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ORAL CANCER- Knowledge Attitude and Practice among Medical and Dental Students of A North Indian State

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ABSTRACT

Background- the aim of the study is to assess the knowledge, attitude and practice regarding oral cancer among the final year medical and dental students of a North Indian State. The impact of disease specific training workshop on knowledge and practice is also compared. This is the first study of its kind in the region.

Methods- The cross-sectional observational study was conducted in the three prominent medical colleges of the region. A pre-tested, structured and self-administered questionnaire was used for data collection. Descriptive analysis was done and represented through frequency, percentages and mean.

Results- It was observed that 69% students had very good knowledge and 22% had good knowledge regarding oral cancer. A good number of students knew about risk factors of oral cancer. Common causes listed were tobacco abuse(94%), alcohol (86%), poor dental hygiene(86%), illiteracy (86%), limited access to healthcare facility (85%) and lack of a good referral system (81%). Only 42.4% study population has ever attended a training course on detection and prevention of oral cancer. Significant difference was observed in almost all aspects of knowledge and attitude of students regarding this disease. Those who attended the workshop fared better than those who did not.

Conclusion- Additional training and continuing educational programmes for medical and dental students on prevention and early detection of oral cancers is strongly recommended. Adequate training of health professionals may aid in early diagnosis, prompt referral and would improve the curability of this dreaded but curable disease.

Keywords: oral cavity cancer, medical students, knowledge

INTRODUCTION

India, among the Asian subcontinent, presents with higher incidence of head and neck cancer. Oral cancer ranks among the top three types of oral cancer in India.[1] It has been seen that India contributes up to 7.8% of the global cancer burden and 8.33% of global cancer deaths. More than 2 lakh new cases of head and neck cancers are diagnosed every year.[2] Majority of the cancers of oral cavity are readily visible, still 70% of the patients present in advanced stage. Delayed diagnosis and presentation in advanced stage results in low survival rates.[3] Therefore, early detection of cancer in this clearly visible site will have the best chance of long-term survival, as a result of improved treatment outcome.[4]

Lack of awareness among the public about the early signs of oral cancer is the most important factor in delay in seeking medical help. Lack of knowledge in general medical practitioner and general dental practitioner has also been shown to contribute to delays in referral and treatment.[5] Medical and dental students, being the future medical practitioners, will play an important role in the prevention, early detection and early referral of patients. There is lack of data on knowledge, awareness and practice of oral

cancers in medical students in Himachal Pradesh. So, this study was done with the aim to assess the knowledge, attitude and practice of oral cancers in the medical and dental students of Himachal Pradesh. Also, the role of training programmes to enhance the knowledge and awareness of oral cavity cancers in these students is evaluated.

MATERIALS AND METHODS

A cross-sectional observational study was conducted in Himachal Pradesh, a hilly state in Western Himalayan region of India. The study was conducted over three months period from November 2018 to January 2019.

The study population comprised of undergraduate medical students of the three medical colleges and dental students of one medical college of the State. All the final year undergraduate students were included in the study. The medical colleges included in the study were Indira Gandhi Medical College (IGMC) Shimla, Dr. Rajendra Prasad Government Medical College (Dr. RPGMC) Tanda and Maharishi Markendeshwar Medical College (MMMC) Solan. The final year dental students of IGMC, Shimla were included in the study. Those who were absent on day of the data collection and not willing to participate in study were excluded.

A pre-tested, structured and self-administered questionnaire was used for data collection. Student's personal data was not collected except for the age. The questionnaire consisted of two parts. First part had questions to assess knowledge about risk factors, early mucosal changes, early warning signs, staging, and the preventive methods of oral cancers. Second part had questions to assess the attitude of students towards oral cancer diagnosis and treatment.

Questions were close ended with one or multiple correct responses.

A total of 400 questionnaires were distributed to these students after briefing about nature of the study and its purpose. Out of 400 questionnaires, 390 were received back, out of which 27 were incomplete and so, excluded. Thus, the study population comprised of 363 students. Age group of the study population was 23 to 28 years.

STATISTICAL ANALYSIS

The data was entered into Microsoft Excel 2007 and analyzed using Statistical Package for Social Sciences (SPSS) version 17. Descriptive analysis was done and represented through frequency, percentages and mean (standard deviation). For calculating score for knowledge, each correct and incorrect answer was given a score of 1 and 0, respectively. Total scores obtained by each student were categorized as 0-25% (poor knowledge), 26-50% (moderate knowledge), 51-75% (good knowledge) and 76-100% (very good knowledge). The unpaired t test was used as test of significance, taking level of significance as $p < 0.05$.

The informed consent of the participants was taken prior to data collection. The confidentiality of data obtained was assured.

RESULTS

The response rate of the study was 90.3%. Mean age of the study group was 26 years. All the students were aware about the term oral cancer and majority attributed their knowledge to their training institute. More than 80 % students knew regarding different sub sites of oral cavity where cancer can develop but not many (60%) knew about retromolar trigone as a distinct site in oral cavity.

Almost all (94%) consider tobacco abuse as a common cause of oral cancer in India. Other common causes listed were alcohol (86%), poor dental hygiene(86%), illiteracy (86%), limited access to healthcare facility (85%) and lack of a good referral system (81%).

A good number (88%) of students knew about risk factors of oral cancer. Knowledge of risk factors of oral cancer is listed in table 1.

86% believe that oral cancer is preventable if detected early. More than 80% answered that oral cancer can be detected at an earlier stage and the same number of subjects knew the early warning signs of oral cancer. As it can be detected early, 81% believe that screening decrease the mortality in oral cancers. Thus, almost 75% are of the opinion that screening should be started in oral cancers.

Almost 80% students answered that deglutition problems and voice changes appear as early warning signs, followed by non-healing ulcer (78.5%), colour changes in oral mucosa (77.1%) and halitosis(76%).

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Table 2 depicts the knowledge regarding early warning signs and oral mucosal changes.

As shown in table 3, more than 90% believe that tobacco cessation and raising awareness about oral cancer can help in preventing this disease. Other popular ways to prevent are banning tobacco related products, maintain good oral hygiene and screening for oral cancers. 88% also believe that statutory waning on tobacco products is an effective way of prevention.

More than half believe that their knowledge regarding risk factors is not adequate. Less than half (43%) consider their knowledge regarding detection and prevention of oral cancers adequate. Most of the students think that they need more information and teaching regarding oral cancer through lectures and seminar. 76% think that information packs can be helpful to increase their knowledge.

Table 4 depicts the attitude of medical students towards oral cancer. Only 42% of the students routinely examine oral mucosa in their patients. On suspicion of oral cancer, 64% will refer their patient to a specialist doctor immediately and majority will refer to a ENT surgeon, followed by maxillofacial surgeon and to oral medicine.

Less than half of the medical students had correct knowledge regarding the staging systems followed for oral cancer. Being final year medical students, different methods of treatment available for oral cancer are well known to the study population, but knowledge regarding brachytherapy as treatment modality is known to only half of them.

The knowledge levels of students were compared based on 10 questions listed in table 5. It was observed that 69% students had very good knowledge and 22% had good knowledge regarding oral cancer.

Only 42.4% study population has ever attended a training course on detection and prevention of oral cancer. We compared the knowledge scores between those who ever attended a special workshop on oral cancer and those who did not. The results listed in table 7 show significant difference in almost all aspects of knowledge and attitude of students regarding this disease. Those who attended the workshop fared better than those who did not.

DISCUSSION

Many studies have been conducted on this subject in India as well as outside.[6,7,8,9]. This study is the first one to assess knowledge, attitude and practice among undergraduate medical and dental students of the state of Himachal Pradesh. Patients with oral and dental problems can present to both medical and dental practitioners. Medical students are the future doctors. Therefore, adequate knowledge among our medical and dental practitioners regarding this curable malignancy will lead to early identification of both precancerous and cancerous lesions. Reducing diagnostic delay by earlier detection is a cornerstone to improve survival.[10]

Almost all (97%) of our students have heard of the term, oral cancer and more than 80% could precisely name the different sub sites of oral cavity except for retromolar trigone which was identified by lesser number of subjects. Though they have learned about oral cancer during their medical teaching, but, many have attributed their knowledge to media and also through their relatives. This highlights the role of media as an important source of mass communication and thus, it can create awareness of this easily detectable disease in general public.

The knowledge about signs and symptoms in our students compare well to the knowledge amongst general dentists in Chennai city which is approximately 80%. [11] In the same study, the knowledge of risk factors was 67%, whereas it approaches 80% in our study population. A similar study was conducted in our region, where knowledge levels of medical students were compared and it was seen that the higher percentage of students in 5th year belonged to excellent category of knowledge.[5]

Rising incidence of oral cancer in India is attributed to tobacco abuse, poor oral hygiene, ignorance and limited access to healthcare system in India. Squamous cell carcinoma accounts for 95% of the oral cancers. It has been approximated that the use of tobacco and alcohol account for up to 80 per cent of cases of squamous cell carcinoma of the head and neck.[12] Oral cancer affects those from the lower socioeconomic groups.[4] One of the measures in prevention of oral cancer is by avoiding the habit of tobacco consumption in any form and maintaining a better standard of oral hygiene.[13] These causes could be targeted by increasing the awareness, banning tobacco related products and developing effective

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screening protocols. Screening of oral cavity could be done by the patient himself as well as the medical/ dental practitioner easily when he visits for routine dental or oral check up.

Only around 40 % of our students answered that they ever examined the oral cavity in a patient. Another study of same region reported that 51% of students examine the oral mucosa routinely.[5]

Almost all recommended visiting doctor immediately on developing any symptoms of this disease. None recommended alternate form of treatment. This reflects the difference in attitude of a medical professional and general public as the education and medical training alters the attitude.

Vijay Kumar et al[14] in their study on 240 practicing dentists found that, a mere 31% of the dentists educated their patients on the adverse effects of these habits and assisted them in cessation programs. They strongly emphasize that, educational interventions for practitioners and dental students are necessary.

Only 41% of our students have attended training course on detection and prevention of Oral cancer. Another such study conducted at Kathmandu[15] stated that 57.3% students received adequate training on examination of oral cavity. The survey done by Avinash et al[2] reveals that training is required for both medical and dental practitioners to increase awareness of oral cancer and its associated risk factors and to strengthen the practitioners' abilities to diagnose potentially cancerous intra- oral lesions. Our study results show that there is significant difference in knowledge, attitude and practice amongst those who attended the specific workshop on oral cancer treatment and prevention and those who did not attend such workshop. Students who are sensitized with such workshops develop better knowledge.

Disease specific workshops targeted to improve the practical knowledge of final year students and interns who are soon going to independently practice medicine should be included in the curriculum of medical education. This may be an important step towards early detection and prevention of malignant diseases.[16]

This study has few limitations. The nature and details of the workshop was not asked from the students. Apart from early detection and providing treatment to patients, it is also the responsibility of the treating doctor to help their patients to quit smoking. This aspect of students' attitude was not addressed in this study. Also, there is possibility of contamination of information, as the questionnaires were not distributed simultaneously in all the colleges.

CONCLUSION

The results suggest that providing adequate training and continuing educational programmes on prevention and prompt detection of oral cavity cancer are highly recommended. This would improve the quality of medical services and prevent late presentation of the disease when treatment becomes only palliative.

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Table 1: Knowledge of risk factors of oral cavity cancer

Risk factors for oral cancer	Frequency (N=363)	Percent
Age	292	80.4
Race	274	75.5
Social and economic factors	324	89.3
Tobacco consumption (bidi, cigarette, hookah)	297	81.8
Betel quid, slaked lime, areca nut	308	84.8
Reverse smoking	323	89.0
Snuff	276	76.0
Khaini	320	88.2
Alcohol	291	80.2
Chronic sepsis	283	78.0
Chronic Irritation	294	81.0
Spicy and hot food	286	78.8

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Syphilis	237	65.3
Poor orodental hygiene	303	83.5
UV rays	253	69.7
Nutritional deficiency	295	81.3
Plummer Wilson or Patterson Kelly syndrome	270	74.4
Genetic	302	83.2
Viral	273	75.2
Marijuana	254	70.0
Immunosuppressant	275	75.8
Trauma by sharp teeth	259	71.3
Chronic dental infection	288	79.3

Table 2: Knowledge of signs and symptoms and early detection methods of oral cavity cancer

	Frequency (N=363)	**Percent**
Early warning Signs of oral cancer	302	83.2
Non-healing ulcer/Abnormal growth	285	78.5
Difficulty in swallowing, chewing or speaking	290	79.9
Foul mouth odour	276	76.0
Patches that won't heal and bleed easily	262	72.2
Change in taste	267	73.6
Colour change in oral tissue	280	77.1
Oral cancer related mucosal changes		
Leukoplakia	313	86.2
Erythroplakia	285	78.5
Sub mucus fibrosis	288	79.3
Ulcerations	299	82.4
Erythroleukoplakia	278	76.6
Induration	259	71.3
Exophytosis	248	68.3
Mass	306	84.3
Lump	276	76.0
Growth	302	83.2
Lymphadenopathy	301	82.9

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Early detection methods of Oral cancer		
Identifying target population	311	85.7
Screening with visual method	295	81.3
Oral exfoliative cytology	301	82.9

Table 3: Knowledge of preventive methods of oral cavity cancer

Ways to prevent Oral cancer	**Frequency (N=363)**	**Percent**
Tobacco cessation	336	92.6
Raising awareness	329	90.6
Observing Tobacco free day	292	80.4
Statutory warning on product	319	87.9
Banning of tobacco	325	89.5
Eating healthy Diet	310	85.4
Good oral hygiene	326	89.8
Routine dental check ups	311	85.7
Identifying pre-malignant conditions	315	86.8
Screening for early detection	320	88.2

Table 4: Attitudes to oral cavity cancer

	Frequency (N=363)	**Percent**
Oral cancer is a serious disease	305	84.0
Oral cancer is curable	284	78.2
Ever cared for oral cancer patients	177	48.8
Talk about oral cancer and prevention with patients, family or friends	213	58.7
Believe that screening decrease mortality of oral cancer	296	81.5
Oral cancer screening should be started	273	75.2
Time Period to see a doctor if respondent discover sign & symptoms		
Immediately	234	64.5
Within one month	03	00.8
1-3 months	03	00.8
Do not know	123	33.9

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Where would you refer if suspected oral cancer		
Maxillofacial surgeon	238	65.6
Oral medicine	235	64.7
ENT surgeon	263	72.5
Plastic surgeon	142	39.1
Dentist	209	57.6

Table 5: Correct responses to questions on knowledge about oral cancer

Sr. No.	**Questions**	**Correct Response (n)**	**Percentage**
1	Symptoms and signs of oral cancer	4815	78.0
2	Risk factors for oral cancer	6890	79.1
3	Can oral cancer be detected early	296	81.5
4	Ways to prevent oral cancer	3183	87.7
5	Sites of oral cavity involved	1468	80.9
6	Knowledge regarding staging	332	30.5
7	Early detection methods	907	83.3
8.	Methods of diagnosis	902	82.8
9.	Reasons for oral cancer is common in India	2199	86.5
10.	Treatment of oral cavity cancer	1455	80.2

Each question has multiple correct responses.

Table 6: Knowledge levels of students

Level of knowledge	**Frequency**	**Percentage**
Very good	250	68.9
Good	82	22.6
Moderate	22	06.1
Poor	09	02.5

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Table 7: Comparison of knowledge score between those who attended training on oral cancer and those who did not.

Knowledge related Variables	Ever attended a training on Oral Cancer screening & prevention				p
	Yes (N=150)		No (N=213)		
	Mean	SD	Mean	SD	
Symptoms and signs of oral cancer	15.03	3.03	12.02	4.92	0.00*
Risk factors for oral cancer	20.38	4.79	18.00	6.02	0.00*
Can oral cancer be detected early	0.89	0.31	0.76	0.43	0.00*
Ways to prevent oral cancer	8.99	2.08	8.62	2.49	0.13
Sites of oral cavity involved	4.36	1.21	3.82	1.42	0.00*
Knowledge regarding staging	1.03	0.65	0.83	0.81	0.01*
Early detection methods	2.65	0.77	2.39	1.02	0.01*
Methods of diagnosis	2.61	0.85	2.39	0.96	0.02*
Reasons for oral cancer is common in India	6.28	1.37	5.90	1.81	0.03*
Treatment of oral cavity cancer	4.44	1.07	3.70	1.36	0.00*

*Significant. SD: Standard deviation. Unpaired t-test was applied.

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