ORIGINAL ARTICLE

AWARENESS OF ORAL CANCER RELATED HABITS AMONG COLLEGE GOING YOUNGSTERS IN NASIK CITY, MAHARASHTRA – A CROSS SECTIONAL SURVEY

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ABSTRACT:

Introduction: In spite of having a health warning on every packet of cigarettes, smoking in India is increasing rapidly, especially among the young people. Thus the present study was carried to assess the oral cancer awareness among young college going students of Nasik. **Methodology:** A descriptive cross sectional questionnaire based survey conducted among 400 college going students of Nasik. The subjects were divided into two groups, group A comprised of 200 students of non-medical and group B comprised of 200 medical students of medical stream. The obtained results were subjected to analysis using SPSS version 10 and statistical analysis was carried out using Chi-squared test with $p<0.05$ was considered as significant value. **Results:** 81% students of group A and 94% of group B told that they are aware that tobacco smoking/chewing leads to oral cancer with significant $p<0.05$. 51% students of group A and 93% of group B reported alcohol as causative factor where as 58% among group A and 85% of group B told that combined effect of alcohol and tobacco causes oral cancer $p<0.05$. Regarding source of awareness about oral cancer, most of the subjects reported television and cinema as a source of awareness, followed by newspaper and books. **Conclusion:** The knowledge and practices about the risk factors were found to be not satisfactory among the studied population. So, there is need to improve the knowledge and practices of risk factors for oral cancer among youngsters by either collaborative approach by various specialties or by arranging continuous medical education programs by medical institutes.

Keywords: Cancer awareness, Oral cancer, Squamous Cell Carcinoma.

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INTRODUCTION

More than 95% of the carcinomas of the oral cavity are of squamous cell type, in nature. They constitute a major health problem in developing countries, representing a leading cause of death. The survival index continues to be small (50%), as compared to the progress in diagnosis and treatment of other malignant tumors. According to World Health Organization, carcinoma of oral cavity in males in developing countries, is the sixth commonest cancer after lung, prostrate, colorectal, stomach and bladder cancer, while in females, it is the tenth commonest site of cancer after breast, colorectal, lung, stomach, uterus, cervix, ovary, bladder and liver.[1]

Thus, oral cancer is more common in the developing countries than the developed ones, with the highest oral cavity cancer rates being found in Melanesia, South-Central Asia, and Central and Eastern Europe and the lowest in Africa, Central America and Eastern Asia for both males and females.[2] In spite of having a health warning on every packet of cigarettes, smoking in India is increasing rapidly, especially among the young people. A significant contributory factor to this increasing trend is aggressive marketing by tobacco companies and

peer pressure.[3] Therefore the prevention and control of smoking has become a global concern.

Moreover, in India, the extremely popular use of the smokeless tobacco product called gutkha, renders its population and especially its youth to a greater risk of developing oral submucous fibrosis, a premalignant disease resulting in increased incidence of oral cancer in younger patients.[2] It has been reported that lack of awareness among the general public about oral cancer its associated risk factors is the primary reason for delayed presentation.[4] Risk factors for oral cancers include smoking, alcohol use, smokeless tobacco products, and HPV (human papillomavirus) infections, with smoking and alcohol having synergistic effects.[2] Thus the present study was carried to assess the oral cancer awareness among young college going students of Nasik.

MATERIAL AND METHODS

A descriptive cross sectional questionnaire based survey conducted among 400 college going students of Nasik. The subjects were divided into two groups, group A comprised of 200 students of non-medical stream (includes arts, commerce and engineering students) and group B comprised of 200 medical students of medical stream (nursing and pharmacy). Ethical clearance was taken from the ethical committee of institution for the commencement of the study. An informed consent was obtained from the participant. The questionnaire survey consisting of closed-ended questions (table 1) regarding tobacco and alcohol related habits like smoking, chewable or using any form of tobacco. A pilot study was conducted results obtained was used to discern the sample size and also assess validity, reliability and acceptability of the questionnaire. The obtained results were subjected to analysis using SPSS version 10 and statistical analysis was carried out using Chi-squared test with $p<0.05$ was considered as significant value.

RESULTS

The data obtained found that among the studied population, 91% candidates of group A and 100% of group B were known to word oral cancer. 85% candidates of group A and 93% candidates of group B told that they were aware of factors causing oral cancer. 81% students of group A and 94% of group B told that they are aware that tobacco smoking/chewing leads to oral cancer with significant $p<0.05$. 51% students of group A and 93% of group B reported alcohol as causative factor where as 58% among group A and 85% of group B told that combined effect of alcohol and tobacco causes oral cancer $p<0.05$.

Table 1: Questionnaire and reply of Group A and Group B

Questions		Group A (n=200)	Group B (n=200)	Chi-square test
1. Are you familiar with the word oral cancer?	Yes	91%	100%	1.24
	No	9%	-	
2. Do you have knowledge about factors causing oral cancer?	Yes	85%	93%	0.89
	No	15%	7%	
3. Do you think habit of tobacco smoking or chewing leads to oral cancer?	Yes	81%	94%	<0.05
	No	19%	6%	
4. Do you think alcohol intake leads to oral cancer?	Yes	51%	93%	<0.05
	No	49%	7%	
5. Do you think alcohol in combination with tobacco causes oral cancer?	Yes	58%	85%	<0.05
	No	42%	15%	
6. Do you think genetics play role in oral cancer?	Yes	10%	76%	<0.05
	No	90%	24%	
7. Do you have know white or red spots in oral cavity can lead to oral cancer?	Yes	19%	87%	<0.05
	No	81%	13%	
8. Source of awareness of risk factors	Television and Cinema	91%	93%	<0.05
	Newspaper	17%	16%	
	Books and Magazines	14%	82%	

Only 10% among group A and 76% among group B reported genetic factor plays role in oral cancer $p<0.05$. 19% among group A and 87% among group B were aware that red/white spot in oral cavity can lead to cancer with significant $p<0.05$. Regarding source of awareness about oral cancer, 91% among group A and 93% among group B reported television and cinema as a source of awareness, 17% among group A and 16% among group B reported newspaper and 14% among group A and 82% among group B reported books as a source of awareness regarding awareness of factors responsible of oral cancer with $p<0.05$.

DISCUSSION

Oral and pharyngeal cancer, grouped together, is the sixth most common cancer in the world with the annual estimated incidence is around 275,000 for oral. In high-risk countries such as Sri Lanka, India, Pakistan and Bangladesh, oral cancer is the most common cancer in men, and may contribute up to 25% of all new cases of cancer.[5]

Tobacco use increases the risk of cancers of the lung, mouth, larynx, pharynx, esophagus, stomach, colorectum, liver, pancreas, kidney, bladder, uterine cervix, and ovary (mucinous), as well as myeloid leukemia. Limited but mounting evidence suggests that long-term, heavy smoking increases the risk of breast cancer, particularly among women who began smoking before giving birth to their first child. Exposure to second hand smoke (SHS) also increases the risk of lung cancer in adults. Thirty percent of all cancer deaths and about 80% of lung cancer deaths, can be attributed to tobacco.[6]

The present survey reveals the lack of awareness about oral cancer and its causation among students of non-medical streams is more as comparative to students of medical streams. Students are the future of the nation. Psychoactive substance use among students and lack of awareness regarding etiological factors present a significant threat to the health, social and economic fabric of families, communities and nations.

Ninety five percent of oral cancers are squamous cell carcinomas. Oral cancers have been associated with avoidable aetiological risk factors. Smoking tobacco and alcohol use are the main risk factors and are associated with approximately 75% of oral cancers. Smokeless tobacco use, a common practice in the Indian subcontinent, has also been shown to be a significant risk factor for oral and pharyngeal cancer.[7]

The present study found smoking and alcohol consumption were mentioned as risk factors by 81% students of non-medical group and 94% of medical group and 51% students of non-medical group and 93% of medical group, respectively. Soares et al[8] assessed the knowledge and attitude of undergraduate dental students about oral cancer and found that 92.48% of students described smoking and 84.21% drinking as risk factors of oral cancer. Fotedar V et al[7] assessed the knowledge, attitude and practices of oral cancer among undergraduate medical students in Indira Gandhi Medical College, Shimla, India and reported that only 52.1 % of the subjects correctly identified tobacco and alcohol as risk factors in the of oral cancers. Oral cancer has a multifactorial etiology: genetic factors, tobacco, alcohol, UV radiation (lip cancer), papillomavirus (HPV), a diet poor in fruit and vegetables, history of cancer in the head and neck, and age may be listed as factors.[8]

Agrawal M et al[2] conducted a study regarding oral cancer awareness of the General Public in Gorakhpur City, India and concluded that the general awareness, knowledge of signs and risk factors of oral cancer were found to be proportionate to the literacy level with the highest rate of awareness being among high school and graduates and lowest among illiterates. Warnakulasuriya K et al[9] conducted a survey regarding public awareness towards oral cancer in Great Britain and found that 76% of subjects were aware of the association between smoking and oral cancer but only 19% were aware of its association with alcohol misuse.

The present study found that 58% among students of non-medical group and 85% among medical group mentioned that combined effect of alcohol and tobacco causes oral cancer. The effect of combined exposure to alcohol and tobacco on risk of oral and pharyngeal cancer appears to be multiplicative that is, the risk of combined exposure is the product of the increases in risk associated with exposure to either habit.[10] The rate of oral cancer is particularly high among both men and women in South Asia. In this region, tobacco smoking often is replaced by or combined with chewing of tobacco and betel quid, which is another major risk factor for oral cancer.[11] Therefore, the role of tobacco smoking in combination with drinking in the development of oral cancer in Asia differs.

Only 10% among non-medical group and 76% among medical group reported genetic factor plays role in oral cancer. The development of oral

squamous cell cancer is a multistep process involving the accumulation of multiple genetic alterations modulated by genetic pre-disposition and environmental influences such as tobacco and alcohol use, chronic inflammation, and viral infections. All of these factors can lead to a wide range of genetic and molecular alterations that can be detected using a range of molecular studies. The alterations mostly affect two large groups of genes: oncogenes and tumor suppressor genes, which can be either inactivated or overexpressed through mutations, loss of heterozygosity, deletions, or epigenetic modifications such as methylation.[12]

Oral cancer is frequently preceded by an identifiable pre-malignant lesion and the progression from dysplasia. Oral cancer has four cardinal signs which warrant further investigation. These are erythroplakia, leukoplakia, mixed (erythroleukoplakia), and ulceration. Of these the commonest presenting sign is ulceration. The preponderance of this disease is identified through. Knowledge regarding these features can result in alertness among general population and can result in early approach of the patient to general medical care.[13]

Regarding source of awareness about oral cancer, most of the subjects reported television and cinema as a source of awareness, followed by newspaper and books. Media presentations through magazine and newspaper articles, while reaching only certain sections of the population, will at least target some of those people not seeking regular medical/dental care. A further recourse is through television and cinema seems to target the public by issuing a declaration warning about adverse effects of tobacco. Mass media advertisements and unpaid publicity on ill health associated with smoking will contribute in provoking adult cessation and general awareness regarding etiological factors of oral cancer.[9]

CONCLUSION

WHO reports that extent of worldwide psychoactive substance use is estimated at 1.3 billion smokers.[14] A general lack of awareness among the public about oral cancer and a lack of knowledge about its causation especially the excess risk associated with alcohol was reported by the present study. Thus, knowledge and practices about the risk factors were found to be not satisfactory among the studied population. More education is needed in colleges to enhance knowledge of oral cancer risk factors and diagnostic concepts. Awareness regarding white and red lesions among the population will help to early report to doctors and will result in early diagnosis of oral cancer. So, there is need to improve the knowledge and practices of risk factors for oral cancer among students that comprises the future of the nation by either collaborative approach by various specialties or by arranging continuous medical education programs by medical institutes.

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