Original Article

Assessment of Awareness and Knowledge of Oral Cancer Among Dental Students in Faisalabad Medical University

Maleeha Naseer[1], Saneela Mamoon[2], Sana Mehmood Qureshi[3], Omer Sefvan Janjua[4], Muhammad Hammad*, Saad Hameed[5].

1 House Officer in PMC Dental Institute, Faisalabad Medical University, Faisalabad 38000, Pakistan
2 House Officer in PMC Dental Institute, Faisalabad Medical University, Faisalabad 38000, Pakistan
3 Department of Oral and Maxillofacial Pathology, PMC Dental Institute, Faisalabad Medical University, Faisalabad 38000, Pakistan
4,5, Department of Oral and Maxillofacial Surgery, PMC Dental Institute, Faisalabad Medical University, Faisalabad 38000, Pakistan

***Corresponding Author: Dr. Muhammad Hammad BDS, FCPS Resident.**, Department of Oral and Maxillofacial Surgery, PMC Dental Institute, Faisalabad Medical University, Faisalabad 38000, Pakistan.

Received Date: November 28, 2020
Publication Date: January 01, 2021

Statement of novelty:

Study done first time, never done before in our setup and it will add to knowledge of readers.

Conflict of Interest:

None to declare.

Setting:

The study was conducted in the department of Oral and Maxillofacial surgery, Allied Hospital Faisalabad.

Abstract

Background: *Oral cancer is one of the leading causes of death and disability in the subcontinent. Early detection will surely decrease its mortality rate.*

Setting: *The study was conducted among Dental students of Faisalabad Medical University.*

Methods and materials: *A descriptive cross-sectional questionnaire-based study was conducted in students attending the 2nd year, 3rd year and final year BDS classes in Faisalabad Medical University to assess the knowledge of oral cancer. The questionnaire was distributed among all the students electronically after obtaining willingness. Data were then analyzed using SPSS version 20.*

Results: *A total of 125 dental students took part in the study. Females were one hundred (80%) and males were twenty-five (20%). 82% of students agreed that family history plays an important role in oral malignancy. Regarding risk factors, 96% of the students could identify the use of tobacco as a real risk factor for oral cancer. Only 61.6% identified old age as a risk factor, 58.4% of students said that low consumption of fruits and vegetables is a risk factor, 63.2% knew that lip cancer related to sun exposure and 87.2% could correctly identify the use of alcohol as a risk factor for oral cancer.72% of students agreed that they know treatment options and 38.0% know of early detection and the opinion changes from the second year to final year.*

Conclusion *The basic knowledge of the students about oral cancer is not adequate to prevent and treat this disease. So, it is necessary to improve the dental student's knowledge about oral cancer.*

Keywords *Awareness, Knowledge, Oral Cancer, Dental Students.*

Introduction

The incidence of oral cancer is rising in many countries, especially in developing countries **(**1**)** . Oral cancer is a malignant neoplasm arising from the squamous epithelium of the oro-pharyngeal region, hence termed Oral Squamous Cell Carcinoma (OSCC).**(**2**)** OSCC includes cancer of the lips, tongue, cheeks, floor of the mouth, alveolus and hard and soft palate.

Some studies have shown the prevalence of OSCC to be at sixth position among all malignancies **(**3**)** whereas a study reported it to be the 10th most common among men. **(**4**)** Asian countries like India, Pakistan, Bangladesh and Sri Lanka are considered as the flag bearers (25 % new cases every year) in the world of cancer. **(**3**)** One of the dreadful aspects of oral cancer is that in its initial stages, it is disguised as normal tissue. It goes unrecognized, being painless with minimal physical alterations. Later on, it may progress from spots, crusts, thick eroded and rough areas to velvety (white /red) fragments. It may become associated with unexplained bleeding, lethargy, insensibility in any of the affected areas. **(**5**)**

An understanding of the etiological factors will be helpful in the prevention of this malignant disease. Alcohol consumption and tobacco use in all its forms (cigarettes, cigars and pipe smokers) are considered prime carcinogens. **(**6**)** Physical factors that notably enhance the chances of cancer include exposure to ultraviolet radiation and x-rays. Some strains of human papillomavirus (HPV) are also implicated in cancer development. **(**7**)** Excessive sun exposure and genetic predisposition are also considered as factors. **(**8**)**

Although SCC can easily be diagnosed in routine oral examinations, lack of awareness of doctors compounded by patient's negligence and ignorance, results in delayed recognition of cancer, resulting in poor prognosis. Patients who are diagnosed in the early stages have better survival rates with little post-treatment disfigurement. It increases the quality of life and lowers treatment costs but this requires vigilance on behalf of doctor and patient, thus necessitating proper training to the dental students regarding oral cancer **(**9-10**)**.

American Dental Association Centre for Disease Control and Prevention in 1996 and the National Institute of Dental Research/National Institutes of Health, stated that health care professionals should know about oral cancer, its risk factors, sign and symptoms and they should also know how to perform an oral cancer examination in a patient. **(**11**)**

Thus, the rationale of our research was to assess the knowledge and awareness of oral malignancy among dental students of Faisalabad Medical University. The results of the study can help the faculty in planning and amending the dental curriculum of the university so that students can understand the concepts related to OSCC in a better way and this will ultimately be beneficial for patients suffering from OSCC.

Material and Methods

In February 2020, a cross-sectional questionnaire-based study was conducted among the dental students who were attending the 2nd year, 3rd year, and final year BDS at Faisalabad Medical University. A total of 125 students were enrolled in the study including 2nd year, 3rd year, and final year. A specially designed questionnaire was developed and distributed among students electronically. The questionnaire consisted of 10 questions to assess basic knowledge and awareness about oral cancer prevention, risk factors, early detection and referral of oral cancer patients by dentists. The first six questions comprised of yes or no questions, the next four were multiple-choice questions. Students have explained the purpose of the study. Willingness was obtained from all the participants. The results were entered in SPSS version 20 for statistical analysis. The responses were coded as numeric values to facilitate the data entry and analysis and association was observed between different classes of dental students using the Chi-square test. At least a 95% level of significance ($p<0.05$) was considered significant.

Results

The total participants were one hundred and twenty-five (125). There were one hundred females (80%) and twenty-five males (20%). The response rate was 100%. Out of 125 respondents, the second-year students were 37 (29.6%), the third year were 42 (33.6%) and the final year was 46 (36.8%).

The frequencies and percentages of the various variable have been depicted in table 1. The responses vary significantly from the second year, third year and final year students.

Question	Response	Second year	Third year	Final year	Total response frequency	Total response percentage
Does family history play role in Oral cancer?						
	Yes	13	40	29	82	65.6%
	No	24	2	17	43	34.4%
Do you consider following to be risk factors?						
1. Use of tobacco	Yes	33	41	46	120	96%
	No	04	01	0	5	4%
2. Use of alcohol	Yes	30	38	41	109	87.2%
	No	7	4	5	16	12.8%
3. Old age	Yes	14	27	36	77	61.6%
	No	23	15	10	48	38.4%
4. Sun exposure	Yes	6	37	36	79	63.2%
	No	31	5	10	46	36.8%
5. Low consumption of fruits and vegetables	Yes	20	22	31	73	58.4%
	No	17	20	15	52	41.6%
Are you aware of various treatment modalities for management of oral cancer?						
	Yes	19	33	38	90	72%
	No	18	9	8	35	28%
Do you think Early detection will improve 5-year survival rate?						
	Yes	33	38	45	116	92.8%
	No	4	4	1	9	7.2%
Do you know after three negative findings, oral cancer examination can be discontinued?						
	Yes	15	18	19	52	41.6%
	No	22	24	27	73	58.4%
Do you know Squamous cell carcinoma is most common oral cancer?						
	Yes	27	40	43	110	88%
	No	10	2	3	15	12%

Do you feel that you have sufficient knowledge concerning prevention and detection of oral cancer?						
	Yes	18	7	21	46	36.8%
	No	19	35	25	79	63.2%
Would you like to get more knowledge of oral cancer?						
	Yes	34	40	42	116	92.8%
	No	3	2	4	9	7.2%
Which format would you prefer to gain more knowledge about Oral cancer?						
lecture		6	9	10	25	20%
Seminar		27	25	24	76	60.8%
Net		4	8	12	24	19.2%
Which of the following changes associated with cancer?						
white lesion		3	6	6	17	12%
Red lesion		4	3	0	7	5.6%
Pigmentation		14	4	2	20	16%
All are associated		16	29	38	83	66.4%
Most common site for oral cancer?						
Tongue		12	9	14	35	28%
Floor of mouth		6	21	25	52	41.6%
Gingiva		8	5	2	15	12%
Palate		2	1	2	5	4%
Vestibule		9	6	3	18	14.4%
Where should patient of oral cancer consult?						
ENT Surgeon		4	0	1	5	4%
OMFS		0	24	28	73	58.4%
Oncologist		1	18	17	47	37.6%

Discussion

Early identification of oral and oropharyngeal cancer is very important to ensure better survival rates **(**12**)**. It is of crucial importance that undergraduate dental students grasp adequate information concerning early identification and referral of carcinoma patients. Our study reports the knowledge of oral cancer among undergraduate dental students of Faisalabad Medical University.

In our study, 65% of students agreed that family history plays an important role in oral cancer which is comparable to 61% as reported by Gaddikeri et al **(**13**)** but they are less than findings reported by Kumar and Harshini (97%) **(**14**)** and Soares et al (75%) **(**15**)**

Regarding risk factors, 96 % of students reported tobacco as a risk factor is similar to studies done by Chan et al (98%) **(**16**)**, Soares at el (92%) **(**15**)** and Hamdy et al (95%) **(**17**)** while a study conducted by Rahman et al reported it to be 83% **(**18**)**. 87% of students reported alcohol as a risk factor similar to findings in a study done by Soares et al (84%) **(**15**)** but less than studies reported by Chan et al (92.7%) **(**16**)**, 58% of the students identified low consumption of fruit and vegetables as a potential risk factor. Some workers have reported a lower risk of oral cancer with a higher intake of fruits and vegetables. **(**19**)** Dental students should be informed about the protective role of fruit and vegetables in OSCC.

Furthermore, 72% of participants were aware of the treatment modalities for the management of oral cancer which is similar to the study done by Gaddikeri et al (77%). **(**13**)** A study by Kumar and Harshini showed slightly more awareness among the dental students (84%) **(**14**)** Perhaps more clear guidelines and protocol on management of oral cancer should be taught in the dental school which will help in early diagnosis of disease and turn good prognosis.

Our results showed that the majority of the students knew that the early detection of oral cancer improves survival rate (92%). 88% contemplated that SCC is the most common oral cancer and these findings are consistent with the study by Chan et al (88%) **(**16**)**

In our study, only 36.8 % of students felt that they had sufficient knowledge which is less than studies reported by Hamdy et al (61%) **(**17**)** which signifies that there is an increased need for undergraduate dental students to be educated regarding etiology, risk factors, diagnosis and management of oral cancer.

The knowledge of oral cancer should be instilled upon the dental students during their course of study and the majority of our dental students agreed to it (92.8%). This is very much by studies conducted by Kumar and Harshini (96%) **(**14**)** and Hamady et al (80%) **(**17**)**.

Lack of awareness revealed that our students failed to recognize the importance of site involvement. The tongue is the most common site for oral malignancy **(**20**)** but the majority of our respondents were not aware of this fact (72%). This should be taken into consideration that 73-74% population of the other surveys (Uti et al and Chan et al) **(**21-16**)** identified the tongue as the most common site.

Lastly, referral to oral and maxillofacial surgeons (omfs) was the most preferred choice (58.4%) by students when they suspect a patient with oral cancer. This is analogous to the findings of Kolenko et al who found that omfs was the most frequently selected point of referral (55%) **(**22**)**. such preference can be explained by the availability of separate oral and maxillofacial department at Faisalabad Medical University.

Conclusion

The basic knowledge of the students about oral cancer is not adequate to cure as well as prevent this appalling disease. About one-third of the population considered their knowledge of oral cancers adequate. More than 90% of the students wanted to get more knowledge so this entails the necessity to improve dental student's knowledge about oral cancer via upgrading theoretical and practical curricula, thus they can help the patients to stop smoking tobacco and alcohol and contribute to oral cancer prevention. Morbidity and mortality can be reduced if future dentists have an adequate working knowledge of oral cancer.

References

1.Carter LM, Ogden GR. “Oral cancer awareness of undergraduate medical and dental students”. BMC Med Educ. 2007;15;7-44. doi: 10.1186/1472-6920-7-44.

2.Lingen MW, Kalmar JR, Karrison T, Speight PM. “Critical evaluation of diagnostic aids for the detection of oral cancer”. Oral Oncol. 2008;44(1):10-22. doi: 10.1016/j.oraloncology.2007.06.011

3.Warnakulasuriya S. “Global epidemiology of oral and oropharyngeal cancer”. Oral Oncol. 2009;45:309-16. doi: 10.1016/j.oraloncology.2008.06.002.

4.Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M.,Bray, F. “Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012”. International Journal of Cancer, 136(5), E359–E386. doi:10.1002/ijc.29210.

5.Monteiro, L. S., Salazar, F., Pacheco, J., & Warnakulasuriya, S. (2012). “Oral Cancer Awareness and Knowledge in the City of Valongo, Portugal”. International Journal of Dentistry, 2012;1–8. doi:10.1155/2012/376838

6.Mahapatra S, Kamath R, Shetty BK, Binu VS. “Risk of oral cancer associated with gutka and other tobacco products: a hospital-based case-control study”. J Cancer Res Ther. 2015;11(1):199-203. doi: 10.4103/0973-1482.143332.

7.Kreimer AR, Clifford GM, Boyle P, Franceschi S. “Human papillomavirus types in head and neck squamous cell carcinomas worldwide: a systematic review”. Cancer Epidemiol Biomarkers Prev. 2005 Feb;14(2):467-75.

8.Liu S-A. “A Literature Analysis of the Risk Factors for Oral Cancer, Oral Cancer Kalu U. E”. Ogbureke, IntechOpen,2012. DOI: 10.5772/31192

9.Carter LM, Ogden GR. “Oral cancer awareness of undergraduate medical and dental students”. BMC Med Educ. 2007;1:7-44. doi: 10.1186/1472-6920-7-44.

10.Nazar SA, Uma Maheshwari TN. “Awareness of Early Detection and Prevention of Oral Cancer Among Dentists - A Review”. IOSR-Journal of Dental and MedicalSciences.2014;13:10-1.

11.Mangalath U, Aslam SA, Abdul Khadar AK, Francis PG, Mikacha MS, Kalathingal JH. “Recent trends in prevention of oral cancer”. J Int Soc Prevent Communit Dent 2014;4:131-8 .

12.Silverman S. “Demographics and occurrence of oral and pharyngeal cancers: the outcomes, the trends, the challenge”. J Am Dent Assoc. 2001;32:7-11.

13.Gaddikeri K, Bhorgonde DD. “Knowledge Assessment of undergraduate Dental Students about oral cancer-An Institutional Study”. Annals of international Medical and Dental Research,2017;3: 2395-2817. DOI: 10.21276/aimdr.2017.3.1.DE6.

14.Kumar mp S, Ak H. “Knowledge And Awareness About Oral Cancer Among Undergraduate Dental Students”. Asian J Pharm Clin Res. 2016];9:165-7.

15.Soares, T. R. C., Carvalho, M. E. de A., Pinto, L. S. S., Falcão, C. A., Matos, F. T. C., & Santos, T. C. “Oral cancer knowledge and awareness among dental students Braz” J Oral Sci. 2014;13:28–33. doi:10.1590/1677-3225v13n1a06.

16.Al-Maweri SA, Al-Soneidar WA, Dhaifullah E, Halboub ES, Tarakji B. “Oral Cancer: Awareness and Knowledge Among Dental Patients in Riyadh”. J Cancer Educ. 2017 Jun;32(2):308-313. doi: 10.1007/s13187-015-0924-y.

17.Hamdy B, Almarhoumi A & Arnout EA. “Awareness of Undergraduate Dental Students at Taibah University toward Early Detection of Oral Cancer”. J Dent Health Oral Disord Ther, 2016;5(2): 00147. DOI: 10.15406/jdhodt.2016.05.00147

18.Rahman B, Hawas N, Rahman MM, Rabah AF and Kawas SA. (2013). “Assessing dental students’ knowledge of oral cancer in the United Arab Emirates”. Intern Dent Journ2017;,63:80-84.

19.Notani PN, Sanghvi LD. “Role of diet in the cancer of the oral cavity”. Indian J Cancer, 1976;13(2):156–160.

20.Sultana J,Bashir A & Molla MR.(). “New Management Strategies of Oral Tongue Cancer in Bangladesh” .Journ Maxillofac Oral surg. 2013;13(4):394-400. DOI 10.1007/s12663-013-0566-8

21.Uti OG, Fashina AA. “Oral cancer education in dental schools: Knowledge and experience of Nigerian undergraduate students. J Dent Educ, 2006;70(6):676-80.

22.Yulia K. “Awareness of oral cancer and precancer among final year dental undergraduates in Ukraine”. Journel of education, health and sport. 2016;6(3):106-112.

Volume 2 Issue 1 January 2021