Caspian J of Dent Res

Short Communications

Evaluation of knowledge toward oral cancer and treatment complications among general dentists of babol, iran (2015)

Mohammad Haji Mirzamohammad[1], Soheil Khakbaz[2], Mina Motallebnejad [3], Soraya Khafri[4], Mahtab Hamzeh[5], Ramin Farrokhi[6], Nima Nikafshar [7]✉

1. Assistant Professor, Oral Health Research Center, Department of Oral Medicine, Faculty of Dentistry, Babol University of Medical Sciences, Babol,IR Iran.
2. Dental Student, Student Research Committee, Babol University of Medical Sciences, Babol, IR Iran.
3. Professor, Oral Health Research Center ,Department of Oral Medicine, Faculty of Dentistry, Babol University of Medical Sciences, Babol,IR Iran.
4. Assistant Professor, Department of Biostatics and Epidemiology, Faculy of Medicine, Babol University of Medical Sciences, Babol, IR Iran.
5.Assistant Professor, Dental Materials Research Center, Department of Pedodontics, Faculty of Dentistry, Babol University of Medical Sciences, Babol, IR Iran.
6. Instructor, Department of Oral Medicine, Faculty of Dentistry, Babol University of Medical Sciences, Babol,IR Iran.
7. Postgraduate Student, Student Research Committee, Department of Oral Medicine ,Babol University of Medical Sciences, Babol, IRIran.

✉**Corresponding Author:** Nima Nikafshar, Faculty of Dentistry, Babol University of Medical Sciences, Babol, IR Iran.

Email: nima.nikafshar@gmail.com **Tel:** +989151802932

Received: 31 Dec 2016 Accepted: 14 Oct 2017

Abstract

Introduction: Oral cancer is the most common malignancy in head and neck region. Primary diagnosis is critical and low knowledge of dentists can lead to improper or delayed diagnosis. The aim of this study was to evaluate the knowledge of general dentists regarding oral cancer and the complications of its treatment in Babol, Iran.

Materials &Methods: This cross-sectional study was performed on all general dentists working in Babol. Seventy-six dentists entered into the study and filled out the questionnaire. Data were analyzed by SPSS software.

Results: Mean score of knowledge in the group with more than 21-years-experience was significantly higher than the group with less than 10-years-experience (p=0.017). There was a positive correlation between total knowledge and years of experience (p=0.001). There was no significant relationship between other criteria with total score of knowledge (p.0.05).

Conclusion: It seems that knowledge the babol dentists' regarding oral cancer and cancer treatment complications is not sufficient.

Keywords: Knowledge, Dentists, Oral cancer

Citation for article: Haji mirzamohammad M, Khakbaz S , Motallebnejad M, Khafri S, Hamzeh M, Farrokhi R, et al. Evaluation of knowledge toward oral cancer and treatment complications among general dentists of babol, iran (2015). Caspian J Dent Res 2017; 6: 48-52.

http://www.CJDR.ir

[Downloaded from cjdr.ir on 2026-11-03]

[DOR: 20.1001.1.22519890.2017.6.2.3.6]

[DOI: 10.22088/cjdr.6.2.48]

بررسی آگاهی دندانپزشکان بابل در مورد سرطان دهان و عوارض درمان آن ۱۳۹۵

محمد حاجی میرزا محمد، سهیل خاکباز، مینا مطلب نژاد، ثریا خفری، مهتاب حمزه، رامین فرخی، نیما نیک افشار*

چکیده

مقدمه: سرطان دهان شایعترین بدخیمی ناحیه سروگردن است. تشخیص زودرس بسیار مهم می باشد و آگاهی کم دندانپزشکان میتواند منجر به تاخیر تشخیص این بیماری گردد. هدف این مطالعه تعیین سطح آگاهی دندانپزشکان شهر بابل نسبت به سرطان دهان و عوارض درمانی آن می باشد.

مواد و روش ها: این مطالعه مقطعی روی کلیه دندانپزشکان شهر بابل انجام شد. هفتاد و شش دندانپزشک در این مطالعه شرکت کرده و پرسشنامه پر کردند. اطلاعات به دست آمده با نرم افزار SPSS آنالیز شد.

یافته ها: میانگین امتیاز آگاهی با سابقه بالای ۲۰ سال بیشتر از زیر ۱۰ سال بود ($p=0.017$). ارتباط مثبتی بین امتیاز آگاهی و سالهای طبابت وجود داشت ($p=0.001$). ارتباطی بین متغیر های دیگر با امتیاز آگاهی از سرطان دهان و عوارض درمانی آن وجود نداشت.

نتیجه گیری: بر اساس یافته های مطالعه آگاهی دندانپزشکان بابل از سرطان دهان و عوارض درمانی آن کافی نمی باشد.

واژگان کلیدی: آگاهی، دندانپزشکان، سرطان دهان

Introduction

Oral cancer is a term indicating malignant tumors of head and neck arising in oral cavity, larynx, salivary glands and sinuses. [1] Oral cancer is the most common malignancy among head and neck cancers. It is reported to occur in 5.5 per 100000 all over the world and 120000 people die from oral cancer each year.Prevalence of oral cancer in Iran is 0.7 and 0.5 per 100000 men and women, respectively. Mean 5-year survival of oral cancer in Iran is as low as 30%, which is mainly because of delayed diagnosis. [2] Purposive screening can significantly increase the survival, decrease mortality in high risk groups and improve the quality of life. Early diagnosis leads to a less aggressive surgery and better functional results in speech and swallowing. Compared to some other cancers such as breast, prostate and colon, which have more specialized screening tests, early diagnosis of oral cancer has not been improved and varied from 27% to 77%. [3] Dentists play an important role in prevention and early diagnosis of oral cancer through informing their patients of the risk factors and regular visual and tactile examinations. [4] Insufficient knowledge of dentists are important involved factors in an ineffective or delayed diagnosis of oral cancer in early stages. [5] Treatment procedures of oral cancer have direct effects on oral hard and soft tissues and can indirectly damage these tissues due to systemic and local toxicity. Potential toxicity of these treatment procedures leads to mucositis, infections, salivary glands dysfunction, taste disorders, dysphagia, soft and hard tissue necrosis and trismus. Prevention or effective treatment of oral complications facilitates the treatment protocol and lessens the need for urgent medical and dental care. [6]

Regarding the benefits of early diagnosis of oral cancer, this study was planned to evaluate the knowledge of general dentists regarding oral cancer and the complications of treatment in Babol, Iran.

Materials & Methods

This cross-sectional study was performed in 2015 in Babol, Iran. Eighty-nine of 125 dentists accepted to cooperate with us. Eight of them were entered into a pilot study and the remained ones (76) were enrolled in

[Downloaded from cjdr.ir on 2026-11-03]

[DOR: 20.1001.1.22519890.2017.6.2.3.6]
[DOI: 10.22088/cjdr.6.2.48]

the final study. Due to ethical point of view, all information of the respondents was kept private and the study was approved by Ethics Committee of Babol University of Medical Sciences (Ethics code: Mubabol.REC.1394.313)

A questionnaire containing questions about personal characteristics and knowledge regarding oral cancer was prepared. Validity of the questionnaire was measured by Cronbach's alpha and test-retest; and reliability was confirmed by three specialists in oral and maxillofacial diseases. One score was designated for each correct answer and zero for incorrect or no answer. From 16 questions of knowledge, twelve were about oral cancer and four about the complications of treatment. Score of knowledge was categorized as low (0-5), moderate (6-11) and high (more than 12).

Data were entered into SPSS (SPSS Inc., Chicago, IL, USA) version 19 software and analyzed by descriptive analyses such as independent t-test, Pearson correlation coefficient, ANOVA and Tukey post hoc test. Cronbach's alpha was calculated using the information extracted from the questionnaires and it was 0.614, and for R variables, was calculated 0.606. $P<0.05$ was statistically considered significant.

Results

Seventy-six dentists of whom 52 (68.42%) were male and 24 (31.58%) were female answered to the questionnaires. Mean age of respondents was 42.5±6.98 in the range of 29 to 53 years. Mean year of work experience was 15.93±5.32 in the range of 3 to 25 years. Mean number of visited patients with oral cancer or under chemo/radio therapy was 2.06±2.81 per dentists in the range of zero to 10.

Mean year elapsed from last retraining session regarding oral cancer was 2.24±1.69. The mean number of visited patients per day was 8.7±4.55 in the range of 3 to 25 patients. The mean total score of knowledge toward oral cancer and treatment complications was 9.68±2.34 in the range of 4 to 13 (8.41±2.06 for 12 questions of knowledge about oral cancer and 1.21±0.83 for 4 questions of knowledge about treatment complications; table 1).

Frequency of the to the questions of knowledge about complications of treatment of oral cancer in Preventability of osteoradionecrosis in radiotherapy of oral cancer was 58.7%. The correct answers were 36.5% and 14.7% and 10.8% respectively In Best time for tooth extraction before radiotherapy and the most common complication of radiotherapy of oral cancer and The best time for dental services after termination of chemotherapy.

Totally, 5 (6.6%), 53 (64.7%) and 18 (23.7%) dentists had low, moderate and high knowledge, respectively.

Mean score of knowledge of men and women was 9.53±2.35 and 10±2.35, respectively, which was not significantly different (p=0.44) (using Independent samples t-test; table 2). There was no significant relationship between age and total score of knowledge (p=0.26, Pearson correlation coefficient =0.143). Mean elapsed time of graduation was 15.31±6.43 (range of 3-30 years).

The highest score of knowledge was belonged to the dentists who were graduated more than 20 years ago (11±1.35), but the difference was not statistically significant (p=0.068) (using Independent samples t-test). There was no significant correlation between the number of visited patients with oral cancer and under chemo / radio therapy in the past year, sex, age and the number of daily visited patients with total score of knowledge, knowledge regarding oral cancer and treatment complications toward oral cancer (p>0.05) (using Spearman correlation coefficient).

Mean score of total knowledge of the group with over 20-year experience (11.22±1.48) was significantly more than the group under 10-year experience (p=0.017) (using Independent samples t-test). There was a positive correlation between the total score of knowledge and years of work experience (Pearson correlation coefficient =0.430).

There was no significant relationship between the years of work experience and knowledge of oral cancer, treatment complications toward oral cancer (p>0.05). There was no significant relationship between the years passed from the last retraining session, and knowledge (p>0.05). There was no significant difference between the mean score of knowledge of dentists working in personal setting (9.63±2.39), dental clinics (9.20±2.16) or both (10.43±2.22; p>0.05) (Using One-way analysis of variance).

Totally, 97.4% correctly answered to the questions of knowledge related to the risk factors of oral cancer (cigarette and alcohol) and 10.8% answered correctly to the best time for common dental services in patients under chemotherapy.

[Downloaded from cjdr.ir on 2026-11-03]
[DOR: 20.1001.1.22519890.2017.6.2.3.6]
[DOI: 10.22088/cjdr.6.2.48]

Table 1. Frequency of the answers to the questions of knowledge about oral cancer

Question	Correct answer (%)	Incorrect answer (%)
Diagnosis of oral cancer lesions in advanced stages	74.7	25.3
Signs of lymphatic nodes involvement because of oral cancer	67.1	32.9
Being symptomatic in early stages of oral cancer	81.6	18.4
Cigarette and alcohol as oral cancer risk factors	97.4	2.6
Increasing age as oral cancer risk factor	60.5	39.5
Permanent radiographic changes in oral cancer	82.7	17.3
Visual examination as the most effective tool for oral cancer diagnosis	53.9	46.1
Erythroplakia and leukoplakia as the most common precancerous lesions	86.6	13.2
White or red patch in mouth as a primary indicator for oral cancer	59.2	40.8
A mass/wound as a primary indicator for oral cancer	66.7	33.3
Higher prevalence of oral cancer in people more than 40 years old	82.9	17.1
The most common site for oral cancer	32.9	67.1

Discussion

Squamous cell carcinoma accounts for about 3% of all the malignancies and more than 90% of oral cancers.[7] Early diagnosis of potentially malignant lesions leads to a better prognosis, so the dentists play a critical role in primary prevention through informing their patients about the risk factors and routine comprehensive examination of oral cavity.[4] In the current study, the total score of knowledge about oral cancer was moderate and knowledge of treatment complications was in a low level, which confirms the results of previous studies in Iran. In comparison with a previous study in Babol in 10 years ago(2005), no significant improvement was seen in knowledge of dentists about oral cancer.[8]

This might be due to the lack of retraining courses, inadequate motivation in general dentists toward treatment of patients with oral cancer, unfamiliarity of dentists with cancer treatment centers and oral considerations of these patients, lack of timely referral to dentists and inadequate clinical training in diagnosis of oral cancer and controlling the complications in dental schools. There was a positive relationship between the years of work experience and total score of knowledge, which is inconsistent with the previous studies performed in Iran. [9]

Conclusion

It seems that knowledge regarding oral cancer and cancer treatment complications is not sufficient. There is a need to improve the quality of training in dental school and to hold retraining courses regarding oral cancer in Babol.

Acknowledgments

The authors express their thanks to Iranian Medical Council of Babol for supporting this study.

Funding: This study was a part of research project (Grant No: 9441715) which was supported and funded by Babol University of Medical Sciences.

Conflict of interest disclosure: The authors state that they have no conflict of interest.

Authors' Contributions

Mohammad Hajimirzamohammad: concept, literature search, clinical study, manuscript preparation. Soheil Khakbaz: clinical study, data acquisition. Nima Nikafshar: clinical study, manuscript preparation. Soraya Khafri: data & statistical analysis. Mahtab Hamzeh: manuscript preparation and editing. Ramin Farrokhi: clinical study. Mina Motallebnejad: design and intellectual concept.

References

1. Joshi VK. Dental treatment planning and management for the mouth cancer patient. Oral Oncol 2010;46:475-9.

[Downloaded from cjdr.ir on 2026-11-03]

[DOR: 20.1001.1.22519890.2017.6.2.3.6]
[DOI: 10.22088/cjdr.6.2.48]

2. Esmaelbeigi F, Hadji M, Harirchi I, Omranipour R, Vand Rajabpour M, Zendehdel K. Factors affecting professional delay in diagnosis and treatment of oral cancer in Iran. Arch Iran Med 2014;17:253-7.
3. Groome PA, Rohland SL, Hall SF, Irish J, Mackillop WJ, O'Sullivan B. A population-based study of factors associated with early versus late stage oral cavity cancer diagnoses.Oral Oncol 2011;47:642-7.
4. Hertrampf K, Wenz HJ, Koller M, Wiltfang J. Comparing dentists' and the public's awareness about oral cancer in a community-based study in northern germany. J Craniomaxillofac Surg 2012;40:28-32.
5. Pentenero M, Chiecchio A, Gandolfo S. Impact of academic and continuing education on oral cancer knowledge, attitude and practice among dentists in north-western Italy. J Cancer Educ 2014;29:151-7.
6. Alpoz E, Guneri P, Epstein JB, Cankaya H, Osmic D, Boyacioglu H. Dental students' knowledge of characteristics and management of oral complications of cancer therapy. Support Care Cancer2013;21:2793-8.
7. Langevin SM, Michaud DS, Eliot M, Peters ES, McClean MD, Kelsey KT. Regular dental visits are associated with earlier stage at diagnosis for oral and pharyngeal cancer. Cancer Causes Control 2012; 23:1821-9.
8. Motallebnejad M, Hedayati M. General dentists knowledge about oral cancers in Babol, in 2005. J Mashad Dent Sch2006;30:309-18.[In Persian]
9. Razavi SM, Zolfaghari B, Foroohandeh M, Doost ME, Tahani B. Dentists' knowledge, attitude, and practice regarding oral cancer in Iran. J Cancer Educ 2013;28:335-41.

[Downloaded from cjdr.ir on 2026-11-03]

[DOR: 20.1001.1.22519890.2017.6.2.3.6]
[DOI: 10.22088/cjdr.6.2.48]