

# Evaluation of Knowledge, Attitude and Practice of General Dentists Regarding Oral Cancer in Sari, Iran

Mohammad Mehdizadeh<sup>1</sup>, Maryam Seyed Majidi<sup>2</sup>, Saber Sadeghi<sup>3</sup>, Mahtab Hamzeh<sup>4</sup>

## Abstract

**Background:** Oral cancer has emerged as a significant cause of global public health concern. If a cancerous lesion is diagnosed in primary stages, the survival rate would be higher. Thus, the aim of this study was to evaluate knowledge, attitude and practice of general dentist regarding oral cancer in Sari, Iran.

**Methods:** This cross sectional analytical study was performed on general dentists of Sari, Iran. The dentists were given a questionnaire including demographic characteristics of the dentists and questions about knowledge, attitude and practice regarding oral cancer. Data were subjected to SPSS 18.0. Quantitative data were reported as mean ( $\pm$ SD) and qualitative data were shown as percent. Kolmogorov-Smirnov sample test, t-test ( $p < 0.07$  was considered statistically significant) equivalent nonparametric test and Spearman's rho test was used for statistical analysis.

**Results:** Total mean score of knowledge, mean score of females and mean score of males was  $20.88 \pm 8.53$ ,  $20.96 \pm 7.62$  and  $20.71 \pm 10.43$ , respectively. Age and sex had no correlation with score of knowledge.

**Conclusion:** Dentists of Sari do not have enough knowledge about oral cancer.

**Key words:** Oral cancer; Dentist; Knowledge; Attitude; Practice

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## Introduction

Globally, oral cancer has emerged as an important cause of global public health concern. World Health Organization (WHO) has estimated that the incidence of oral cancer varies from 1 to 10 cases per 100,000 people in most of the countries [1]. Further, it has been realized that more than 50% of oral cancer patients access services in the advanced stages of disease [2]. However, an inequitable distribution of the oral cancer has been observed due to the prevalence of disease-specific risk factors, socioeconomic factors, regional differences in demographic parameters of the population, and accessibility & availability of cost-effective screening and diagnostic measures [1]. Although both dentists and medical doctors can diagnose oral cancer in the early stages, dentists have usually more opportunities in these cases, as most of the people have frequent dental examinations [3]. According to the study performed by Vazquez-Mayoral et al in Mexico, 52% of dentists paid attention to find cancerous lesions in

their oral examination

[4]. Early diagnosis of precancerous and dysplastic oral lesions is a perennial goal and the preliminary steps to reach this goal are finding the risk factors and complete evaluation of head and neck region [5-7]. Some of the known risk factors of the oral cancers include different kinds of tobacco such as cigar, cigarette, pipe and smokeless tobacco, alcohol, oxidative injuries caused by inappropriate life style and nutritional habits, viruses such as HSV and HPV and the sunlight [8]. If the lesions are diagnosed and treated in early stages, higher survival rate is anticipated. Some of the most common precancerous lesions in the oral cavity are leukoplakia, nicotinic stomatitis, erythroplakia, erythroleukoplakia and smokeless tobacco keratosis. If a cancerous lesion is diagnosed in primary stages, the survival rate would be higher [9]. Thus, the aim of this study was to evaluate knowledge, attitude and practice of dentist regarding oral cancer in Sari, Iran.

1. Det. of Oral and Maxillofacial Surgery, Faculty of Dentistry, Babol University of Medical Sciences, Babol, Iran
2. Dept. of Oral Pathology, Faculty of Dentistry, Babol University of Medical Sciences, Babol, Iran
3. Dept. of Periodontology, Faculty of Dentistry, Mashhad University of Medical Sciences, Mashhad, Iran
4. Dept. of Pediatric Dentistry, Faculty of Dentistry, Guilan University of Medical Sciences, Rasht, Iran

### Corresponding Author:

MahtabHamzeh, DDS, MS;  
Assistant Professor of Pediatric Dentistry  
Tel: (+98) 911 216 8617  
Email: dr.mahtabhamzeh@yahoo.com  
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**Table 1:** Answers of the respondents to the questions regarding knowledge about oral cancer

Question	Correct answer N(%)	Wrong answer N(%)	No answer N(%)
<b>Most common oral cancer</b>	101(81.2)	11(8.8)	12(9.6)
<b>Common age range of oral cancer</b>	112(90.0)	6(4.8)	6(4.8)
<b>Most common risk factor of oral cancer</b>	110(88.4)	6(4.8)	8(6.4)
<b>Most common precancerous lesion</b>	82(66.0)	31(24.2)	11(8.8)
<b>Minimum time to differentiate an inflammatory lesion from a precancerous one</b>	58(46.8)	50(40.4)	16(12.8)
<b>Poor diagnosis of oral cancer</b>	64(51.6)	52(42.0)	8(6.4)
<b>Most common site of oral cancer</b>	74(59.6)	35(27.4)	15(12.0)
<b>Most common site of remote metastasis</b>	79(63.6)	21(16.4)	24(18.8)
<b>Most definitive tool for diagnosis of a malignant lesion</b>	96(77.2)	20(15.6)	8(6.4)
<b>More probability of dysplasia in a precancerous lesion</b>	52(42.0)	51(41.2)	21(16.4)
<b>Rare sites of oral cancer</b>	73(58.8)	40(32.4)	11(8.8)
<b>Second common site of oral cancer</b>	73(58.8)	43(34.8)	8(6.4)
<b>Basis of treatment of leukoplakia</b>	73(58.8)	33(25.8)	18(14.0)

**Table 2:** Answers of the respondents to the questions regarding attitude about oral cancer

Question	I agree N(%)	No comment N(%)	I disagree N(%)	No answer N(%)
<b>Relationship between retraining courses and improvement of knowledge about oral cancer</b>	117(94.0)	4(3.2)	0(0.0)	3(2.4)
<b>Training in the field of oral cancer in undergraduate period is sufficient</b>	26(20.4)	28(22.0)	66(53.2)	4(3.2)
<b>Diagnosis of oral malignant lesions is in the field of a dentist</b>	75(60.4)	23(18.0)	22(17.2)	4(3.2)
<b>Treatment of oral malignant lesions is in the field of a dentist</b>	46(37.2)	40(32.4)	34(26.6)	4(3.2)
<b>Diagnosis of oral malignant lesions is in the field of an ear, nose and throat specialist</b>	32(25.0)	44(35.6)	45(36.4)	3(2.4)
<b>Treatment of oral malignant lesions is in the field of an ear, nose and throat specialist</b>	35(27.4)	47(38.0)	38(30.8)	4(3.2)
<b>Patients refer in advanced stages of oral cancer</b>	93(74.8)	23(18.0)	5(4.0)	3(2.4)

## Materials and Methods

This cross sectional analytical study was performed on general dentists of Sari, Iran. Their name was registered in Sari Medical Council. We recruited 134 dentists. The dentists were given a questionnaire consisted of two parts. The first part included the demographic characteristics of the dentists such as sex and age and the second part consisted of 13, 7 and 9 questions about knowledge, attitude and practice regarding oral cancer, respectively. To ensure confidentiality, the questionnaires were anonymous. Validity of the questionnaire was assessed by an oral pathologist, a specialist of oral disease and an oral and maxillofacial surgeon. Reliability was determined by Cronbach's alpha test ( $\alpha=0.79$  for knowledge,  $\alpha=0.84$  for attitude,  $\alpha=0.72$  for practice). Regarding the knowledge, three positive scores were assigned for each correct answer and a negative score for each

incorrect one. Thus the highest score was +39 and the lowest was -13. Data were subjected to SPSS 18.0. Quantitative data were reported as mean ( $\pm$ SD) and qualitative data were shown as percent. Kolmogorov- Smirnov sample test was used to show normal distribution and in the case of normality, t-test was used to compare the groups ( $p<0.07$  was considered statistically significant). Otherwise, an equivalent nonparametric test was used. To evaluate the relation of qualitative and quantitative variables, Spearman's rho test was used.

## Results

A total of 124 dentists out of 134 answered the questionnaire. The response rate was 92.5%. Mean age of the dentists was  $40.68\pm 7.2$  at the range of 27 to 63 years. Among the respondents, 38(30.6%) were females and 86(69.4%) were males. Tables 1,

**Table 3:** Answers of the respondents to the questions regarding practice about oral cancer

Question	Always N(%)	Sometimes N(%)	Never N(%)	No answer N(%)
<b>Forming a file for patients</b>	104(84.0)	8(6.4)	5(4.0)	7(5.6)
<b>Recording history of addiction</b>	57(45.6)	28(22.0)	34(26.6)	5(4.0)
<b>Recording family history of oral cancer</b>	26(20.4)	39(31.6)	48(38.8)	11(8.8)
<b>Actions regarding addiction treatment, preventing lesions or follow up in addicts</b>	14(11.2)	63(50.8)	40(32.4)	7(5.6)
<b>Recommendations or actions in older patients</b>	22(17.2)	66(52.8)	29(22.8)	7(5.6)
<b>Taking a biopsy for definitive diagnosis</b>	14(11.2)	33(25.8)	70(57.6)	7(5.6)
<b>Examination of head and neck lymph nodes</b>	28(22.6)	64(51.6)	26(20.4)	6(4.8)
<b>Examination of all parts of oral cavity</b>	62(50.0)	43(34.8)	12(9.6)	7(5.6)
<b>Periodic examination and training high risk patients</b>	40(32.4)	60(48.4)	17(13.6)	7(5.6)

2 and 3 show the answers to the questions regarding knowledge, attitude and practice.

Regarding knowledge, the lowest scores were -1 and -3 and the highest were +39 and 35 in females and males groups, respectively. Total mean score of knowledge, mean score of females and mean score of males was  $20.88 \pm 8.53$ ,  $20.96 \pm 7.62$  and  $20.71 \pm 10.43$ , respectively. T-test have shown that the difference between males and females was not statistically significant ( $p > 0.07$ ). Spearman's rho test has shown that there was no correlation between the age of the respondents and the achieved score in the questions of knowledge.

## Discussion

The results of this study have shown that the overall level of knowledge of the dentists is low. This is in agreement with the studies of Clovis and Motalebnejad [10, 11]. Probably, the importance of oral cancer is not well understood in the undergraduate period and dentists' self-study after graduation is not sufficient.

In this study, 81.2% of the dentists introduced Squamous Cell Carcinoma (SCC) as the most common cancer of the oral cavity. The similar question was answered correctly by 78% of the dentists in the study of Motalebnejad et al and 50% in the study of Guiseppe et al [11, 12]. In current study, 59.6% selected the tongue as the most common site of oral cancer and 58.8% pointed the floor of the mouth as the second common site. Correct answer was pointed by 56.5% of respondents in the study of Motalebnejad et al. and 50% in the study of Canto et al. [11, 13]. According to the respondents of the current study, several sessions of retraining were helpful in increasing their

knowledge about the most common cancer and site of cancer in oral cavity.

There was no significant relationship between age and knowledge about oral cancer. Normally, by increase in age and time passed after graduation, knowledge should decrease; but it was not true in our study. Again, this can be contributed to attending to retraining courses about oral cancer. In these courses, the previously learned subjects are reviewed and renewed and new subjects are learned. Another probable reason for this finding can be relatively low mean age of the dentists which was about 40 years.

Among the respondents, 84% formed a file for their patients while 31.6% sometimes recorded the family history of cancer and 38.8% never did this. Also, 46% of the respondents always recorded the history of smoking and addiction while 26.6% never did this. These together mean that the dentists do not have enough information about risk factors of cancer.

Fifty percent of the respondents always examined all parts of the oral cavity while 9.6% never did this. In the study performed by Seoane et al. [14] 87% of the dentists examined all parts of the oral cavity and the figure was 85% and 52% in the studies of Gajendra et al [15] and Vazquez-Mayoral et al. [4], respectively. In the current study, 60.4% of the respondents believed that diagnosis of premalignant and malignant oral lesions are in the field of a dentist while just 25% mentioned that it is in the field of an ear, nose and throat specialist. Comparing the figures to the study of Vazquez-Mayoral et al, in which 83% of the dentists thought themselves responsible for diagnosis of malignant lesions [4], shows inadequate training in the field of diagnosis of oral cancer.

Collectively, the results of current study show inadequate knowledge of dentists regarding oral cancer. A useful tool to improve their knowledge can be holding continuous seminars about oral cancer and assigning a kind of privilege for the participants can be a motivating factor. The dentists' role in diagnosis of oral cancer should be mentioned in these seminars and the dentists should be encouraged to seek more information in this field. Media can play an important role by giving more information to the society. By this way people are encouraged to ask their dentist for comprehensive examination of oral cavity.

## Conclusion

Based on the results of this study, dentists of Sari do not have enough knowledge about oral cancer.

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## Conflict of Interest

The authors declare no conflict of interest.

## Authors' Contribution

Mohammad Mehdizadeh, Maryam SeyedMajidi and MahtabHamzeh designed and wrote this article, Saber Sadeghi collected the data, Mohammad Mehdizadeh, Maryam SeyedMajidi and MahtabHamzeh analyzed the data. All authors read and approved the final manuscript.

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