PUBLIC AWARENESS AND ATTITUDE TOWARD ORAL CANCER SCREENING IN UNITED ARAB EMIRATES

Natheer H Al-Rawi[1], Sausan Al-Kawas[1], Omer Imad[1]*

1. College of Dentistry, University of Sharjah , Sharjah, United Arab Emirates.

Abstract

Cancer is a major health problem in both developed and developing countries. Fighting against cancer require health care professionals to be well trained in diagnosing as well as organizing public education programs. In most Asian countries including UAE, there are no organized oral cancer screening and education programs. The aim of this study is to evaluate public knowledge of oral cancer risk factors, to assess their awareness toward oral cancer examination.

A self-administered questionnaire was designed to collect information regarding subject's awareness of oral cancer, knowledge of other conditions associated with alcohol and tobacco use and perceived risk for oral cancer and subject's attitude regarding oral cancer screening.

A convenient sample of 1055 subjects agreed to participate and answered the questionnaire. The majority of the participants (68.99%, n=692) were below 30 years of age. More than 2/3 of them were non-local (residents from other nationalities) and were well educated (71.81%). We found significant difference in the subject's awareness of the existence of an oral cancer examination at Bivariate levels among age, gender, educational levels and those who had higher risk factor knowledge scores .Regarding knowledge about early signs of oral cancer 26% of respondents choose sore lesions in mouth that does not heal as an early sign of oral cancer followed by red patches in mouth that are not painful (20.8%) then white patches in mouth that are not painful (16%).

Our results demonstrate that subject's awareness in UAE population have relatively little accurate knowledge about oral cancer. This lack of knowledge could result in simply ignoring a sign of oral cancer that, in turn, would have serious consequences. Without accurate and appropriate information, people can neither make nor be expected to make informed, intelligent decision about their own health or seek professional help.

Clinical article (J Int Dent Med Res 2012; 5: (3), pp. 149-154)

Keywords: Oral cancer, screening, knowledge, attitude.

Received date: 22 August 2012 **Accept date:** 10 December 2012

Introduction

Cancer is a major health problem in both developed and developing countries. The estimated number of new cases of cancer each year is expected to rise from 11 million in 2002 to 16 million by 2020 with more than half of cases arising in developing countries.[1] Cancer is the third leading cause of death in the United Arab Emirates (UAE) following cardiovascular diseases and road traffic accidents.[2] Data from the UAE ministry of health indicates that cancer accounts for approximately 500 death per year. Epidemiological observations indicate that environment and life style are the major determinants of the geographical pattern of cancer.[3] During the last two decades, UAE like other Arabian Gulf countries had witnessed a rapid development in many aspects of life. As a result of increasing development and civilization, the major public health problems have also increased.[4]

Corresponding author:
Associate Prof.Sausan Al-Kawas
Oral & Craniofacial Health Sciences Department
College of Dentistry, University of Sharjah
P.O. Box: 27272 Sharjah, United Arab Emirates

e-mail: sausan@sharjah.ac.ae

Fighting against cancer requires well trained health care professionals as well as organizing public education programs to raise awareness about this disease. Worldwide, oral cancer is responsible of 130000 deaths annually.[5] Oral cancer experts believe that early diagnosis of oral cancer greatly increases the probability of cure and survival rates in addition to minimizing morbidity.[6] Relatively little attention has been given to educate the general public about risk factors, signs and symptoms of oral cancer. In most Asian countries including UAE, there are no organized oral cancer screening and education programs. Such programs can improve the population's knowledge about risk factors and screening. In developed countries, public knowledge about oral cancer is inadequate even among health care providers and professionals.[16,17] Hence before landing any screening program in the UAE, it is very important to obtain basic data from a population about their knowledge of cancer. Oral cancer screening and education programs could improve the population's knowledge about risk factors and screening related to such dreadful disease. Relatively little attention has been given to educating the general public about risk factors, signs and symptoms of oral cancer. Without accurate and appropriate information, people can neither make nor expected to make informed, intelligent decisions about their own health.[7] Given the lack of public awareness of the signs and symptoms and risk factors associated with oral cancer, which has been considered as potent barrier for early detection of oral cancer,[8,9] we conducted this study to determine subject's knowledge of oral cancer risk factors, to assess their awareness toward oral cancer examination.

Materials & Method

A self-administered questionnaire was designed to collect information regarding the sociodemographic characteristics such as age, gender, nationality and educational level, in addition to survey instrument comprised of 10 items that assesses the subject's awareness of oral cancer, knowledge of other conditions associated with alcohol and tobacco use, perceived risk for oral cancer and subject's attitude regarding oral cancer screening. A single investigator administered all the questionnaires to minimize bias and standardize recording. Oral cancer awareness was assessed by asking the following questions: "have you ever heard of Oral Cancer?" and "have you ever heard of an oral cancer examination?" Oral Cancer examination history was also assessed by asking this question: "Have you ever had Oral Cancer examination? Response categories for all three questions were: "Yes", "No" and "Don't know/Not sure".[10] Other questions were designed to determine the level of knowledge about signs and risk factors of Oral cancer.

For analysis of this report, accurate knowledge was defined as "definitely increases" responses for all items in question[2] except for eating hot spicy foods and frequently biting the cheeck or lip, which were correctly answered as "definitely does not increase". Definitely increases" is the correct response for all items in question (3&4).

Signs and risk factors questionnaire	
Q1	What is one early sign of mouth cancer? (Mark the one that best fit your answer) ➢ White patches in mouth that is not painful. ➢ Red patches in mouth that is not painful. ➢ Sore/lesion in mouth that does not heal. ➢ Bleeding in mouth. ➢ Other (specify)
Q2	For each of these, tell us if you think it definitely increase, probably increase, probably does not increase, or definitely does not increase a person's chances of getting oral cancer: ➢ Excessive exposure to sunlight. ➢ Eating hot spicy food ➢ Regular alcohol drinking. ➢ Tobacco use in any form ➢ Frequently biting the cheeck or lip.
Q3	Please tell if you think Heavy alcohol drinking definitely increase, probably increase, probably does not increase, or definitely does not increase a person's chances of getting the following problems: ➢ Throat cancer ➢ Liver cirrhosis ➢ Oral cancer
Q4	Please tell if you think Cigarette smoking definitely increase, probably increase, probably does not increase, or definitely does not increase a person's chances of getting the following problems: ➢ Emphysema ➢ Cancer of esophagus ➢ Cancer of the larynx ➢ Chronic bronchitis ➢ Lung cancer ➢ Oral cancer

Other response categories were combined to reflect an absence of knowledge ["don't know"] or a "lack of confidence of knowledge" ["Probably increases" or "Probably does not increase"]. Refusal was not included.

Subject's attitude about oral cancer screening was also tested by asking the following questions: "How likely would you agree to have an oral health screening to check your mouth for

cancer?". The response categories for this question were "extremely unlikely, unlikely, likely, extremely likely. The last two questions were about the subject's response to oral cancer screening test (table 2). The response categories for this question were "strongly agree, agree, disagree, and strongly disagree".

Subject's attitudes toward oral cancer screening test	
Q	How likely would you agree to have an oral health screen to check your mouth for cancer?
Q	What do you think about the dentist checking your mouth for oral cancer, would it be: ➢ Waste of time ➢ Give you discomfort ➢ Give you early diagnosis of mouth cancer ➢ Reassure you
Q	How do you feel about having check for mouth cancer? ➢ Not anxious ➢ Extremely anxious ➢ Not worried ➢ Extremely worried ➢ Not concerned ➢ Extremely concerned

Total knowledge score was obtained by summing the number of correct answers to the five items of question.[2] Possible scores ranged from1-4 using a four-point scale (1= definitely does not increase risk, 2= probably does not increase risk, 3= probably increases risk, 4= definitely increases risk".

Data entry and analysis were undertaken using the computer software statistical package of Social Sciences (SPSS-19 IL-Chicago).

A Bivariate analysis was carried out to find the association between each of the independent variables and the subject's having heard about oral cancer examination and /or having a history of oral cancer exam using X^2 tests. A P value of 0.05 or less was deemed to be significant. The results are grouped under knowledge and attitude areas.

Results:

A convenient sample of 1055 subjects agreed to participate and answered the questionnaire. The demographic data of the respondents is shown in table (1).

Variables	Number	Percentage
Age (Years)		
≤29	692	68.99
30-39	160	15.95
≥40	151	15.05
Gender		
Males	406	39.11
females	632	60.89
Nationality		
Local	236	22.82
Non Local	798	77.17
Education Level		
< High school	289	28.19
≥ College	736	71.81
Occupation		
Employers	346	44.9
Non Employers	424	55.1

Table 1. Demographic characteristics among screening participants

The ages of the respondents ranged from 18 to 70 years. The majority of the participants (68.99%, n=692) were below 30 years of age. More than 2/3 of them were non-local (residents from other nationalities) and were well educated (71.81%). The total knowledge risk factors scores vary, 15.96% of the subjects had a total score of 1 and 44.69% had a total score of 3 and only 3% had a total score of 4 or more. Most of the subjects (64.5%, n=678) had heard about oral cancer, however, only (21.6%, n=227) reported having heard of an oral cancer exam, and only (5%, n=52) reported ever having had an oral examination (table 2).

Variables	Number	Percentage
Oral Cancer awareness		
Yes	678	64.63
No	318	30.13
Don't know	53	5.4
Oral cancer exam awareness		
Yes	227	21.6
No	756	72
Don't know	67	6.3
History of Oral Cancer exam		
Yes	52	4.97
No	967	92.242.5
Don't know	27	
Risk Factor Knowledge		
0	9	0.87
1	164	15.96
2	459	44.69
3	364	35.44
4+	31	3.02

Table 2. Knowledge of awareness of oral cancer and existence of oral screening exam and history of oral exam and risk factor scores

Knowledge concerning risk factors varied greatly, 71.5% of the subjects (n=751) know that tobacco is a risk factor for oral cancer, whereas less participants knows that alcohol use is also a risk factor (57.9%, n=609) know that alcohol was. Knowledge of excessive sunlight as a risk factor

for lip cancer was reported by 23.4% (n=246) participant only. Moreover, only 8.5% (n=89) knew that eating hot, spicy food was not a risk factor, and 9.7% (n=102) know that frequently biting the cheek or lip does not increase the chance of getting mouth or lip cancer. Across all groups, there was a higher level of knowledge about tobacco use as a risk factor than about other conditions. (Figure 1)

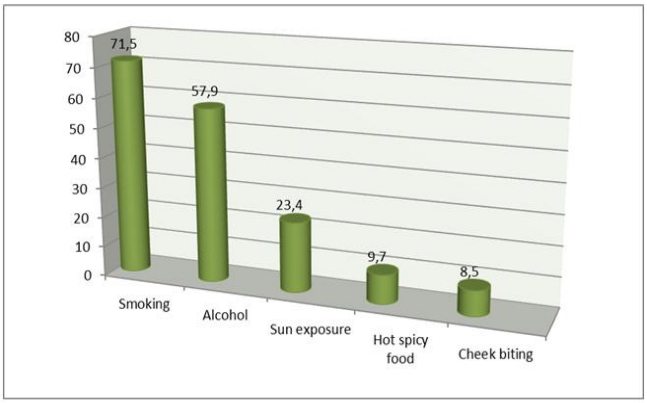

Figure 1. Knowledge about various risk factors related to cancer.

About 61-79% of participants know that smoking cigarettes places an individual at risk for emphysema, lung cancer, chronic bronchitis and cancer of larynx. (Figure 2) Regarding the question about whether heavy alcohol drinking definitely increases the chance of getting cirrhosis, 69.4% have answered “yes” and about 50% of them also knew that heavy alcohol drinking definitely increases the chance of getting throat cancer as well as mouth cancer. (Figure 3)

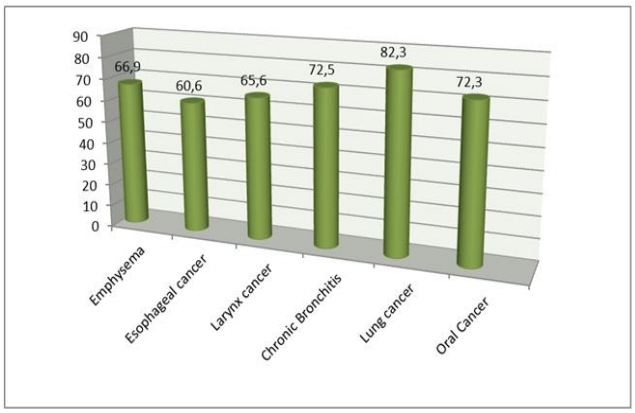

Figure 2. Subject’s knowledge about smoking effects

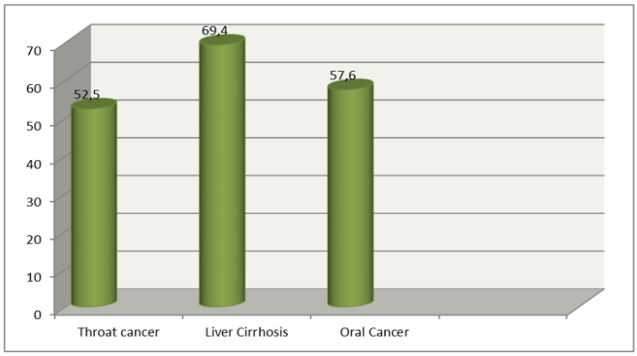

Figure 3. Subject’s knowledge about alcohol effects.

We found significant difference in the subject’s awareness of the existence of an oral cancer examination at Bivariate levels among age, gender, educational levels and those who had higher risk factor knowledge scores (table 3).

Variable	Ever Heard of an Oral cancer Exam (N=227 [21.61% of sample])			Ever Had an Oral cancer Exam (N=52 [4.97% of sample])		
	Yes N (%)	X^2	P value	Yes N (%)	X^2	P value
Age (Years)						
≤29	165 (77.4)	31.59	.000	36 (66.66)	31.23	.008
30-39	40 (18.77)			8 (17.77)		
≥40	8 (3.7)			1 (2.22)		
Gender						
Males	55 (25)	24.147	.000	14 (28.57)	16.56	.001
females	165 (75)			35 (71.42)		
Nationality						
Local	30 (13.5)	14.34	.001	15 (30)	1.84	0.605
Non Local	192 (86.48)			35 (70)		
Education Level						
< High school	27 (12.21)	36.7	.000	8 (16)	8.72	0.463
≥ College	194 (87.78)			42 (84)		
Occupation						
Employers	54 (46.5)	2.59	0.627	11 (44)	5.73	0.22
Non Employers	62 (53.5)			14 (56)		
Risk Factor Knowledge						
0	1 (0.45)			0 (0)		
1	25 (11.41)	51.65	.000	15 (30.61)	35.002	0.139
2	73 (33.33)			16 (32.65)		
3	116 (52.9)			18 (36.73)		
4+	4 (1.82)			0 (0)		

Table 3. Bivariate analysis for awareness of existence of an oral cancer exam and history of oral cancer exam

Regarding knowledge about early signs of oral cancer 26% of respondents choose sore lesions in mouth that does not heal as an early sign of oral cancer followed by red patches in mouth that are not painful (20.8%) then white patches in mouth that are not painful (16%).

Oral cancer attitude was also assessed in this study and 21.6% of the respondent (n=222) were strongly agree to have an oral health screening to check their mouth for cancer. However, when asked about dentist check for mouth cancer, there was multiple answers, 12.6%(n=128) of them said that it is a waste of time and 35.7% (n=360) said it gives them discomfort and 89% (n=914) said that it gives

early diagnosis of mouth cancer and 90.6% (n=960) said that this test reassure them .Regarding respondent feeling about oral cancer check, about 36.3% were not concerned or worried about it.

Discussion

Oral cancer is largely preventable,[11] earlier diagnosis greatly increases a patient's chances of survival as the mouth is very accessible for a clinical or even self-examination. However, there is poor public awareness of the signs and symptoms of oral malignancies and premalignant lesions.[12] In 1996, the National Strategic Planning Conference for Prevention and Control of Oral and Pharyngeal Cancer recommended that members of the public be informed that an examination for oral cancer exists and that they should request one routinely from a variety of health care provider.[13] Few studies have investigated the knowledge and opinions of general public about oral cancer.[14,15] This is the first study done in UAE regarding oral cancer public awareness. In our study, knowledge levels about oral cancer and its risk factors was more in females than in males and among younger than older participants. In the present study only 4.97 % of the respondents reported that they had been examined for oral cancer. UAE population has relatively little accurate knowledge about oral cancer. The overall lack of knowledge was reflected by the proportions of "don't know" responses and incorrect responses. For example, 13.73 % (n=145) of adults admitted that they could not identify one early sign of oral cancer and another 4.73 % (n=50) had incorrect responses. In conclusion, this lack of knowledge could result in simply ignoring a sign of oral cancer that, in turn, would have serious consequences. Without accurate and appropriate information, people can neither make nor be expected to make informed, intelligent decision about their own health.[18] Consistent with other international studies, we found that there was a lack of knowledge of the risk factors associated with oral cancer among elderly peoples, with the exception of tobacco and alcohol use. Furthermore, there was a lack of awareness of the existence of an oral cancer examination. In this study, less than 5% of the respondents reported that they had been examined for oral cancer. We can speculate that if individuals do not know enough information about risk factors and signs oral cancer they will not seek oral cancer examination.

For decades, we have known that the use of tobacco products and alcohol is detrimental to health. A variety of educational and informational campaigns have urged people who use tobacco products to stop. It is not common to include that the use of tobacco may cause oral cancer. This survey found that most participants know that smoking is detrimental to health and that heavy drinking contributes to liver cirrhosis. This suggests that some educational massages have successfully imparted correct information. Adults were reasonably knowledgeable about the link between tobacco products and oral cancer.

References

1. Takiar R, Nadayil D, Nandakumar A Projections of Number of Cancer Cases in India (2010-2020) by Cancer Groups. Asian Pacific Journal of Cancer Prevention 2010; 11:1045-49.
2. Badrinath P, Ghazal-Aswad S, Osman N, Deemas E, McIlvenny S. A study of knowledge, attitude, and practice of cervical screening among female primary care physicians in the United Arab Emirates. Health Care Women HCW 2010; 27(7):663-70.
3. Magrath I, Litvak. Cancer in developing countries: Opportunity and Challenges. J Nat Ca Inst 1993; 85:862-74.
4. Bener A, Obineche E, Gillett M, Pasha MAH, Bishawi B. Association between blood levels of lead, blood pressure and risk of diabetes and heart disease in workers. Int Arch Occup Environ Health 2001; 74:375-78.
5. Pett Si, Scully C. Oral Cancer knowledge and awareness; primary and secondary effects of an information leaflet. Oral Oncol 2007; 43:408-15.
6. Ries LA, Kosray CL, Hankey BF, Miller BA, Clegg L, Edwards BK, SEER. Cancer Statistic Review 1973-1996. Bethasda,MD:National Cancer institute, 1999.
7. Frazier PJ, Horowitz AM. Oral Health Education and promotion in maternal and child health a position paper. J Public Health dent 1990; 50:390-5.
8. Horowitz AM, Nourjah PA. Factors associated with having oral cancer examination among US adults 40 years of age or older. J Pub Health Dent 1996; 56(6): 331-5.
9. Warnakulasuriya KA, Harris CK, Scarrott DM et al. An alarming lack of public awareness towards oral cancer. Br Dent J 1990; 187:319-22.
10. Cruz GD, Legeros RZ, Ostroff JS, Hay JL, Kenigsberg H. Oral Cancer Knowledge, risk factors and characteristics of subjects in a large oral cancer screening program. JADA 2002; 133:1064-71.
11. World Health Organization. Control of Oral Cancer in Developing Countries. Bull World HLTH Org. 1984; 62:817-30.
12. Boyle R, Macfarlane GJ, Scully C. Oral Cancer; necessity for prevention strategies. Lancet 1993; 342:1129.
13. Preventing and Controlling Oral and Pharyngeal Cancer; Recommendation from a National Strategic Planning Conference. MMWR Recomm Rep 1998;47(RR-14):1-12.
14. Motallebnejad MM, Khanian M, Alizadeh R, Dubbaghian I. Community Survey of Knowledge about Oral Cancer in Babol: Effect of an education intervention. Easterm Mediterranean Health j 2009; 15(6):1489-95.
15. Pakfetrat A, Falak F, Esnaily HO, Shabestari S. Oral Cancer Knowledge among patients referred to mashhad Dental School,Iran. Arch Iranian Med 2010;13(6):543-48.

16. Patton LL, Elter JR, Southerland JH, Stranss RP. Knowledge of Oral Cancer Risk Factors and Diagnostic Concepts among North Carolina Dentists. Implication for Diagnosis and Referral. JADA 2005; 136:602-10.
17. Cannick GF, Horowitz AM, Drury TF, Reed SG, Day TA. Assessing Oral Cancer Knowledge among Dental Students in South Carolina. JADA2005; 136:373-78.
18. Speight PM, Downer MC, Zarzewska J. Screening for oral cancer and precancer;report of a UK working group. Comm Dent Health 1993;10(Suppl.1):1-89.