RESEARCH ARTICLE

Oral Cancer Knowledge of Senior Dental Students in Zahedan, South-East of Iran

Marieh Honarmand[1]*, Alireza Hajihosseini[2], Forugh Akbari[3]

Abstract

Background: Oral carcinoma is one of the common types of cancer and one of the 10 leading causes of death around the world. This study was conducted to evaluate senior dental student knowledge about oral cancerous lesions in Zahedan Dental School. Materials and Methods: In this cross-sectional research, all the students in the last academic year at the School of Dentistry were studied during year of 2013. The study questionnaire covered demographic data as well as 12 questions concerning the knowledge of oral cancer. Data were collected and analyzed with SPSS18 using independent t-test, one way ANOVA. Significance level was considered as p≤0.05. Results: Of the 104 senior dental students, with an average age of 27.34± 7.79 years, who participated in this study, 32 (30.8%) were female and 72 (69.2%) were male. The mean score of the students regarding the knowledge of oral cancer was 7.24±2.61. 20 students (19.2%) had a weak knowledge, 45 students (43.3%) had a moderate knowledge, and 39 students (37.5%) had a good knowledge. Conclusions: The student knowledge of oral cancer is not satisfactory and they need to receive additional information and education.

Keywords: Knowledge - senior dental student - oral cancer - Iran

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Introduction

Oral carcinoma is one of the common types of cancer and one of the 10 leading causes of death around the world. Oral cancer covers about 4% of all types of cancer in males and 2% in females. It is the cause of cancer-induced fatality in 2% of males and 1% of females (Greenberg et al., 2008). Squamous cell carcinoma (SCC) is the main type of oral cancer and in 95% of the cases is diagnosed in people over 40 years with a mean age of 60 years. Other head and neck malignancies include the tumors of salivary glands, thyroid gland, lymph nodes, bone, and soft tissue (Greenberg et al., 2008).

Cancer is a matter of age with different identified risk factors such as tobacco and alcohol consumption, such that 80% of oral cancer occurs in smokers. Sun light, light skin, smoking pipe, and alcohol consumption are among lip cancer risk factors (Motallebnejad et al., 2007; Greenberg et al., 2008).

Twenty percent of SCCs are originated from or associated with previous premalignant lesions including leukoplakia, erythroplakia, and submucous fibrosis. With a prevalence of 2.6%, leukoplakia occurs in patients aged over 50; while the prevalence of erythroplakia is lower, ranging from 0.02% to 0.1% (Greenberg et al., 2008; Neville et al., 2009).

Generally, early oral cancer is asymptomatic and feeling discomfort is the typical sign in 85% of cases. Therefore most of oral cancers are diagnosed in advanced stages when clinical signs appear (Motallebnejad et al., 2007), Therefore, despite improvements in SCC treatment, the 5-year survival rate has not been considerably raised since 50 years ago (Neville et al., 2009).

Early diagnosis of malignant lesions is an everlasting target which demands dentists' knowledge. In addition to giving a natural life length to people (Ord et al., 2000). Dentists can increase their patient's information about oral cancer. This increase in information can lead to decrease of risk factors, early diagnosis and increasing the survival rate in patients (Andishe Tadbir et al., 2013).

This target will realize via correct theoretical and practical education of oral cancer including identification of various malignant lesions, its etiologic factors, and accurate examination of all patients, especially those aged 40 and more (Anderson et al., 2001).

According to the study of Applebaum et al. (2009) carried out, only 58% of dentists successfully pointed out the initial signs of the cancer. Investigation of Carter et al. (2007) revealed that most students rarely examine oral mucous as a routine practice and 86% to 90% of them need more education.

Cruz et al. (2006) concluded that 82% of dentists examine patients aged 40 in order to find out cancer lesions while only 12% of them give consultation to their

*[1]Department of Oral Medicine, Dental Research Center, Zahedan University of Medical Sciences, [2]Statistical Consultant, Department of Mathematics, Zahedan Branch, Islamic Azad University, [3]Dental Office, Zahedan, Iran *For correspondence: honarmand56@yahoo.com*

patients about smoking as a cancer risk factor. The study of Nicotera et al. (2004) in Italy, however, implied dentists' insufficient knowledge of oral cancer.

The above issues as well as the importance of this subject derived us to study senior dental student's knowledge about oral cancerous lesions in Zahedan Dental School; because well understanding of this issue during education could affect their inclination to examine their patients aiming at finding mouth cancer signs in future.

Materials and Methods

This cross-sectional study was carried out in 2013 on a total of 104 senior dental students in Zahedan Dental School. First of all, the objective of this study was briefly described to the students in order to gain their trust that their information will be considered as confidential. Following their consent, they were asked to fill the questionnaire as unknown person (they did not mention their first and last name). When the questionnaires were collected, correct answers were presented to them.

The questions have been designed by investigating previous studies on this field (Motallebnejad et al., 2007; Maybury, 2010). The validity of the questionnaire was confirmed by the professors of Zahedan Dental School. However, its reliability was assessed on 15 students through test-retest method. Cronbach's alpha was derived as 90%. The questionnaire contained demographic data including age, gender and grade-point average (GPA), as well as 12 questions concerning the knowledge level. Knowledge was assessed by questions on the signs and symptoms of oral cancer, risk factors of oral cancer .To assess the knowledge questions, correct answers were scored one and wrong or "I do not know" answers were scored zero. Then, the scores were sorted from weak to good as follows; (0-4 weak, 5-8 moderate, and 9-12 good). Finally, the collected data was analyzed in SPSS-18 through independent t-test, One Way ANOVA.

Results

A total of 104 students were participated in this study, 32 students (30.8%) were female and 72 students (69.2%) were male. The participants had an average age of 27.34±7.79 years. Between knowledge level and age statistically difference wasn't observed (p=0.96).

The mean score of students' knowledge was 7.24±2.61 implying a moderate knowledge of oral cancer. Female students had higher knowledge compared to male students but this different was not significant (p=0.069). There was a significant association between GPA and knowledge (p<0.01); pos hoc test revealed that respondents with GPA 11-13.99 had lower knowledge than those with GPA 14-16.99 and those with GPA 17 or more (Table 1). 20 students (19.2%) had a weak knowledge, 45 students (43.3%) had a moderate knowledge, and 39 students (37.5%) had a good knowledge. 53.8% of the students with a GPA between11-13.9 had a weak knowledge while 47.4% of the students with a GPA of higher than 17 had a good knowledge. In this study, 46.9% of females and 33.3% of males had a good knowledge while 21.9% of females and 18.1% of males had a weak knowledge (Table 2).

Table 1. Association Between Socio-Demographic Characteristics and Knowledge of Oral Cancer

			Score of knowledge		
		N (%)	Mean	SD	p value
Gender	Male	72(69.2)	6.93	2.49	0.069*
	Female	32(30.8)	7.94	2.76	
Age	23-32	85(81.7)	7.26	2.68	
	33-42	7 (6.7)	7.00	2.89	0.96**
	≥43	12(11.6)	7.25	2.05	
GPA	11-13.99	13(12.5)	4.46	2.37	
	14-16.99	72(69.2)	7.56	2.21	<0.01**
	≥17	19(18.3)	7.95	3.06	

*independent t-test; **One Way ANOVA

Table 2. Association Between Socio-Demographic Characteristics and Knowledge Level of Oral Cancer

		Good	moderate	Poor
		N (%)	N (%)	N (%)
Gender	Female	15(46.9)	10(31.2)	7(21.9)
	Male	24(33.3)	35(48.6)	13(18.1)
Age	23-32	33(38.8)	37(43.6)	15(17.6)
	33-42	2(28.6)	3(42.8)	2(28.6)
	≥43	4(33.3)	5(41.7)	3(25.0)
GPA	11-13.99	1 (7.7)	5(38.5)	7(53.8)
	14-16.99	29(40.3)	35(48.6)	8(11.1)
	≥17	9(47.4)	5(26.3)	5(26.3)

Discussion

Among the students, 39 students (37.5%) had a good knowledge. There was a significant association between GPA and knowledge. The knowledge of females was better than males but there was no significant difference between the variables of age, gender and knowledge level.

According to the study of Applebaum et al. (2009) carried out, only 58% of dentists were successfully pointed out the initial signs of cancer. The study of Al Dobai et al. (2012) on Malaysia students revealed that Instead of satisfactory awareness and knowledge of oral cancer and its clinical presentations, inadequate knowledge was observed about its risk factors. In study of Saleh et al. (2014) explained that dentists have a reasonable level of knowledge on the early signs and symptoms of oral cancer, but they believe that more education program for dentists would serve to the knowledge deficits and practice shortcomings with regards to oral cancer screening for early detection and disease prevention. In a study carried out in jordan among recently graduated medical and dental professionals, level of knowledge of oral cancer was inadequate. They suggested which there is a need for improvement of the undergraduate curriculum in oral cancer in both medical and dental schools (Alami et al., 2013).

The study of Carter et al. (2007) revealed that the students rarely examine mouth mucus as a routine practice so that 86% to 90% of them need more education. In a study carried out in Sri Lanka, about 70% of dentists stated that they need more information about mouth screening

(Arigawardana et al., 2008). According to the study of Seonae et al. (2006), general dentists need professional educations about early diagnosis of oral cancer.

Along and Narendarn (2004) studied the dentists of Texas and Mexico and concluded that the dentists have a limited knowledge of oral cancer. This study showed, however, that there is a significant correlation between inclinations to checking patients aimed at finding oral cancer signs and correct understanding of this concept during education years (Along and Narendarn, 2004). According to the study of Nicotera et al. (2004) carried out in Italy, dentists have a limited knowledge of common involved sites in cancer and have insufficient information on how should they examine mouth. The study of Clovis et al. (2002) on Columbia dentists indicated that about 56% of them have insufficient information concerning oral cancer. Rahman et al. (2013) showed an apparent lack of knowledge of oral cancer risk factors among dental students that may later result in a deficiency in integrating optimal oral cancer diagnostic procedures in their practices. Since tobacco use is a risk factor for oral cancer, Halawany et al. (2013), showed that although more than 96% of the students surveyed recognized the association between oral cancer and cigarette smoking but tobacco use cessation counseling perception of students was poor.

Similar to the current study, all the mentioned studies indicated students and dentists' insufficient knowledge of oral cancer. The population of this study was very small compared with all dentistry students in Iran. Therefore, its results could not be generalized to all groups but it seems that instead of emphasizing on the students' effective role on the identification and early diagnosis of mouth soft tissue disease, teach them how should they examine, diagnose, and treat dental problems during education years.

The mean knowledge score of the students was 7.24±2.61 which is almost the same as that of Yellowits' study. The mean knowledge score of dentists in this study was 8.4 out of 14 (Yellowits et al., 2000). Other studies carried out in Iran indicated dentists' lower knowledge of some mouth malignancies. For example, the study of Zarei et al. (2000) showed that the score of dentists' knowledge and diagnosis is around 50% which is insufficient and demands additional education. Also, the study of Motallebnezhad and Hedayati (2007) which was carried out on general dentists in Babol revealed that about half of them have insufficient information about premalignant lesions and high cancer vulnerable sites. Saghafi et al. (2009) study which was carried out on general dentists of Mashhad and indicated that dentists have insufficient information about oral cancer.

Devadiga et al. (2010) believed that a teaching hospital is an ideal environment where students can allocate sufficient time and translate theoretical knowledge regarding oral cancer into practice. They should be trained to ask and record risk factors of oral cancer, perform oral cancer examinations, administer diagnostic tests for people at high risk, provide alcohol and tobacco cessation advice/referral and teach patients to recognize early signs of oral cancer by self-examination (Devadiga et al., 2010).

Dentistry student's lower knowledge of oral cancer implies that the importance of the identification of oral cancer and its risk factors and early diagnosis should be highlighted which demands the review of training courses.

In conclusion, the students' knowledge of oral cancer is not satisfactory. Therefore show necessity of more attention to various education programs. Conducting studies to identify the causes affecting the results of this study and other similar studies is recommended as a future step.

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