

ORAL CANCER KNOWLEDGE AND AWARENESS AMONGST UNDERGRADUATE DENTAL STUDENTS OF LAHORE – PAKISTAN

¹FARHAT KAZMI, BDS, MPhil

²MUHAMMAD ASLAM CHAUDHARY, BDS, MDS

³MUHAMMAD MUMTAZ, BDS, MDS

⁴MUHAMMAD UMAIR DASTGIR BHATTI, BDS, MSc

⁵NIDA KHAWAJA, BDS

ABSTRACT

The aim of this study was to investigate the knowledge and awareness of undergraduate dental students regarding risk factors and signs of oral cancer. A self reported questionnaire comprising of eight questions was given to seven hundred and sixty undergraduate dental students in four of the five dental institutes situated in Lahore, Pakistan during the academic year 2010. The results showed a gradient of responses to questions related to oral cancer awareness and knowledge amongst students of 1st, 2nd, 3rd and final year BDS. Better knowledge and awareness was found amongst 3rd year students as compared to final year students ($p < 0.05$). This may be due to the fact that oral pathology is taught in third year. The study highlights the need to improve the knowledge of undergraduate dental students regarding prevention and early detection of oral cancer.

Key words: Oral cancer knowledge and awareness, Risk factors for oral cancer, Signs for oral cancer, Undergraduate dental students

INTRODUCTION

Oral cancer is a major health problem in many parts of the world; especially in developing countries.¹ More than 500,000 patients are estimated to have oral cancer globally with approximately 389,000 new cases per annum. Being the 11th most common cancer in the world², it accounts for approximately 2.4% of all cancers.³ The incidence and prevalence of oral cancer is rapidly increasing in both developed and developing countries² and Pakistan is no exception, where it is the second most common cancer in males.⁴ Highest prevalence rates have been noted in Karachi and Jamshoro (Sindh), followed by Multan (Punjab) and a much lower frequency in Peshawar (North West Frontier Province).⁵

Predisposing factors for oral cancer are alcoholism⁶, heavy use of tobacco⁷, paan/betel nut chewing,

ultra violet light and poor oral hygiene.⁸ A diet deficient in fruit and vegetables also predisposes towards the development of oral cancers.⁹ An increased risk of oral cancer has also been shown in individuals with HIV/AIDS or people who have undergone organ transplants.¹⁰ Premalignant lesions i.e. leukoplakia, erythroplakia or a painless non healing ulcer may be the first sign of oral cancer; localized pain usually occurs later.¹¹ Etiology of oral squamous cell carcinoma is predominantly related to tobacco and alcohol consumption; however other factors which can be involved include: human papilloma virus, candida, iron deficiency, radiation, immunosuppression, carcinogens, and tumor-suppressor genes.¹²

Each individual may experience symptoms differently¹³ and recognition of these signs and symptoms is

¹ Department of Oral Pathology, Faculty of Dentistry, The University of Lahore, Pakistan

² Department of Oral and Maxillofacial Surgery

³ Department of Oral and Maxillofacial Surgery

⁴ Department of Public Health Dentistry

⁵ Department of Periodontology

Corresponding Author: Dr Muhammad Umair Dastgir Bhatti, Address: 64 A/1 Street 17, Cavalry Grounds Extension, Lahore Cantt, Pakistan, Phone: 0092423006458100, 00924236605000, Email: umairbhatti@doctor.com

important, as early diagnosis can result in better treatment.¹³ Lack of knowledge about oral cancer among the undergraduate dental students may be a factor for delays in referral to the specialists. Moreover it may adversely affect the preventive measures.¹⁴ Awareness of professionals (doctors, dentists, health care workers and auxiliaries) must be improved so that they can identify people at risk and guide them for taking appropriate measures.

METHODOLOGY

A self reported questionnaire based survey which followed a cross sectional research design was carried out during the academic year 2010 in four of the five dental schools situated in Lahore, Pakistan. The excluded dental school did not have final year BDS class it was established 3 years back hence was not included in this study. All seven hundred and sixty dental students of 1st, 2nd, 3rd and final years BDS from the selected schools, who were present in their respective dental schools at the time of study had the opportunity to participate. The oral cancer awareness and knowledge of dental students was assessed by means of a questionnaire which was delivered during routine lectures. The questionnaire comprised of eight questions investigating: knowledge of risk factors for oral cancer

and awareness of signs of oral cancer for its detection and prevention.

Before conducting the study, piloting was done by administering the questionnaire to fifty BDS students at one of the selected dental schools. The participants were then asked about any difficulties that they faced while responding to the questions. It was found that the questionnaire was easy to understand and could be independently completed by participants without difficulty. The actual study was then conducted during September-October 2010. Six hundred and eighty students successfully completed the questionnaire. Eighty questionnaires were found incomplete because of missing responses to one or more questions and hence were not included in the data analysis to avoid potential bias. A response rate of eighty nine percent (89%) was hence achieved. The participants independently filled up the questionnaire without any names and identification numbers. The completed questionnaires were then entered in SPSS version 16 for statistical analysis. The responses were coded as numeric in order to facilitate the data entry and analysis. The results have been presented in the form of tables and figures. The results were analyzed using the Chi- square (X^2) test.

RESULTS

TABLE 1: KNOWLEDGE OF ORAL CANCER RISK FACTORS AND AWARENESS OF SIGNS OF ORAL CANCER AMONGST 3RD AND FINAL YEAR BDS STUDENTS

Oral cancer awareness and knowledge questions n=320	3 rd Year BDS (n=176)		4 th Year BDS (n=144)		Significance P value
	Yes n (%)	No n (%)	Yes n (%)	No n (%)	
Q1. You are more likely to get oral cancer if you are aged over 50 years	132 75.0%	44 25.0%	72 50.0%	72 50.0%	0.00
Q2. You are more likely to get oral cancer if you smoke tobacco	154 87.5%	22 12.5%	104 72.2%	40 27.8%	0.00
Q3. You are more likely to get oral cancer if you chew tobacco	164 93.2%	12 6.8%	100 69.4%	44 30.6%	0.00
Q4. You are more likely to get oral cancer if you drink alcohol heavily	132 75.0%	44 25.0%	104 72.2%	40 27.8%	0.33
Q5. The sign of oral cancer is a white patch in your mouth	154 87.5%	22 12.5%	104 72.2%	40 27.8%	0.00
Q6. The sign of oral cancer is an ulcer that does not heal	156 88.6%	20 11.4%	116 80.6%	28 19.4%	0.03
Q7. The sign of mouth cancer is a red patch in the mouth	124 70.5%	52 29.5%	100 69.4%	44 30.6%	0.47
Q8. The signs of oral cancer is a painless ulcer	122 69.3%	54 30.7%	100 69.4%	44 30.6%	0.53

Table 1 shows the responses of 3rd and final year BDS students to the questions related to the knowledge and awareness of risk factors and signs of oral cancer. It shows a statistically significant difference between responses of 3rd and final year BDS students regarding risk factors (i.e. smoking and chewing tobacco, drinking alcohol heavily, aged over fifty years) and signs of oral cancer (i.e. white patch, non healing ulcer) ($p < 0.05$).

Figure 1 shows positive responses of 1st, 2nd, 3rd and final year BDS students to questions related to risk factors for oral cancer. The figure shows a gradient of responses related to questions regarding risk factors for oral cancer.

Figure 2 shows positive responses of 1st, 2nd, 3rd and final year BDS students to questions related to signs of oral cancer. The figure shows a gradient of responses related to questions regarding signs of oral cancer.

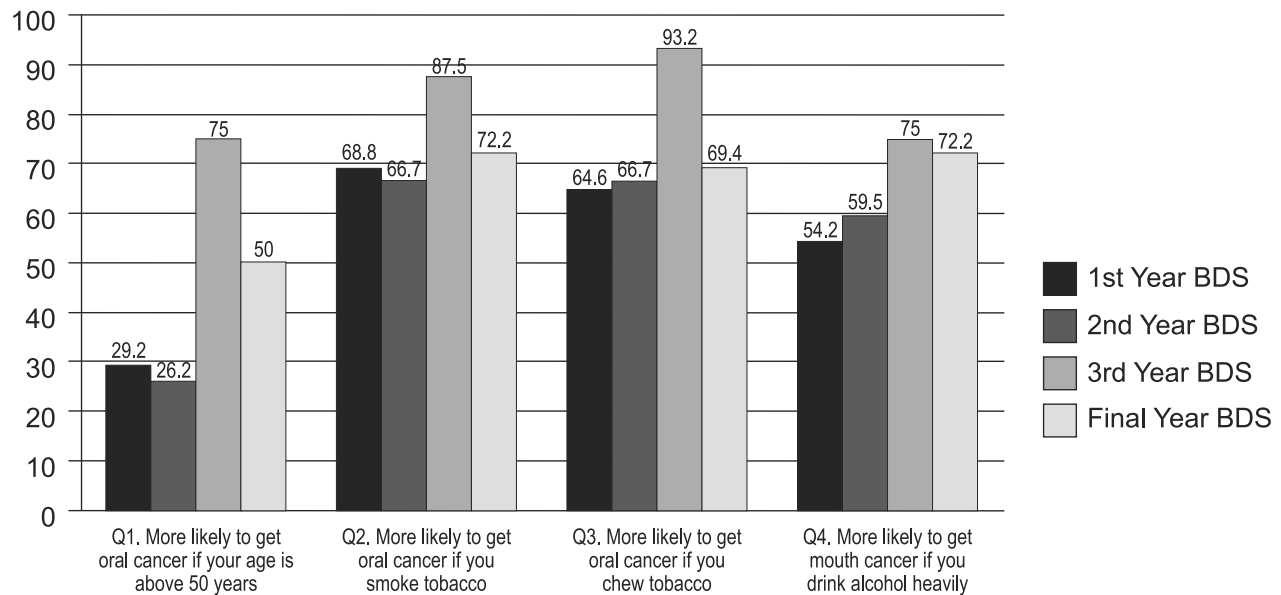


Fig 1: Positive responses of 1st, 2nd, 3rd and final year BDS students to questions related to risk factors for oral cancer

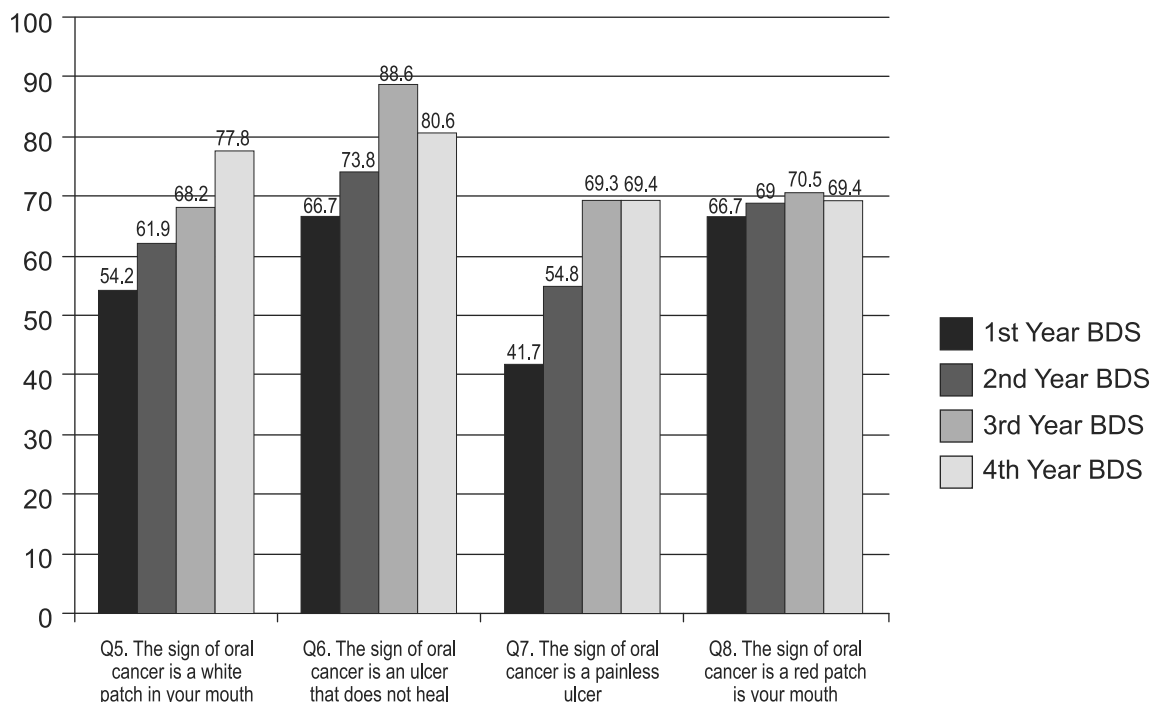


Fig 2: Positive responses of 1st, 2nd, 3rd and final year BDS students to questions related to signs of oral cancer

DISCUSSION

The results of the present study confirmed that there was an overall deficiency in oral cancer awareness and knowledge amongst undergraduate dental students. This finding was similar to that of previous studies conducted in Nigeria, United Kingdom, Canada and United States.^{14, 15, 16, 17}

In the present survey, smoking and chewing tobacco were the most commonly identified risk factors, whereas amongst the signs of oral cancer non healing ulcer was most commonly identified by students. These findings are consistent with the report from Nigeria¹⁵ and a study on general dentists from UK.¹⁶ Knowledge and awareness of other risk factors and signs of oral cancer was comparatively poor in dental students of Lahore Pakistan.

The possible new innovation in this study is the assessment of the oral cancer awareness and knowledge with regards to the year of study of the students i.e. 1st, 2nd, 3rd and 4th year BDS separately. The present study showed a gradient of responses to questions related to oral cancer awareness and knowledge amongst students of 1st, 2nd, 3rd and 4th year BDS.

The possible limitation of the present study was that of the study design. Although experimental studies are desirable they can be unethical and the intervention may only be administered to one group which may lead to inequalities.¹⁸ Because of issues of cost, time and person power, a cross sectional design was therefore adopted. The cross sectional study design does not establish causation,¹⁹ however it is considered the most appropriate for assessing awareness and knowledge.²⁰

This study showed presence of a poor level of awareness regarding oral cancer in the next generation of general dental practitioners and therefore highlights the need to improve the education of undergraduate dental students regarding prevention and early detection of oral cancer. Delay in presentation and/or referral has a significant effect on the associated morbidity and mortality. The current study shows better knowledge and awareness amongst 3rd year dental students as compared to final year students. The possible reason could be comprehensive teaching of oral pathology and oral medicine as part of the third year curriculum. Greater emphasis on diagnostic and prognostic factors of oral cancer should be given during final year teaching.

REFERENCES

- Petersen PE. The World Oral Health Report: Continuous improvement of oral health in the 21st century – the approach of the WHO Global Oral Health Programme. *Community Dent Oral Epidemiol* 2003; 31(Supp 1):3–24
- Stewart BW, Kleihues P. *World Cancer Report*. Lyon: WHO International Agency for Research on Cancer 2003
- Rhodus NL. Oral cancer: Leukoplakia and Squamous cell carcinoma. *Dent Clin North Am* 2005; 49:143–65
- Ali TS, Baig S. Evaluation of a cancer awareness campaign: experience with a selected population in Karachi. *Asian Pac J Can Pre* 2006; 7(3):391-95
- Chaudhry S, Khan AA, Mirza KM et al. Estimating the burden of head and neck cancers in the public health sector of Pakistan. *Asian Pac J Can Pre* 2008; 9(3):529-32
- Bagnardi V, Blangiardo M, La Vecchia C, Corrao G. A meta-analysis of alcohol drinking and cancer risk *Br J Cancer* 2001; 85(11):1700-05
- Castellsagué X, Quintana MJ, Martínez MC, Nieto A et al. The role of type of tobacco and type of alcoholic beverage in oral carcinogenesis *Int J Cancer* 2004; 108(5):741-49
- Balaram P, Sridhar H, Rajkumar T, Vaccarella S. Oral cancer in southern India: the influence of smoking, drinking, paan-chewing and oral hygiene. *Int J Cancer* 2002; 98(3):440-45
- Pavia M, Pileggi C, Nobile CG, Angelillo IF. Association between fruit and vegetable consumption and oral cancer: a meta-analysis of observational studies. *Am J Clin Nutr* 2006;83(5): 1126-34
- Grulich AE, van Leeuwen MT, Falster MO, Vajdic CM. Incidence of cancers in people with HIV/AIDS compared with immunosuppressed transplant recipients: a meta-analysis. *Lancet* 2007;370(9581): 59-67
- Rodriguez T, Altieri A, Chatenoud L, Gallus S. Risk factors for oral and pharyngeal cancer in young adults. *Oral Oncol* 2004;40(2): 207-13
- Neville BW, Day TA. Oral cancer and precancerous lesions. *CA Cancer J Clin* 2002; 52:195–15
- Hollows P, McAndrews PG, Perini MG. *Delays in referral and treatment of oral squamous cell carcinoma. British Dental Journal* 2000; 188: 262 – 65
- Carter LM, Ogden GR. Oral cancer awareness of general medical and general dental practitioners. *Br Dent J* 2007; 203(10):248–49
- Uti OG, Fashina AA. Oral cancer education in dental schools: knowledge and experience of Nigerian undergraduate students. *J Dent Educ* 2006; 70:676–80
- Clovis JB, Horowitz AM, Poel DH. Oral and pharyngeal cancer: knowledge and opinions of dentists in British Columbia and Nova Scotia. *J Can Dent Assoc* 2002; 68:415–20
- Cannick GF, Horowitz AM, Drury TF, Reed SG, Day TA. Assessing oral cancer knowledge among dental students in South Carolina. *J Am Dent Assoc* 2005; 136:373–78
- World Health Organization. Strategies and approaches in oral disease prevention and health promotion 2000; http://www.who.int/oral_health/strategies/cont/en/index.html, accessed on 29th May 2009
- Aschengrau A. *Essentials of epidemiology in public health* 2003; Pp302, Massachusetts: Jones & Bartlett Publishers
- Rothman, KJ, Greenland S. *Modern epidemiology* 1998, 2nd edn. pp.67-69, Philadelphia: Lippincott Williams