RESEARCH ARTICLE

Evaluation of Levels of Knowledge about Etiology and Symptoms of Oral Cancer in Southern Iran

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Abstract

Background: Knowledge regarding risk factors and primary signs of oral cancer in the general population can help them to avoid risky behaviour and seek timely advice from a physician. The aim of this study was to survey adult knowledge about risk factors and signs of oral cancer in Shiraz Dental University. Materials and Methods: In this descriptive cross-sectional study using an investigator-made questionnaire, 783 adults who were referred to Shiraz Dental University participated. Questionnaire data were analyzed by ANOVA and T-test. Results: The results showed that 32.3% of participants were aware of oral cancer and gained their knowledge from the media. The risk factors mentioned by these participants was as follows: sunlight 30.8%, hot and peppery food 40.7%, alcoholic drinks 47.4% and smoking 73.6% (there was significant relationship for drinking alcohol and gender, education and times of using dental service, p<0.05). They also mentioned the primary signs of oral cancer as follows: red patch without pain 27.8%, white patch without pain 13.5% and prolong scarring without pain 56.7% (there was significant relationship between these three signs and education and times of using dental service, p<0.05). The mean knowledge about the risk factors and signs of oral cancer were 1.94 from 5 with 1.14 standard deviation and 0.96 from 3 with 0.93 standard deviation. Conclusions: The observed low level of knowledge of people regarding both risk factors and signs of oral cancer emphasizes the need for more efforts to be made about the above mentioned issues by the media.

Keywords: Knowledge - risk factors - oral cancer - Iran

Introduction

Oral cancer is one of the most common kinds of cancer (Epstein et al., 2008) and the second cause of death around the world after cardiovascular disease (Andisheh-Tadbir et al., 2008). It includes large group of malignant neoplasms in oral cavity but most of them more than 90% are squamous cell carcinoma (Little et al., 2008). Both alcohol consumption and tobacco use are known risk factors for oral cancer. The incidence of oral cancer is also associated with social and economic status (Zohoori et al., 2012). One of the main causes of death in these cases is lack of patient's and physician's knowledge about this condition. The cancer in its first phase is mostly painless and asymptomatic and patients didn't pay attention to it. On the other hand dentists and physicians do not pay enough attention to oral mucosa and primary signs of cancer in their routine examination. These are the main reasons of late detection of oral cancers until it's progressive and dangerous phase which leads to serious complications.

There are few countries which have controlling protocol for oral cancer in compare with the countries having controlling programs for breast cancer (Nicotera et al., 2004). Sooner the patient realizes the lesion and comes for treatment, better survival can be expected (Rogers et al., 2011) and can decrease severe facial disfiguration, and emotional, behavioral and social complications (Wood and Sawyer, 1997).

It is important to note that late diagnosis directly affects prognosis. There are also some premalignant lesions in the oral cavity that may persist without any malignant changes for months or even years. Detection in of these lesions inthis golden time can provide natural life long for the patient and prevent him/her against complications of cancer and it's treatment (Nicotera et al., 2004).

General awareness of oral cancer's predisposing factors and its signs and symptoms can lead to avoid them. So it seems necessary to evaluate this level of awareness.

Materials and Methods

In this cross sectional study we evaluated the level of knowledge in adults referring to Shiraz Dental School about symptoms and predisposing factors of oral cancer. 783 volunteers recoursing to different departments of the

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faculty were entered to the study. We used a questionnaire including 3 parts. The first part consisted data about age, sex, education level and frequency of dental visits. The second part had 5 questions to evaluate the level of knowledge about oral cancer's predisposing factors and the third part consists of 3 questions on knowledge about symptoms of oral cancer (Table 1).

Data was analyzed by SPSS software and we used chi-square test for statistical analysis.

Results

Four hundred and eighty one of participants in our study (61.4%) were women and 302 of them (38.6%) were men. The mean age of the participants was 35.38±11.96 (18-72 years old). 23.8% of them had been educated under diploma, 42.7% had diploma (most of participants), 14.6% had, and 18.9% had been educated up to license level and more. 37.7% of the participants had dental visit under 3 times, 27.8% 3-5 times and 34.5% had dental visit more than 5 times. According to our study 530 of the participants (67.7%) had not heared about oral cancer at all. They were 320 (60.4%) women and 210 (39.6%) men. There were just 92 men (36.4%) and 161 women (63.6%) who knew something about oral cancer.

There was no relationship between the level of awareness and frequency of dental visits (P>0.05), but there was statistically meaningfull relationship between the level of awareness and age and the level of education (P<0.05). Among the participants who were aware of oral
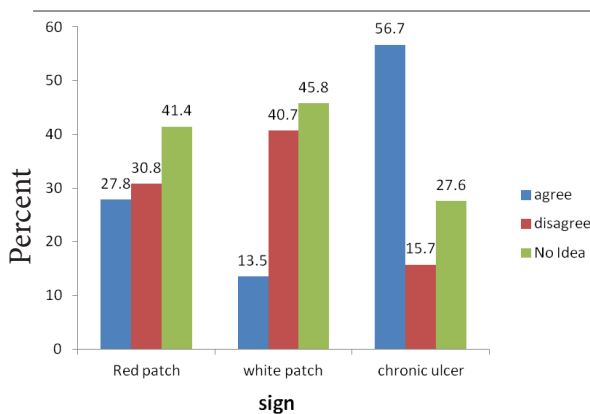

Figure 1. Answer to Question on Signs of Oral Cancer

Table 1. Questionnaire used in This Study

Female ☐   Male ☐   Age: Education:
How many times did you visit a dentist before?
  Less than 3 times ☐   3-5 times ☐   more than 5 times ☐
Have you ever heard about oral and labial cancer?   Yes ☐   No ☐
If yes, how did you got this information?
  Your dentist ☐   Your doctor ☐   Media ☐   Others ☐
Have you ever been visited for oral cancer?   Yes ☐   No ☐
Which of the following can increase the risk of oral and labial cancer?
  Long exposure to the sun light   Yes ☐   No ☐   I don't know ☐
  Eating hot and chilly food   Yes ☐   No ☐   I don't know ☐
  Alcohol drinking   Yes ☐   No ☐   I don't know ☐
  Smoking   Yes ☐   No ☐   I don't know ☐
  Chronic lip and cheeck chewing   Yes ☐   No ☐   I don't know ☐
which of the following can be the first sign of oral cancer ?
  Painless red mucosal patch   Yes ☐   No ☐   I don't know ☐
  Painless white mucosal patch   Yes ☐   No ☐   I don't know ☐
  Chronic painless oral ulcer   Yes ☐   No ☐   I don't know ☐

cancer, 53.9% of them learned from public media, 15.4% from their dentist, 5.9% from their physician and 24.8% from others. One of the questions asked participants if they have been ever visited for oral cancer and just 3.1% had this experience. There was a significant relationship between oral examination for cancer and level of education (P<0.05).

Thirty point eight percent of participants believed that long term exposure to sun light can be a predisposing factor of oral cancer, 29.1% didn't agree and 40.1% had no idea about that. 40% of the participants believed that hot and spicy food can cause oral cancer, 29.8% didn't agree and 29.5% had no idea about that.

There was a relationship between giving right answer to these questions and the frequency of dental visit (P<0.05).

Fourty seven point four percent of participants believed that alcoholic drinks can be an etiologic factor of oral cancer, 27.1% didn't believe and 25.5% had no idea. There was a significant relationship between giving right answer to this question and gender, level of education and frequency of dental visit (P<0.05).

Seventy three point six percent of participants accepted smoking as a cause of oral cancer, 12% didn't believe so and 14.4% had no idea about that. There was a significant relationship between giving right answer to this question and level of education (P<0.05).

Thirty four percent of the participants believed that chronic lip and cheek chewing can cause oral cancer, 22.7% didn't believe and 38.3% had no idea. There was a significant relationship between giving correct answer to this question and level of education (P<0.05).

The most correct answer about oral cancer's etiologic factors was for smoking (73.6%) and the least was about sun exposure (30.8%).

There was a significant relationship between giving correct answer to the question related to signs of oral cancer and level of education and also with frequency of dental visit (P<0.05).

The most correct answers to questions about signs of oral cancer were related to chronic ulcers without pain (56.7%) and the least ones were about white patches without pain (13.5%).

The mean score of the participant's answers to questions about predisposing factors of oral cancer and signs of oral cancer were 1.94(±1.14) and 0.96(±0.93) respectively. The total score for etiologic factor was 5 and for signs was 3. The mean score of all questions was 2.9(±1.71). There was a significant relationship between the level of awareness with gender and level of education (P<0.05).

Discussion

Oral cancer is one of the most life threatening disease for human being. Dentists can play an important role in its diagnosis and management. Detecting the lesion in first stage in less than 30% survival, but if diagnosis be postponed until function and metastasis occurs, survival will be reduced to 20% (Panje et al 1980).

According to year survival in United States (1995-2000) oral and laryngeal cancers were

detected in early stages. Early detection is very important to obtain the best prognosis and long survival in cases of cancers (Ashe et al., 2005).

According to this study, the level of adults' knowledge about etiologic factors of oral cancer was 1.94 from a total score of 5 and about the first signs of oral cancer was 0.96 from a total score of 3. Their over all knowledge was 2.9 from a total score of 8. The results show the low level of awareness about oral cancer in this group.

Horowitz et al. (1995) reported the low level of knowledge in urban adults in USA about predisposing factors of oral cancer. In their report only 25% of them knew just one sign of cancer and 44% did not knew even one.

In our study we found a significant relationship between the level of knowledge and the level of education of the participants (P<0.05). Kakoe et al. (2009) found the same relation in adults of Kerman but Powe and Finnie (2004) didn't find such relation in American Adults. Ninety six point nine percent of participants had not been visited for oral cancer yet, this can be due to low level of patient's awareness, low level of dentist's knowledge about oral cancer and dentists' consent ration on teeth examination more than oral mucosa. Sometimes dentists don't explain enough about oral cancer even when they are doing mucosal examination.

Having some information makes patients to ask their dentist to visit their oral mucosa while dental visit. Dentists should be able to increase patient's general information about oral cancer. But some dentists don't know enough about the disease which can be due to lack of education in university and ignoring the role of dentists in early diagnosis of oral mucosal lesions and oral cancers. General concept of the society and even dentists themselves may worsen the situation. Many people believe that physicians have more knowledge in diagnosis of oral mucosal disease and that's why they just ask dentists to visit their teeth rather than mouth.

On the other hand examination of oral mucosa and head and neck lymph nodes is one of the most important points in early diagnosis of oral cancer and is necessary to be done for all elderly patients at least once a year. This needs to spend plenty of time and scrupulosity that's why many dentists ignore that.

According to our results most of participants (53.9%) learned what they knew about oral cancer from public media. This emphasizes the importance of media in informing the society and indicates the necessity of making educational programs and presenting them in suitable times to be used for general population.

According to our study, most known etiologic factors were smoking (73.6) and alcohol drinking (47.4), this is the same as previous studies for example Ashe et al showed that oral hygienists believed that smoking and alcohol drinking are the two most important etiologic factors for pharyngeal carcinoma (Ashe et al., 2005). Simon reported that 75% of participants believed smoking is a risk factor and less than 25% of them accepted alcohol as a causative factor (Rogers et al., 2011).

In Nicotera's study, smoking was reported as a main etiology of oral cancer (90.7%) but just 45.7% of

participants believed that alcohol can cause oral cancer (Nicoter et al., 2004). But according to the study of Huang et al on adults of Portozico just 13% of them knew that continues alcohol drinking can increase the risk of oral cancer (Haung et al., 2003). On the other hand pakfetrat reported that just 15.9% of adults in Mashhad believed that smoking can be a risk factor for oral cancer and even less (6.6%) believed alcohol can cause the disease (Pakfetrat et al., 2010).

It seems that people know that smoking and alcohol drinking are harmful, that's why these factors are selected as two etiologic factors of oral cancer. In our country there is a high rate of tobacco usage, so informing people about smoking's effect on increasing risk of oral cancer can make them to correct their dangerous behavior.

In our study the rate of information about the risk factors in participants was less than other studies (Cannick et al., 2005; West et al., 2006). The knowledge of our participants about effect of smoking was more than other studies (Haung et al., 2003; Ashe et al., 2005; Cannick et al., 2005; Carter and Ogden, 2007; Pakfetrat et al., 2010).

According to the results of our study women had more information than men (P<0.05) this can be due to their more usage of educational programs of the media. 30.8% of the participants of our study knew that long term sun exposure can cause oral and lip cancer. This is the same as the results of Horowitz et al. (1995).

Forty point seven percent of participants in our study believed that hot and spicy food can cause oral cancer and 43.3% of them thought so about lip and check chewing. Powe and Kakooei reported the same results (Powe and Finnie, 2004; Kakoe et al., 2009). In Yellowitz et al. (2000) study 25% of participants believed that hot and spicy food can cause oral cancer.

The correct answers to the question about the initial signs of oral cancer including painless red patch, painless white patch and chronic painless ulcer was 27.8%, 13.5% and 56.7% respectively. The mean score was 0.96 from 3 which was almost the same as 2 from 6 in Kakoe et al. (2009) report.

Pakfetrat reported that 90% of participants did not have any information about clinical presentations of oral cancer and just 6.6% knew something about ulcer and 0.9% had information about red and white patch (Pakfetrat et al., 2010). But Tomar and Logan (2005) in his study showed that 50% of the participants knew that red and white patches can be a sign of oral cancer.

Ariyawardana et al. (2005). showed that 44.9% of people living in Srilanka had information about premalignant lesions of oral cavity. More than 30% of the participants in Simon's study believed that a chronic ulcer can be a sign of oral cancer (Kakoe et al., 2009).

In Nicoter et al. (2004) study most participants were aware of white patch and 30% knew about red patch as a sign of oral cancer.

The results of our study showed more information of our participants than the ones in Horowitz's study. It can be because of different scales, different scores and different categorizing of the questions. The another reason can be that Horowitz's study had been done 20 years ago and there are an increase in general information in recent

Azadeh Andisheh Tadbir et al

years. Tomar and Logan (2005) selected 1773 participant randomly by computer and call them asking about signs of oral cancer. He reported that half of them didn't know that white and/or red patches and ulcer can be a sign of oral carcinoma.

This study and surveys similar to that represent that there is not enough attempt on giving information about first signs of oral cancer and the initiating factors and that's why most of people have not enough information about that (Kakoe et al., 2009).

One of limitations of this survey was restricting participants to those coming to dental school and that's why we can not generalize the results. Same studies had been done and assessed the level of knowledge of physicians, dentists, dental hygienists, dental students and nurses about the subject. This level even among these groups were also lower than acceptable level. Lack of knowledge can lead to late diagnosis and serious outcomes.

Although having information about predisposing and initial factors may be not enough to altering habits like smoking, but can help to do that. Most of the participants declared that they received their information about oral disease via TV, radio, magezing and newspaper. This can demonstrate the important role of these media in giving information to people.

In conclusion, results of this study indicates that we can increase our patients information about oral cancer, it's predisposing factors and first signs by screening their oral mucosa. This increased information can lead to reduction of predisposing factors, early diagnosis and increasing the survival rate in patients.

Our results indicate that even patients who have tendency for being examined for screening oral cancer, have very low information about predisposing factors and the importance of early diagnosis.

Acknowledgements

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