

Research Article

Oral Cancer Awareness among Undergraduate Medical Students of Dakshina Kannada, India

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Abstract: Oral cancer is the sixth most common cancer among Indian males and the third most common cancer among Indian females. Oral cancer is largely preventable if detected at an early stage. Early diagnosis of the malignancy greatly increase survival rates as the mouth is easily accessible for self or clinical examination. Lack of awareness among the health care providers is the most significant factor in delaying diagnosis and treatment of oral cancer. This study aimed to assess the level of knowledge of oral cancer and its associated factors among undergraduate medical students. A cross sectional study was conducted among 100 undergraduate medical students using a self-administered questionnaire on awareness and knowledge of oral cancer. A satisfactory knowledge was observed on the knowledge of oral cancer among our medical students. In conclusion, there is a need to introduce oral cancer education among undergraduate medical students.

Keywords: Oral cancer, Under graduate medical students, Awareness, Knowledge

INTRODUCTION

Oral cancer is one of the most fatal health problems faced by mankind today. In India, because of cultural, ethnic, geographic factors and the popularity of addictive habits, the frequency of oral cancer is very high. It ranks number one in terms of incidence among men and third among women [1]. Regular use of tobacco in one form or the other was reported by 43% of rural population and 28% of urban population [2]. Although the majority of oral cancers are readily visible, almost 70% of the patients present with advanced stage III and IV disease [3]. Oral cancers may be asymptomatic at times [4] and thus ignorance of early signs may be the most important delaying factor. However, many benign mouth disorders may appear similar to oral cancer or precancerous lesion and knowledge of some specific features of cancer may likely raise awareness of the public to seek attention early.

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 [5]. Lack of knowledge among the medical and dental practitioners has also been shown to

contribute to delays in referral and treatment [10]. Attempts to raise oral cancer awareness of both public and health professionals have been made in many countries to counteract the problem of oral cancer mortality.

Dental practitioner oral cancer awareness is well documented. However little is known about Medical practitioner oral cancer awareness. Similarly, whilst undergraduate dental student awareness of oral cancer and pre-malignant oral lesions has been documented [6, 7], there is a paucity of information regarding undergraduate medical students awareness in an Indian set up.

In a study by Scully *et al.* it was reported that general medical practitioners and general dental practitioners refer similar proportions of patients to maxillofacial units [8], and patients often consult their general medical practitioner rather than their general dental practitioner regarding oral lesions [9].

Thus the aim of this study was to assess the oral cancer awareness of future general medical practitioners

by assessing gender graduate medical students' knowledge of prevention and early detection of oral cancer.

METHOD

The oral cancer awareness of medical students of Manipal University, Mangalore Campus was assessed by means of a questionnaire. The questionnaire was delivered after routine lectures to second year medical students. These students were selected as they had received teaching on oral diseases including oral cancer in their dentistry postings. Ethical approval was obtained from Institutional Ethics Committee of Manipal College of Dental sciences, Mangalore and the participating students were made aware that the data would be used for research purposes.

Eighteen questions were asked, investigating: oral cancer awareness, oral mucosal examination habits; knowledge and delivery of advice on risk factors for oral cancer; opportunity to examine patients with oral lesions; knowledge and confidence regarding appearance of oral changes associated with oral cancer; point of referral selection; and opinions on sufficiency of individual knowledge on oral cancer detection and prevention, desire for further information training and the format of such information training. The questionnaire required approximately ten minutes to complete.

Statistical analysis

Analysis was performed using Statistical Package of Social Sciences (SPSS) software, version 16.0. Scores

of knowledge items were summed to obtain the mean total knowledge score on oral cancer. Descriptive statistics were obtained for all variables in the study.

RESULTS

Socio-demographic characteristics

The mean age of respondents was 21.5 (\pm 2.5) with the majority aged 21 years and below (85.5%), followed by 22 to 24 years. Most of respondents in our study group were females (77.0%)

Awareness and knowledge of oral cancer

The majority of our respondents were not aware of oral cancer (63.4%) even though majority of them (67.3%) were aware of the significance of family history in the causation of oral cancer. Regarding Knowledge of risk factors, most of the respondents agreed that they are aware of the risk factors but only 26.7% people educate their patients about it. (Tables 1 and 2) (Figure 1 and Figure 2)

Significantly about 58.4% of our subjects had the opportunity to examine patients with oral lesions but only 39.6% students examine patient's oral mucosa regularly. 63.4% medical students felt that they do not have sufficient knowledge to prevent and detect oral cancer. More than 50% students were neither aware of the treatment options nor about the cost incurred for the treatment. The majority of medical students selected Oncologists as the point of referral for a patient with an oral cancer.

Table 1: Awareness and knowledge of oral cancer

Questions	Yes	No
Significance of family history in oral cancer causation	67.3%	32.6%
Skilled in palpation of lymph nodes	67.3%	32.6%
Have you attended a CME on oral cancer	8.91%	91.08%
Inform/ educate your patients on risk factors of oral cancer	26.7%	73.26%
Do you examine patient's oral mucosa routinely	39.6%	60.4%
Do you have opportunity to examine patients with oral lesions	58.4%	41.6%
Do you feel you have sufficient knowledge to prevent and detect oral cancer	36.6%	63.4%
Would you like more teaching in terms of oral cancer	86.3%	12.8%
Are you aware of treatment options for oral cancer	41.6%	58.4%
Are you aware of the treatment cost for oral cancer	8.0%	92.0%

Table 2: Adequately trained or not to examine patient/ to counsel for tobacco cessation

Questions	Strongly agree	Agree	Disagree	Strongly disagree
Are you adequately trained to examine patient of oral cancer?	1.9%	19.8%	56.4%	21.8%
Are you adequately trained to counsel for tobacco cessation?	7.9%	36.6%	47.5%	7.9%

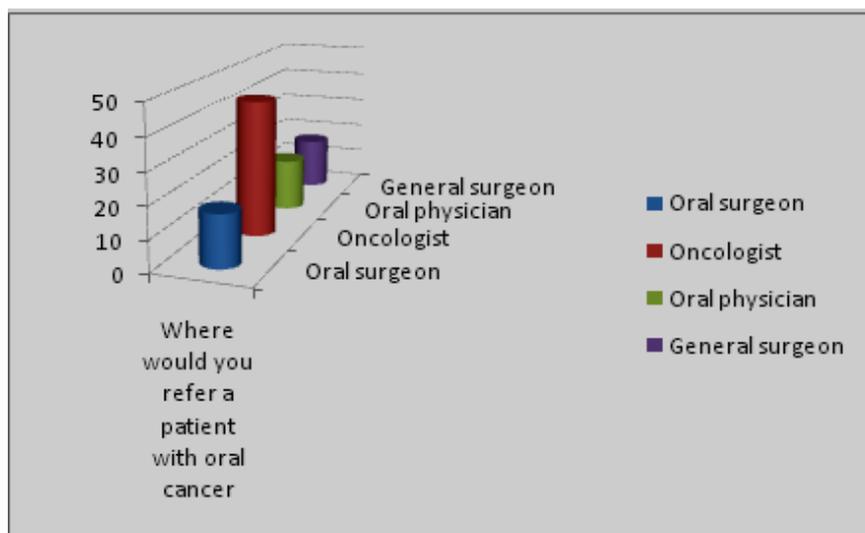


Fig. 1: Where would you refer a patient with oral cancer?

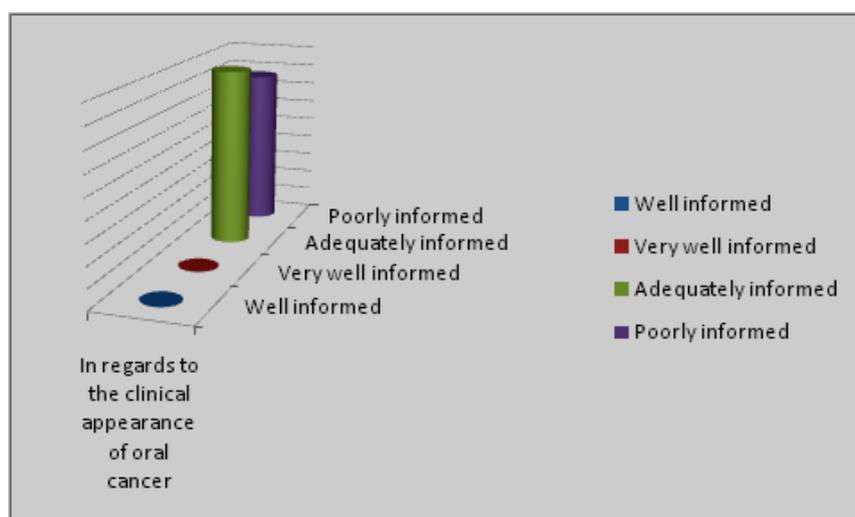


Fig. 2: In regards to the clinical appearance of oral cancer

Need for further training in oral cancer

Approximately ninety percent of our students requested further information on prevention, early detection of oral cancer and tobacco cessation in the form of lecture for further information.

DISCUSSION

This study investigated the awareness and knowledge of undergraduate medical students regarding clinical signs, risk factors and curability of oral cancer.

The rate of awareness among medical student in this study (36.6%) was higher than that found among UK medical students (28%) [10] and Iranian students (10.6%) [11] but was lower than that found among general population from UK (56.0%) [5].

A review of several studies that assessed oral cancer knowledge, opinions, and practices of health care providers suggests that many physicians and dentists do not detect oral lesions in their early [13-16] stages

because of inappropriate attitudes or lack of knowledge. A pilot survey of physicians' in Great Britain [17] found that 37% of Physicians did not recognize the importance of early detection as a means of reducing morbidity and mortality from these diseases.

Health Care Providers have a unique opportunity to detect malignant oral neoplasias while they are asymptomatic. Yet, studies have reported that physicians do not routinely [18-21] examine their patients to identify early, suspicious oral lesions. Prout *et al.* found that more than 77% of patients first diagnosed with oral cancer at an advanced stage had been under the routine care [22] of a physician within the past 3-24 months. Elwood *et al.* reported that 94% of patients with [23] advanced oral cancer had been seen by a physician within 1 year of their diagnosis.

Oral Cancer screening or oral cavity examination is not given much of an importance in the general physical examination as shown in our study and also by Lynch

and Prout. They found that only 3% of Medical residents documented oral cancer screening examination of their patients with high risk for oral cancer [20].

Studies reported that physicians are relatively less aware of signs and symptoms of oral cancer [24-26] and that can be a major reason for late detection and delayed referral of oral cancer, as in our study. Crissman *et al.* found that physicians delayed diagnosis of cancers of the floor of the mouth because they confused them with traumatic, inflammatory, or infectious lesions which reflect the poor knowledge [27]. Majority of the respondents in this study did not have adequate knowledge about signs, symptoms and risk factors of oral cancer which is similar to study done by Farhat *et al.*[12].

There is a need to introduce oral cancer education on prevention, early referral and diagnostic methods of oral cancer in focus on younger generation. 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 oral cancer and preventive methods to citizens nationwide. The role of mass media, particularly television and social networking sites should be stressed as it was found to play a key role in imparting health education and belief changes.

In conclusion, satisfactory awareness and knowledge of oral cancer and its clinical presentations were found among our medical students whereas inadequate knowledge was observed about its risk factors. The level of knowledge was significantly associated with awareness of oral cancer and course of study. Since this study is limited by its small sample size, studies with larger and representative samples are recommended to confirm the findings of the present study which will help to expand the knowledge base for curriculum designers in our country to take appropriate action.

REFERENCES

1. Byakodi R, Byakodi S, Hiremath S, Byakodi J, Adaki S, Marathe K *et al.*; Oral Cancer in India: An Epidemiologic and Clinical Review. *Journal of Community Health*, 2012, 37 (2): 316-319.
2. NSSO; A note on the consumption of tobacco in India. National Sample Survey Organization NSS 50th Round (1993-1994), Sarvekshana, 1998.
3. Forastiere A, Koch W, Trotti A; Head and neck cancer. *N Engl J Med.*, 2001; 345(26): 1890-1900.
4. McGurk M, Chan C, Jones J, O'Regan E, Sherriff M; Delay in Diagnosis and its Effect on Outcome in Head and Neck Cancer. *Br J Oral Maxillofac Surg.*, 2005; 43(4):281-284.
5. Warnakulasuriya KA, Harris CK, Scarrott DM, Watt R, Gelbier S, Peters TJ *et al.*; An alarming lack of public awareness towards oral cancer. *Br Dental J.*, 1999; 187(6): 319-322.
6. Seoane J, Gonzalez-Reforma N, Aguado A, Romero MA, Varela-Centelles PI; Assessment of dental students' diagnostic accuracy for oral cancer screening. *Journal of Dental Education*, 1997; 61(5): 437-439.
7. Jaber MA, Diz Dios P, Vazquez Garcia E, Cutando Soriano A, Porter SR; Spanish dental students knowledge of oral malignancy and premalignancy. *European Journal of Dental Education*, 1997; 1(4):167-171.
8. Scully C, Malamos D, Levers BG, Porter S, Prime SS; Sources and Patterns of Referrals of Oral Cancer: Role of General Practitioners. *Br Med J (Clin Res Ed)*, 1986; 293(6547):599-601.
9. Goodman HS, Yellowitz JA, Horowitz AM; Oral Cancer Prevention. The Role of Family Practitioners. *Arch Fam Med.*, 1995; 4(7): 628-636.
10. Lachlan MC, Graham RO; Oral cancer awareness of undergraduate medical and dental students. *BMC Medical Education*, 2007; 7: 44.
11. Pakfetrat A, Falaki F, Esmaily HO, Shabestari S; Oral cancer knowledge among patients referred to Mashad Dental School, Iran. *Arch Iranian Med.*, 2010; 13(6): 543-548.
12. Farhat K, Aslam CM, Mumtaz M, Bhatti MUD, Khawaja N; Oral cancer knowledge and awareness amongst undergraduate dental students of Lahore, Pakistan. *Pakistan Oral & Dental Journal*, 2011; 31(1): 64-67.
13. Schnetler JFC; Oral cancer diagnosis and delays in referral. *Br J Oral Maxillofac Surg.*, 1992; 30(4):210-213.
14. Shafer WG; Initial mismanagement and delay in diagnosis of oral cancer. *J Am Dent Assoc.*, 1975; 90:1262-1264.
15. Sadowsky D, Kunzel C, Phelan J; Dentists, knowledge, case finding behavior, and confirmed diagnosis of oral cancer. *J Cancer Educ.*, 1988; 3(2):127-134.
16. Guggenheimer J, Verbin RS, Johnson JT, Horkowitz CA, Myers EN; Factors delaying the diagnosis of oral and oropharyngeal carcinomas. *Cancer*, 1989; 64(4): 932-935.
17. Maguire BT, Roberts EE; Dentists' examination of the oral mucosa to detect oral cancer. *J Public Health Dent.*, 1994; 53: 115.
18. Amsel J, Engstrom PF, Strawitz JG; The dentist as a referral source of first episode head and neck cancer patients. *J Am Dent Assoc.*, 1983;106(2):195-197.
19. Cooke BED, Tapper-Jones L; Recognition of oral cancer: causes of delay. *Br Dent J.*, 1977; 142: 96-98.

20. Lynch GR, Prout MN; Screening for cancer by residents in an internal medicine program. *J Med Educ.*, 1986; 61(5): 387-393.
21. Love RR; The physician's role in cancer prevention and screening. *Cancer Bull.*, 1988; 40: 380-383.
22. Prout MN, Heeren TC, Barber CE, Rose L, Morris SG, Hurley C et al.; Use of health services before diagnosis of head and neck cancer among Boston residents. *Am J Prev Med.*, 1990; 6(2): 77-83.
23. Elwood JM, Gallagher RP; Factors influencing early diagnosis of cancer of the oral cavity. *Can Med Assoc J.*, 1985; 133(7): 651-656.
24. Brownson RC, Davis JR, Simms SG, Kern TG, Harmon RG; Cancer control knowledge and priorities among primary care physicians. *J Cancer Educ.*, 1993; 8(1): 35 -41.
25. Williams PA, Williams M; Barriers and incentives for primary care physicians in cancer prevention and detection. *Cancer*, 1988; 61: 2382-2390.
26. Burack RC, Liang J; The early detection of cancer in the primary-care setting: factors associated with the acceptance and completion of recommended procedures. *Prev Med.*, 1987; 16(6): 739-751.
27. Crissman JD, Gluckman J, Whiteley J, Quenelle D; Squamous-cell carcinoma of the floor of the mouth. *Head Neck*, 1980; 3(1):2-7.