Oral Cancer Awareness among Dental Patients

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ABSTRACT

Introduction: The incidence of oral cancer in South Asian countries, including Nepal is increasing despite the fact that all of its risk factors are modifiable. This can be attributed to lack of awareness regarding oral cancer and its risk factors among general public. This study was conducted among subjects attending Dental OPD of a tertiary hospital to assess the knowledge and attitude regarding oral cancer and also practices of risk factors associated with it.

Methods: This is a questionnaire based cross-sectional study conducted from July 2020 to October 2020. Subjects attending Dental OPD of a tertiary hospital in Kathmandu were asked to fill a structured close-ended Questionnaire. Section one of the questionnaire focused on the demographic data of the subjects, second part elicited information pertaining to knowledge of oral cancer, third part focused on attitude and fourth part on practices of participants towards risk factors of oral cancer.

Result: Out of 300 subjects, 65% were males. Most were in the age group 41 - 50 years and 75.6% were literate. Majority mentioned smokeless tobacco as the risk factor, followed by smoking and alcohol. Regarding signs and symptoms, most of the participants mentioned non-healing ulcer, followed by lump and pain. Most of the participants responded tongue as the most common site of oral cancer. Majority answered that oral cancer can be prevented by not chewing tobacco. Among the total, 55.3% said oral cancer is non-contagious. Only 25% had undergone oral examination in the last one year. 31.7% had habit of tobacco and / or alcohol.

Conclusions: The awareness level and knowledge about risk factors and early signs of oral cancer in this cross-section of dental patients were satisfactory.

Key words: awareness; oral cancer; risk factors; tobacco

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INTRODUCTION

Oral cancer is the sixth most common cancer in the world, with global age-standardised incidence rate of 4.0 cases per 100,000 populations per year and global mortality rate of 1.9 deaths per 100,000 populations per year.[1] It has high mortality rate and substantially contributes to the global cancer burden. South Asia accounts for one third of the world burden of oral cancer with age - standardised incidence rates of > 10 cases per 100,000 population per year.[2,3] Population based cancer registry in Nepal has reported lip and oral cancer as the fifth most common cancer and the second most common cancer among males.[2] Despite being highly preventable, oral cancer has high mortality rate and substantially contributes to the global cancer burden.[4]

Oral cancer is associated with multiple risk factors and many lifestyle factors. The most significant risk factors are tobacco and alcohol, accounting for 75% to 90% of oral cancers. Other risk factors are chronic irritation, human papilloma virus infection, radiation exposure, exposure to UV light, nutritional deficiency, immune suppression and genetic susceptibility.[5] Most of these risk factors are modifiable. If people know which risk factors they must control or eliminate, oral cancer can be prevented. Despite this, most of the cases of oral cancer, and specially the ones in developing countries, do not present until it has progressed to advanced stages. One of the main reasons for this is lack of knowledge regarding the risk factors and symptoms of oral cancer among the general population.[6]

In Nepal, studies have shown that level of knowledge regarding risk factors of oral cancer is significantly low.[7,8] In order to fill this gap in knowledge, it is important that studies be conducted to asses the level of knowledge of oral cancer so that various educational programs and preventive measures can be implemented. This would help decrease the incidence of oral cancer and also help in early detection, which would ultimately decrease morbidity and mortality associated with it.[9,10] The present study was conducted to assess the knowledge and attitude regarding oral cancer and also practices of risk factors among patients attending dental OPD of a tertiary level hospital in Kathmandu, Nepal.

METHODS

This is a cross-sectional questionnaire based study conducted among the subjects attending Dental OPD of Shree Birendra Hospital and Trichandra Military Hospital, Kathmandu, Nepal from July 2020 to October 2020. Permission was taken from Institution Review Committee of the institute. The subjects were army personnels and their family members, who were in age group of 18 to 60 years. They were included in the study after taking written consent. Mentally challenged patients and patients who were not willing to participate were excluded from the study. Convenience sampling method was used. The questionnaire was structured, close-ended, self-administered, written in English and then translated into regional language (Nepalese). Section one of the questionnaire focused on the demographic data of the subjects. The second part elicited information pertaining to knowledge regarding oral cancer. The third part focused on attitude towards oral cancer. The fourth part contained questions regarding practices of participants towards risk factors of oral cancer. The questionnaire was first given to 30 subjects for clarity and modification was made based on the response. Then the final questionnaire was administered to the subjects in the waiting room of the Department. After collecting data, it was entered in MS excel sheet and analysed in SPSS version 23 statistical software by descriptive statistics. Frequency distribution of demographic data and the correct responses were analysed and tabulated.

RESULT

A total of 300 subjects participated in this study. Out of these, 195 (65%) were males and 105 (35%) were females (Table 1). Majority of participants were in the age group 41 - 50 years (104, 34.6%), followed by 31 - 40 years (84, 28.0%) and 51 - 60 years (67, 22.3%) (Table 1). Regarding level of education (Figure 1), majority of them were literate (227, 75.6%). Among the literate participants, most (113, 33.6%) were educated till 10th standard. Only 12 had bachelor's degree. There were 73 (24.3%) study participants who were illiterate.

Table 1. Demographic data (N = 300)

Demographic parameters		Frequency (N)	Percentage (%)
Sex	Male	195	65.0%
	Female	105	35.0%
Age	18 - 20	16	5.3%
	21 - 30	29	9.7%
	31 - 40	84	28.0%
	41 - 50	104	34.6%
	51 - 60	67	22.3%

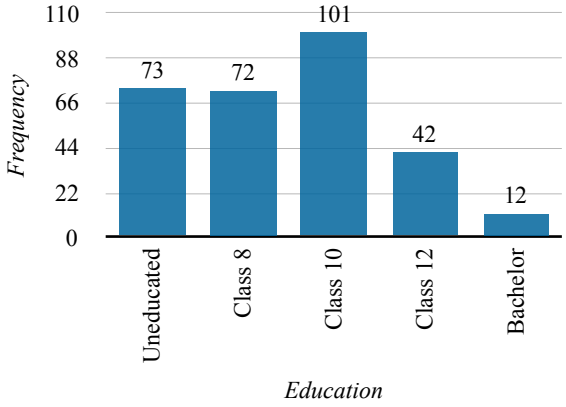

Figure 1. Education level of the participants (N = 300)

Regarding knowledge about the risk factors of oral cancer (Table 2), majority of the participants (144, 48%) knew only one risk factor and 69 (23.0%) knew two or more risk factors. 87 (29.0%) did not know about any risk factors. Among those who knew, majority mentioned smokeless tobacco as the risk factor (73 single response and 43 multiple responses), followed by smoking (48 single response and 57 multiple response), alcohol (12

Table 2. Knowledge regarding risk factors, signs and sites of oral cancer among participants (N = 300)

SN	Questions	Responses	Frequency (N)	Percentage (%)
1	Knowledge of risk factors of oral cancer	(i) Knew one risk factor • Smokeless tobacco • Smoking • Alcohol • Family history	144 • 73 • 48 • 12 • 11	48% • 24.3% • 16.0% • 4.0% • 3.6%
		(ii) Knew two or more risk factors • Smoking tobacco + alcohol • Smokeless tobacco + smoking tobacco • Smokeless tobacco + alcohol • Smokeless tobacco + smoking tobacco + alcohol	69 • 26 • 20 • 12 • 11	23.0% • 8.6% • 6.6% • 4.0% • 3.6%
		(iii) Did not know any risk factors	87	29.0%
		Total	300	100%
2	Knowledge of signs of oral cancer	(i) Knew one signs and symptoms • Non-healing ulcer • Lump • Pain	78 • 42 • 24 • 12	26.0% • 14.0% • 8.0% • 4.0%
		(ii) Knew two or more signs and symptoms • Non-healing Ulcer + pain • Non-healing Ulcer + lump	58 • 37 • 21	19.3% • 12.3% • 7.0%
		(iii) Did not know any signs and symptoms	164	54.6%
		Total	300	100%
3	Knowledge of sites of oral cancer	(i) Knew only one site • Tongue • Gingiva • Buccal mucosa • Lips	217 • 72 • 67 • 48 • 30	72.3% • 24.0% • 22.3% • 16.0% • 10.0%
		(ii) Knew two or more sites • Tongue + gingiva • Tongue + buccal mucosa • Gingiva + buccal mucosa • Tongue + gingiva + buccal mucosa	57 • 18 • 16 • 6 • 17	19.0% • 6.0% • 5.3% • 2.0% • 5.6%
		(iii) Did not know any site	26	8.6%
		Total	300	100%

Table 3. Attitude of patients towards oral cancer

SN	Questions	Responses	Frequency	Percentage (%)
1	What helps in prevention of oral cancer	i. Single response	134	44.6%
		• Not chewing tobacco	(47)	(15.5%)
		• Not smoking cigarette	(30)	(10%)
		• Not drinking alcohol	(25)	(8.3%)
		• Regular examination of oral cavity	(22)	(7.3%)
		• Daily brushing of teeth and flossing	(10)	(3.3%)
		ii. Multiple responses	70	23.3%
		• Not smoking cigarette + drinking alcohol + chewing tobacco	(26)	(26.3%)
		• Not smoking + drinking alcohol	(23)	(7.6%)
		• Not chewing tobacco +drinking alcohol	(21)	(7.0%)
		iii. Do not know	96	32%
2	Is oral cancer contagious	i. Yes	46	15.3%
		ii. No	166	55.3%
		iii. Don't know	88	29.3%

single response and 49 multiple responses) and family history (11 single responses).

As for signs of oral cancer (Table 2), more than half of the participants (164, 54.6%) did not know any. 78 knew only one and 58 knew two or more signs and symptoms. Among those who knew, most mentioned non - healing ulcer (42 single responses and 58 multiple responses), followed by lump (24 single responses and 21 multiple responses) and pain (12 single responses and 37 multiple responses).

Table 4. Practices of the participants

SN	Questions	Responses	Frequency (%)
1	Oral examination in last one year	No	225 (75.0%)
		Yes	75 (25.0%)
		i. Specific oral problems	• 73 (24.3%)
		ii. Routine physical examination	• 0 (0.0%)
		iii. Routine dental examination	• 2 (0.6%)
2	Habit	Smoking tobacco	20 (6.7%)
		Chewing tobacco	46 (15.3%)
		Drinking alcohol	6 (2.0%)
		Multiple habits	33 (7.7%)
		• Smoking and chewing tobacco	• 8 (2.7%)
		• Chewing tobacco and drinking alcohol	• 15 (5.0%)
		No habit	205 (68.3%)

In regards to knowledge of sites of oral cancer (Table 2), majority (217, 72.3%) knew only one site, 57 (19.0%) knew two or more sites whereas 26 (8.6%) did not know any site. Most of the participants responded tongue as the commonest site of oral cancer (72 single response and 51 multiple response), followed by gingiva (67 single response and 41 multiple response), buccal mucosa (48 single response and 39 multiple responses) and lips (30 single response). 8.6% did not have knowledge regarding site of oral cancer.

Regarding attitude of the participants towards oral cancer (Table 3), when asked what helps in prevention of oral cancer, majority answered not chewing tobacco (47 single response and 47 multiple responses) followed by not smoking

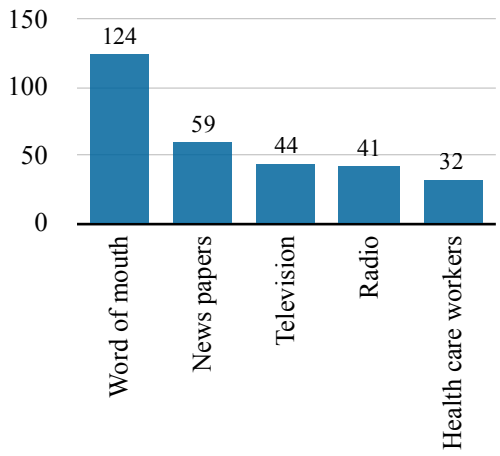

Figure 2. Source of information regarding oral cancer

cigarette, not drinking alcohol and regular oral examination. When asked if oral cancer is contagious, majority said no (166, 55.3%) while 88 said that they do not know (Table 5).

As for practices of the study participants (Table 4), only 75 (25%) had undergone oral examination in the last one year. Out of which 73 (24.3%) had gone for specific oral problems and two for routine dental examination. Majority (225, 75%) had not gone for oral examination. Regarding habits, 31.7% had habit. Out of which 6.7% had habit of tobacco smoking, 15.3% had habit of chewing tobacco and 2% had habit of drinking alcohol. 2.7% had habit of smoking and chewing tobacco. 5% had the habit of chewing tobacco and drinking alcohol.

Finally when asked regarding their source of information regarding oral cancer, majority said word of mouth, followed by newspaper, television and radio. Only 10.6% received information regarding oral cancer from health care workers (Figure 2).

DISCUSSION

Oral cancer is one of the commonest cancers in low to middle income countries in South Asia.[11] Considering the fact that all the risk factors of oral cancer are modifiable, oral cancer should be preventable. But the incidence of oral cancer in these regions is high due to popularity of tobacco habits there. This can be attributable to lack of awareness among the general public regarding oral cancer and its risk factors.[8] Not many studies have been conducted in Nepal to evaluate patients' knowledge regarding oral cancer and its risk factors. The present study was conducted among patients attending Dental OPD of a tertiary hospital to assess the knowledge and attitude regarding oral cancer and also practices of risk factors.

In this study, more than three fourth of the participants were literates. Among the literate participants, most were educated only till 10th standard. Knowledge regarding risk factors of oral cancer among participants was satisfactory. Only 29% did not know any risk factors. Majority had correctly identified tobacco as the risk factor of oral cancer, which is consistent with the study conducted by Bajracharya D et al. in Kathmandu, Nepal. This can be due to various anti-tobacco advertisements in media and in the covers of tobacco, and restrictions of use in public places. In a study conducted by Kaverappa V et al. in Karnataka, India, majority of the participants (73.5%) were aware of risk factors of oral cancer, out of which most mentioned tobacco chewing as risk factor of oral cancer, which is similar to our study.[12] In a study conducted by Crastha S et al. in rural area in Bangalore, India, majority (37.6%) did not know any risk factors of oral cancer and among those who knew the risk factors of oral cancer, most (27.6%) knew smokeless tobacco as the risk factor.[13] According to WHO, tobacco smoking and alcohol are the dominant risk factors of oral cancer and are strongly synergistic. Alcohol and tobacco account for more than 80% of the disease burden of oral cancer. Many studies have shown that tobacco smoking in any form increases the risk of oral cancer by two fold to ten fold.[14] This risk increases significantly with duration and frequency of tobacco use. Also, risk is consistently lower in former smoker than in current smoker and with increase in number of years of quitting, risk decreases.[15] None of the participants in the present study knew betel quid chewing, human papilloma virus, radiation, exposure to sunlight and lower consumption of fruits and vegetable as risk factors, which are all proven by IARC as risk factors of oral cancer. Areca nut or betel nut is now regarded as a type 1 carcinogen.[16] It is chewed raw, dried, roasted or as part of betel quid mostly in south Asia, including Nepal, and is contributing significantly. High consumption of fruits and vegetable is associated with a reduction of 40 to 50 % in the risk of oral cancer.[17] Most of these risk factors are preventable. Spreading awareness regarding risk factors of oral cancer and prevention efforts can definitely help reduce the incidence of oral cancer.[18]

Clinical presentation of oral cancer exhibits substantial variation and can be non-specific, which can hinder diagnosis. Most of the patients with oral cancer presents with signs and symptoms of locally advanced disease. In the present study, majority (54.6%) did not have knowledge regarding signs of oral cancer. Among the ones who knew, most knew non-healing ulcer as the sign of oral cancer. No one knew white / red patch, difficulty in speaking or difficulty in swallowing as the sign of oral cancer.

According to WHO, mucosal growth, ulceration, pain, difficulty with speaking and neck swelling are the commonest presentation of oral cancer.[14] In a study regarding awareness of oral cancer conducted by Agrawal M et al. in Gorakhpur, India, abnormal tissue growth, non healing oral ulcers / sores and reduced mouth opening were the symptoms known by most (more than 60% respondents). 39.8% subjects knew presence of red / white spots and 23.2% knew undue loss of teeth as an early symptom in their study.[19] In contrast to our study, in a study conducted by Gopal K et al. in a dental college in Karnataka, India, high percentage (60%) of the participants had knowledge about the signs and symptoms of oral cancer.[20]

In the present study, majority knew tongue as the site of oral cancer, followed by gingiva, buccal mucosa and lips. No one responded palate and floor of mouth as site of oral cancer. In a similar study conducted by Kaverappa V et al. in Karnataka, India, majority knew cheek as the site of OC followed by tongue and floor of mouth.[12] A systematic review by Shrestha AD et al. reported buccal mucosa as the commonest site of oral cancer in low and middle income countries.[11] Epidemiological study by Sharma S et al.[21] in Nepal also reported buccal mucosa as the common site of oral cancer. This can be attributed to habitual placement of chewing tobacco in the area of buccal mucosa. Since in our study, only minority of the participants thought that buccal mucosa is a common site of oral cancer, the knowledge regarding the site of oral cancer in our study can be considered inadequate.

Regarding attitude of the participants towards oral cancer, majority answered that not chewing tobacco and not smoking cigarette helps in prevention of oral cancer. Most of the participants correctly answered that oral cancer is not contagious. In a study conducted by Chaulagain DD et al. in Biratnagar, Nepal, 65.6% of participants responded that oral cancer could be prevented by avoiding consumption of tobacco, which is similar to our study. Also 62.2% of participants in the same study thought consumption of fruits and vegetable can prevent oral cancer.[22] A study by Marron et al.[23] regarding cessation of smoking tobacco and reversal of head and neck cancer, reported that quitting tobacco smoking for one to four years resulted in head and neck cancer reduction. They reported that after 20 years of cessation of tobacco smoking, the risk reached the level of never smokers.

As for practices of the study participants, majority had not gone for oral examination in the last one year. None of the participants had done oral examination as a part of general physical examination. In a similar study conducted by Kaverappa V et al., majority of the participants had not gone or oral examination in the last one year, which is similar to our study.[12] Regular oral examination can help to identify oral cancer cases in early stage. Early diagnosis may result in less aggressive treatment, which in turn helps to improve the quality of life of patient and also overall five year survival rate.[24] Therefor it is important to spread awareness among general public regarding the importance of regular oral examination.

Regarding habits, 32.7% had habit. Out of which 6.7% had habit of tobacco smoking, 15.3% had habit of chewing tobacco and 6% had habit of drinking alcohol. 2.7% had habit of smoking and chewing tobacco. 5% had the habit of chewing tobacco and drinking alcohol. A review article by Sinha DN et al.[25], regarding smokeless tobacco use in Nepal, stated that the prevalence of smokeless tobacco use in Nepal is high, mainly among males and disadvantaged groups, which is attributed to tobacco products being manufactured in unorganised sectors, easy access to various smokeless tobacco products and lack of awareness regarding the hazards of smokeless tobacco. They stated that to achieve reduction in tobacco use in Nepal, tobacco control act should be enforced through a multi-sectoral approach. As for the source of information regarding oral cancer, only 10.6% of the participants received information form the health care workers. Study by Bajracharya D et al.[26] in Nepal reported mass media as the main source of information about oral cancer. Healthcare workers are the ones who are in the position to spread correct information regarding oral cancer. Therefor health care workers must be encouraged to spread awareness regarding oral cancer, especially regarding the risk factors. Various community level programs should also be organised for the same. Our study was limited by

the fact that it was a single centric study, the result of which may not be generalised to the population of various areas where resources are more limited. Our results need to be further substantiated with larger, more comprehensive and mutli - centric studies in the future.

CONCLUSIONS

This study has shown that knowledge among participants regarding risk factors and signs and symptoms of oral cancer are satisfactory. However, attitude towards oral cancer and practices regarding risk factors needs improvement. In other to achieve this, there is need for structured awareness programs like inclusion of topic in school textbooks and advertisement in TV, radio and online platforms. Healthcare workers have important responsibility of spreading knowledge that risk factors of oral cancer are modifiable, it is possible to prevent it and early diagnosis helps in better prognosis. This can help in decrease the disease burden of oral cancer. Knowledge can change attitude and attitude can definitely change behaviour of people regarding oral cancer.

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