

Knowledge of postgraduate students of dental faculty of Tabriz university of medical sciences about oral cancer in 2015-2016

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Abstract

Aim: This study was carried out with an aim to evaluate the knowledge and awareness of dental postgraduate students about risk factors, signs, and treatment plan of oral cancer in Tabriz dental college. **Method and material:** A questionnaire comprised of 10 questions was designed to assess the knowledge of 87 postgraduate students regarding their knowledge on oral examination, diagnosis, risk factors and treatment of oral cancer. **Result:** 20 out of 87 post graduate students refused to participate in the study. The response rate is 77%. The students had acceptable knowledge about risk factors, signs and symptoms, most common oral sites and dental management of cancer patient, however their practice about clinical provisional detection of cancerous lesions at primary stages is low (only 22.4% were sure).

Conclusion: Theoretical knowledge of post graduate students regarding oral cancer examination is good, however their knowledge about clinical diagnosis of early lesions is low and needed to be improved. It seems necessary to conduct educational courses systematically which helps them to diagnose precancerous lesions more confidently.

Keywords: oral cancer; Knowledge; early detection;

Introduction

Oral cancer can occur anywhere in the oral cavity but typically is seen on the tongue and floor of the mouth. Although many types of oral cancer exist, but majority are squamous cell carcinomas (1). The eighth most common cancer worldwide is oral cancer (2). The most

important determinant of mortality and morbidity of oral cancer is the stage of disease at which is diagnosed (3). Probably because of late detection of lesions in oral cancer, it has one of the lowest 5-year survival rates among all cancers (3).

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It seems that there is a remarkable gap between emergence of primary sign and symptoms of disease explained by the patient and final confirmation of oral cancer reported by pathologist. This time interval seems to reach as far as 3 month worldwide and also in Iran (4,5). It's oral-health physician's responsibility to detect lesions at primary stages when they are small and asymptomatic (6) Exact examining of oral cavity in patients attending for routine dental care give dentists opportunities to early diagnosis of oral cancer. (7).

There are several risk factors for oral cancer; some of the known ones are different kinds of tobacco, alcohol, inappropriate life style and nutritional habits, viruses and the sunlight (8)

Many studies in the United States, Canada and Europe have evaluated the knowledge of dentists about oral cancer and concluded that there is still needed to improve the knowledge of dentists in detection and management of oral cancers (9, 10, 11). They also recommended to conduct more studies in order to estimate current knowledge of dentists and to include it in future educational courses (11, 12).

This study was carried out with an aim to evaluate the knowledge and awareness of dental postgraduate students about risk factors, signs, and treatment plan of oral cancer in Tabriz dental college.

Materials and methods

This was a cross-sectional questionnaire-based study which carried out in Tabriz-Iran from June 2014 to May 2015. It was approved by the ethics committee of Tabriz University of medical sciences. Tabriz dental faculty is one of the major educational and research center located in north-west of Iran. Dental and periodontal research center, dental biomaterials and laser centers are three active centers of the faculty conducted numerous

investigations in different fields of dental sciences. Oral medicine department is one of the main referral sites in the north-west of Iran which receives plenty of patients suffering from different oral and maxillofacial lesions and disorders. 87 postgraduate and 682 undergraduate students are studying in the university.

A questionnaire was designed to assess the knowledge of postgraduate students. The questionnaire is mainly consists of two sections. Demographic section comprised of sex and age and field of post graduate specialty .In the second section, 10 questions were developed to assess knowledge of students regarding clinical signs and symptoms, risk factors, diagnosis and treatment of oral cancers. The questions were extracted from previous studies (13). The researcher transferred the questionnaire to each respective departments and asked students to give appropriate answers to questions after the researcher explained the aim of study. All the participants were asked to give informed consent.

Content validity of the questionnaire was declined by assessment of 40 post graduate dentistry student. Reliability of questions was confirmed by alpha-cronbach co-efficient test ($\alpha = 0.85$ for knowledge).Data were analyzed by descriptive and analytical measurements in SPSS 23. Quantitative data were shown by and frequency and qualitative data were reported by percent.

Results

20 out of 87 post graduate students refused to participate in the study. The response rate is 77%.

According to the responses for question one, 82% of post graduate students examine patients oral mucosa routinely. 18% of them do not perform examination of oral mucosa which is a great number.



When asked "Which part of the oral cavity do you miss usually during examination?" 50.7% of students usually miss floor of the mouth during the examination. Buccal mucosa (15%) and palate (13.4%) are in the second and third rank. Tongue (3%) is the less common area in oral cavity which is forgotten by post graduate students. The below table shows the frequency distribution of the each choices (Table 1).

Area	N(%)
Floor of the mouth	34(50.7)
Buccal mucosa	10(15)
Palate	9(13.4)
Lips	7(10.4)
Vestibule	5(7.4)
Tongue	2(3)

Table 1: Frequency distribution of answers for question 2

For the question "What would you consider as the main risk factor for most of the oral cancers?" 80.5% of students chose habits. Frequencies of other answers are demonstrated in table 3 in a descending order. (Table 2)

Risk factor	N(%)
Habits (tobacco and alcohol)	54(80.5)
Genetic factors	8(12)
Bacteria	3 (4.4)
Virus	1(1.4)
Not sure	1(1.4)

Table 2: Frequency distribution of answers for question 3

64% of students answered that they are unsure in provisional diagnosis of oral cancer clinically; this followed by 18% "confident" and 13.4% "very unsure". Only 4.4% were "very confident" in early detection of oral cancer.

A great number of students (61%) knew that any of ulcerative or red and white lesions would associate with oral cancer.

76% of participants agreed that early detection of oral cancerous lesions is possible during routine oral examinations. While 16.4% disagreed and 7.4% were not sure to be able to detect lesions.

On the question what is relevant treatment of oral SCC, majority of students (61%) gave complete answer and stated that the treatment modality depends on the size and pathologic stage of the tumor. About 25% believed that combination therapy is an optimum treatment (18% for combination of surgery-radiotherapy and 7.4% surgery-chemotherapy) and only minority of students (1.4%) choose radiotherapy or chemotherapy as a treatment of choice.

Regarding the knowledge of students on the most common oral complication of post-radiation therapy, 46.2% choose correct answer (mucositis), whereas 18% had an opinion that osteoradionecrosis is the most common oral complication and 15% select candidiasis.

When asked what is the optimum time period for tooth extraction in patients undergoing radiotherapy, 80.6% stated that at least 2 weeks before radiotherapy, hopeless teeth had to be extracted and only 1.4% had an opinion that extraction of the tooth is contraindicated (Table 3).

Period of time	N(%)
Minimum 2 weeks before radiotherapy	80.6(54)
Treatment is contraindicated	10.4(7)
Not sure	6(4)
During radiotherapy	1.4 (1)
Immediately after radiotherapy	1.4 (1)

Table 3: Frequency distribution of answers for question 2



On the question how do you manage post-radiation oral complications, 76% preferred to refer these cases to oral medicine specialist and only 4.4% referred the cases to ENT.

Discussion

In the current study, 18% of post graduate students do not examine oral mucosa. According to the previous findings early detection of oral cancer comes after an exact examination of oral mucosa (14, 15); it seems, this is caused by focus of students on their special field of study and forgets to examine the rest of oral environment.

It was mentioned in the literature that the squamous cell carcinoma (SCC) of the tongue is the most common type of oral cancer in mouth following by SCC in oropharynx, and floor of the mouth (16).

In the systematic review which assessed overall prevalence of oral cancer in Iran, it was reported that tongue is the most involved area of oral cavity with average percentage of 29.9% (17).

More commonly, Oral cancer involves buccal mucosa in some parts of Asia which different kinds of tobacco are widely used. (18) 50.7% of students forget to examine floor of the mouth routinely and also 15% forget buccal mucosa. However just 3% of them missed examination of tongue.

The lips, vestibule and palate are areas which are less affected from oral cancer. (18)

Many studies revealed that the main risk factor for oral cancer is habits such as tobacco and alcohol consumption. (19, 20, 21) There is a synergic effect for oral cancer in concomitants use of tobacco and alcohol which can increase the risk up to 35-fold. (20, 21) The majority of students were aware of this but some of them had misunderstandings about the main risk factor of oral cancer.

When students were asked if they can provisionally diagnose oral cancer clinically, a great number of them answered negatively. (64% unsure and 13.4% very unsure).

Considering high prevalence and low survival rate of oral SCC, comprehensive examination of oral mucosa is critical and improving and updating dentists knowledge about exact examination, risk factors and detection of oral cancerous lesions in primary stages is very important (22,). This knowledge helps them to diagnose precancerous lesions more confidently (23) In order to increase the practice and knowledge of dentists regarding examination and diagnosis of oral cancer lesions, it seems necessary to conduct educational courses systematically which helps them to diagnose precancerous lesions more confidently (23). In the study by Colvis only 52% of responding dentists stated that undergraduate training related to oral cancer examination is good and 77% of them were interested in taking continuous courses on this issue (24). A similar problem was noted by Decuseara in Ireland 74% of dentists reported lack of patient education materials regarding prevention and early detection of oral cancer (25).

Although early clinical presentation of oral cancer is white or red lesions (leukoplakia-erythroplakia) or combination of them, but through time it will change into proliferative ulcerations. (26) Only 61% of students chose right answer which is not a satisfactory result.

Despite remarkable advances in treatment of SCC, 5-year survival rate of SCC is low which is about 50-60% and still remains a problem.

The most important reason of the mentioned problem is attributed to late diagnosis of SCC. So early detection of oral SCC at primary stages, improve treatment prognosis and survival rate of patients and facilitate monitoring of lesions in follow up sessions.





In the current study 76% of the students agreed that early diagnosis of oral lesions is possible. The finding of this study is in agreement with villa et al study. He found that 93.6% of dentists believed that early detection of oral lesions resulted in better prognosis.(27) However he stated that the dentist knowledge about signs and symptoms of early lesions is low and needed to be improved. In the study by Colvis in British Columbia and scotia, 70.7% of dentists performed oral cancer examination for all patients.

Multiple factors determine treatment approach of SCC. Cancer related factors (size and stage of the tumor) and patient related factors (physiological age, patient expectation) influence treatment modality. About 61% of students in the study mentioned this point (28).

Oral mucositis or acute injury to mucosal lining of oral cavity occurred in 29-66% of patients receiving radiation therapy (29). Basic and exact care is a critical part of dental management of patients. Evaluation of patients by dental specialist decrease postoperative complications. On the questionnaire based study by among 2519 british dentists, 84% of dentists answered that they performed oral cancer examination and among these numbers, 74% stated that they referred detected cases to

hospital for further investigation. Their study is in agreement with our study which 76% of the students preferred to refer such cases to oral specialists.

A minimum of 14 days before radiotherapy is considered as an ideal time for extraction of teeth (30). Most of the dentists routinely perform extraction procedure in the office, so taking 14 days before radiotherapy into account is critical. Fortunately 80.6% of students pointed this correctly and only 7.4 stated that extraction before radiotherapy is contraindicated.

Conclusion

It is concluded theoretical knowledge of post graduate students regarding oral cancer examination is good, however their knowledge about clinical diagnosis of early lesions is low and needed to be improved. It seems necessary to conduct educational courses systematically which helps them to diagnose precancerous lesions more confidently.

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