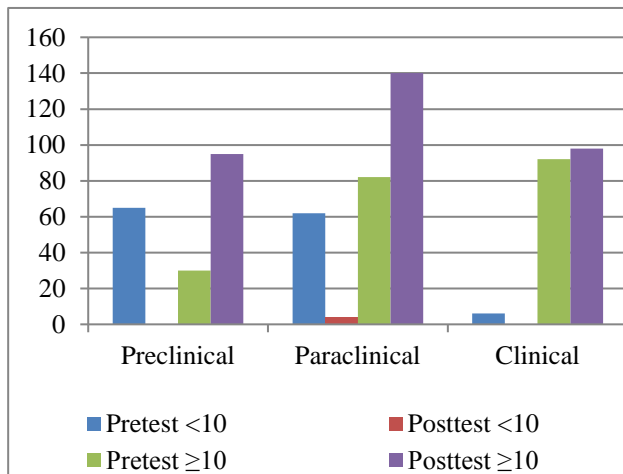


Figure 1: Year wise awareness amongst the medical students.

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 them (e.g., by vaccination or chemoprevention). 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 preventing 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 (Table 3).

DISCUSSION

Cancer can lead to social and economic consequences for people. The International Agency for Research on Cancer GLOBOCAN project 1 has predicted that India's cancer burden will reach more than 1.7 million by 2035.⁷ Cancers of oral cavity and lungs in males and cervix and breast in females account for over 50% of all cancer deaths in India.⁸

Cervical cancer

Cervical cancer is the second most common cancer in India in women. Cervical cancer is the third largest cause of cancer mortality in India accounting for nearly 10% of all cancer related deaths in the country.⁹ The precancerous lesions in cervical cancer can be detected by easily available non-invasive methods like pap smear (cytological examination). Moreover, cervical cancers can be prevented by vaccination against HPV. Awareness about the screening methodologies and the availability of vaccine can help in reducing the incidence of cervical carcinoma. A study conducted to find out average awareness about risk factors for cervical cancer among the educated youth in India, Sri Lanka and Nepal was found to be 66% in India, 58.8% in Nepal and 57.7% in Srilanka.¹⁰

Breast cancer

Breast cancer is the most common cancer in women in India.¹¹ Self-examination of breast, clinical breast examination and mammography are the screening tools to detect breast cancer.¹² Presence of lump, discharge from the nipple, skin changes in the nipple-areola complex like dimpling, puckering or redness, persistent pain in the breast warrants clinician's attention. In a study conducted at Pakistan by Noreen M et al, regarding awareness about breast cancer, only 40% of medical students were considered to have satisfactory awareness about breast cancer.¹³

Upper aerodigestive tract carcinoma

Oral carcinoma is the third most frequently occurring cancer in India amongst both men and women.¹⁴ Upper aerodigestive tract carcinoma has been on increase in the recent past because of lifestyle modifications and consumption of tobacco. Smoking, alcohol, ill-fitting dentures are the risk factors for development of oral carcinoma.¹⁵ Squamous cell carcinoma accounts for around 95% of the oral cancers.¹⁶ 70 % of the patients present with advanced stage III and IV.¹⁷ Early diagnosis of the malignancy can increase survival rates as the mouth is easily accessible for self or clinical examination.

Squamous cell carcinoma accounts for 95% of oral cancers. The reduced level of awareness among medical students is only tip of the iceberg. The awareness amongst the lay public would be even more and this could prove detrimental to the health of the society. Social media and non governmental organizations should volunteer and help in creating awareness to the general public on cancer prevention and early detection of

cancers. Lectures, workshops and continuing media education should be conducted at educational institutions periodically which can help in spreading the cancer awareness. Primary health care workers should be involved in such education program and they should be encouraged to participate in health education by providing information on cancers and their preventive methods to citizens nationwide.

Table 4: Comparison of level of awareness of current study with other similar study.

	Bhakthavatchalam S et al (%)	Current study Pretest (%)	Current study post-test (%)
I st year	95.24	31.58	95.24
II nd year	82.69	56.95	97.22
III rd year	83.03	94.81	100

Comparison of level of cancer awareness between this study and a study conducted by Sharmila Bhakthavatchalam et al, in a Government medical college, Chennai, Tamilnadu (Table 4).

CONCLUSION

In this 21st century, there has been increase in the rate of diagnosis of cancers due to advances in various diagnostic modalities. 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 emphasise 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 the undergraduate medical graduates 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.

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