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ORIGINAL ARTICLE

Public Awareness and Knowledge of Oral Cancer and its Risk Factors in Lahore City, Pakistan

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ABSTRACT

Objective: The goal of our study is to assess the general public's knowledge and awareness related to oral cancer, its risk factors, and attitude regarding early diagnosis in Lahore city.

Material and Method: A cross sectional study was carried out in Lahore City Pakistan in March 2021.Four hundred and twenty-five questionnaires were distributed among Lahore city population and 385 participants responded. Conventional sampling technique was used for participant's selection. Written inform consent was taken from all participants. Participants greater than 15-year-old were taken in this study.

Result: Out of 385 participants 64.2% participants were male and 35.8% were female.10.4 % participants were uneducated and 34.2% participants were graduated.23.3 % participants were smokers.68.9% responders had heard about oral cancer and 31.1 % had not heard about oral cavity cancer.58.5% participants consider that oral cancer can be avoided while 48.7% participants consider that oral cancer is not curable .81.2 % participants said that smoking is a main risk factor for oral cancer and 62.2% participants consider relationship between Alcohol and oral cancer while 22.3% consider no relationship between them. 38.9 %, 25.4%and 39.4% participants were able to identify old age, diet, and sunlight are causative agents of oral cancer respectively .51% participants think that they will go for diagnosis if they find any minor lesion in the oral cavity.

CONCLUSION: The current study concluded that people living in Lahore city have a knowledge and awareness about oral cancer and also they think that tobacco and smoking are main risk factors for oral cancer while they have inadequate knowledge about certain risk factors like diet, old age and sunlight. We also recognize that only 51 % people will go for early diagnosis if they found a lesion in the oral cavity. So the cancer prevention educational program in public can increase awareness regarding oral cancer.

INTRODUCTION

Oral cancer refers to carcinoma of the floor of mouth, palate, buccal mucosa, lip and salivary glands that occurs in the oral cavity and oropharynx. Every year, 354,864 cases of oral cavity cancer are diagnosed throughout the world with 177,384 people dying as a result of the disease. (1)

Oral cancer is becoming more common in most countries, especially in developing countries. According to the World Cancer Study 2014, cancers of the oral cavity are the seventh most prevalent cancer in the world and the ninth deadliest by cancer site in terms of mortality. In patients over the age of 45, smoking and alcohol use are the leading causes of oral cancer. Other risk factors for oral cancers include decrease eating of fruits and vegetables, immunodeficiency, sun exposure, low socioeconomic status, and infection with the human papillomavirus (HPV). (2) Oral cancer has a direct connection to smoking and alcohol use. Smokers have a 10- to 15-fold increased chance of developing the disease. (3)

Oral cancer treatment frequently causes problems with speech, mastication, and swallowing, as well as dental health. It can also have an impact on a patient's capacity to interact socially, making it one of the most debilitating and disfiguring tumors. (4) A noticeable precancerous lesion-dysplasia usually precedes oral squamous cell carcinoma (OSCC). "Identifying white and red spots that suggest dysplasia and eliminating them before they become cancer has proven to be one of the most successful techniques for decreasing the frequency and mortality of cancer," according to the American Dental Association. The unpredictable malignant transition of dysplasia happens across years, during that period lesion can be managed, possibly averting the development of mouth cancer. (5)

Despite new advancements in the diagnosis and management of cancer, easy visibility of the oral cavity, and scientific understandings on cancer causative factors, oral cancer survival rate is very poor (near 50%). Early detection significantly increments patient's chances of survival as the mouth is readily available for clinical or self-examination. On the other hand, oral cancer is often diagnosed in late stages in the developing countries that increases the cost of treatment and make the treatment impossible for the patients. One of the key factors may be a lack of awareness about the causes and clinical presentations of oral cancer among the general public. Furthermore, most oral cancers can be avoided if people understand which risk factors they need to reduce or remove. (6,7,8).

The objective of our study is to evaluate the public awareness of oral cancer among the population of Lahore city, their knowledge about risk factors, and their attitude about prevention of oral cancer.

MATERIAL AND METHOD

A cross sectional study was carried out among Lahore city population, Pakistan. The study was conducted in March 2021.A validated questionnaire of previous study was used to evaluate the awareness of oral cancer among general population. (9) 425 questionnaires were distributed among the responders of the Lahore city. 386 people respond to this study. The study participants were selected by conventional sampling technique. The participants of Lahore city, greater than 15-year-old take part in our study that represents our inclusion criteria. Our questionnaire was in English language. The first part collects the information regarding age, sex, smoking, education and smoking habits. The second portion examined the previous ideas and knowledge of oral cancer, while the third part tested information about risk factors that could be source of oral cancer. Written inform consent was taken from all the respondents before study. Data was collected as a number and percentage form and chi square test was used. The analysis of the study was designed by using Statistical package for the social science (SPSS) version 21. p value was considered reliable when less than 0.05. Ethical committee approval letter was taken from Rashid Latif dental college.

RESULT

In our study age of the responders were in the range of 15-60 years. Out of 386 patients 248 (64.2%) were male and 138

(35.8%) were female. Most responders were young in the age group of 21-30 (38.9%) and 31-40 (21. 8%). Only 10.4 % participants were uneducated and 34.2% people were graduated. Smokers in this study was 23.3% (shown in table 1).

Table 1: Demographics of Participants

		n%
Gender	Male Female	248(64.2) 138 (35.8)
Age	15-20 21-30 31-40 41-50 51-60 above 60	32(8.3) 150(38.9) 84(21.8) 62 (16.1) 34(8.8) 24 (6.2)
Level of education	Uneducated Primary Middle High school Graduated Post graduate	40 (10.4) 38(9.8) 50(13.0) 92 (23.8) 132(34.2) 34 (8.8)
Smoking	Smoker Never smoke Ex-smoker	90 (23.3) 250(64.8) 46 (11.9)

It was found that 69% people have heard about oral cancer and 31% were not familiar with oral cancer. 58% people think that oral cancer is avoidable and 49% people think oral cancer is curable.

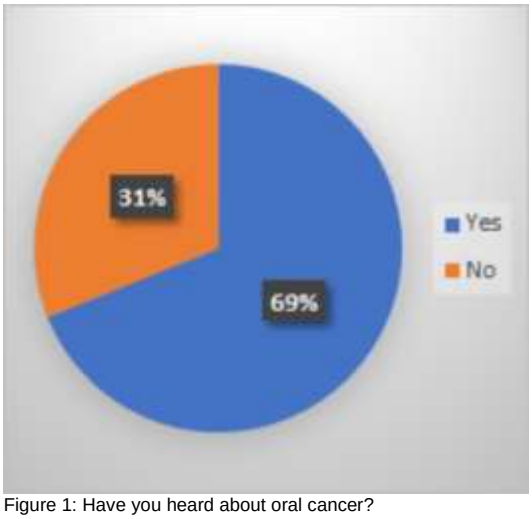

Figure 1: Have you heard about oral cancer?

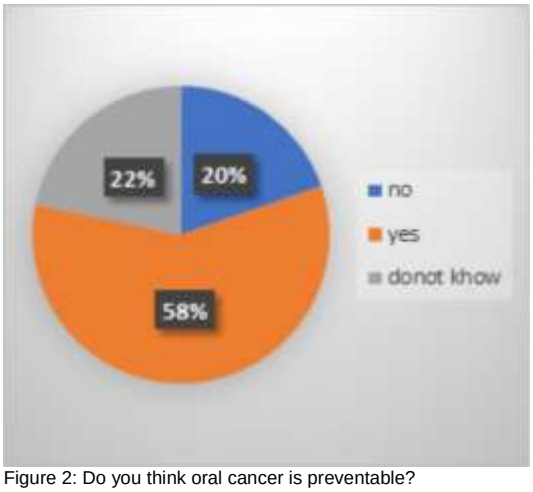

Figure 2: Do you think oral cancer is preventable?

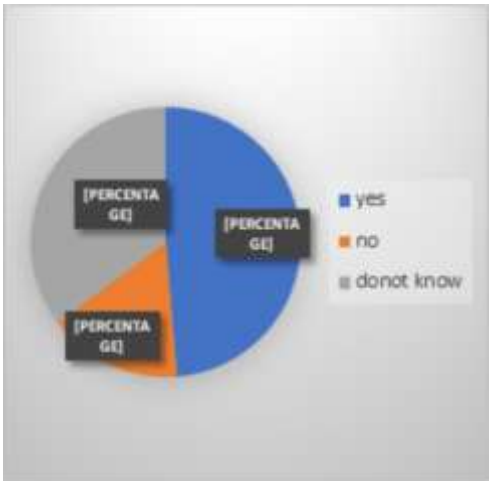

Figure 3: Do you think oral cancer is cureable?

Regarding knowledge about risk factors of oral cancer 81.2% people consider smoking is a major causative agent for oral cancer .13% consider no relationship of smoking with oral cancer and 5.2% have no knowledge about this relationship.62.2 % people consider alcohol is also a risk factor and 22.3 % said no and 15 % have no knowledge about alcohol relationship with cancer. Similarly, 38.9%, 25.4% and 39.4% participants consider old age, sunlight and diet are risk factors respectively.

Table 2: The Participants' knowledge about risk factors of oral cancer

Risk factor	Yes	No	Do not know
Smoking	314(81.2%)	50(13%)	20(5.2%)
Alcohol	240(62.2%)	86(22.3%)	58(15%)
Old age	150(38.9%)	154(39.9%)	82(21.2%)
Sunlight	98(25.4%)	182(47.2%)	104(26.9%)
diet	152(39.4%)	140(36.3%)	94(24.4%)

51% participants respond that they will go immediately for checkup when they will notice any lesion in the oral cavity while 33% said they will wait until it become disappear and only 16% said they will wait until it become painful and will not go to dentist until it become painful.

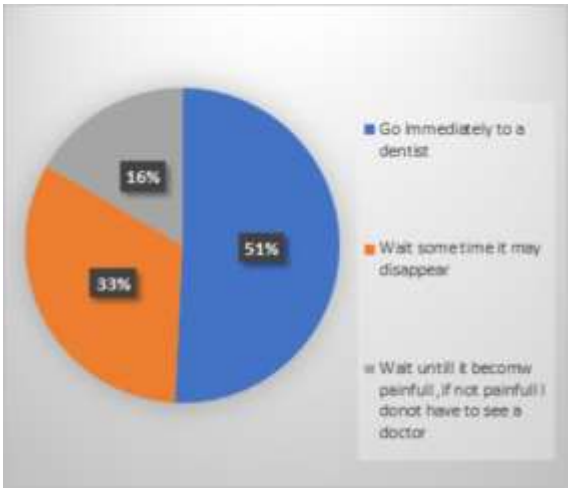

Figure 4: Response of participants when they notice a small lesion in the mouth.

There was no statistical significant relation in age of participant and their awareness about oral cancer with p-value 0.05. While a significant relation was seen in level of education and awareness of oral cancer with p-value 0.04.

Table 3: Awareness of participants about oral cancer relative to age and level of education. Have they heard about oral cancer?

		Yes	No	Total	P value
Age	15-20	20(62.5%)	12(37.5%)	32(8.2%)	0.056
	21-30	108(72%)	42(28%)	150(38.8%)	
	31-40	58(69.0%)	26(30.9%)	84(21.7%)	
	41-50	38(61.2%)	24(38.7%)	62(16.0%)	
	51-60	26(76.47%)	08 (23.5%)	34(8.8%)	
	Above 60	16(66.6%)	08(33.3%)	24(6.2 %)	
Total		266(68.91%)	120(31.08%)	386(100)	
Level of education	Uneducated	24 (60%)	16(40%)	40(10.36%)	0.044
	Primary	22(57.8%)	16(42.1%)	38(9.8%)	
	middle	38(76%)	12(24%)	50(12.9%)	
	Higher secondary graduated	56(60.8%)	36(39.1%)	92(23.8%)	
	Postgraduate	100(75.7%)	32(24.3%)	132(34.2%)	
		26(76.5%)	08(23.5%)	34(8.8%)	
Total		266 (68.91%)	120(31.08%)	386(100)	

DISCUSSION

The objective of our study is to determine the public awareness and knowledge in the general population in Lahore regarding oral cancer and their risk factors that lead to oral cancer. Although survival rates of oral cancer are only 50% but early diagnosis and management of oral cancer increases survival rate by 80% and improve quality of life by minimizing the aggressive treatment. (10,11). So it is important to assess the public awareness regarding oral cancer so that morbidity and mortality can be avoided. Prevalence of oral cancer is most common among men in India and second most common among Pakistani women. Western Africa and Eastern Asia has lowest incidence. North African areas also have low rate (12).

This study shows us that 68.9% participants have heard about oral cancer in Lahore. A similar type of study was conducted in Lahore in 2015 in which only 37.7% participant had heard about oral cancer. (13) Another same type of study was conducted in Hail City Saudi Arabia in which 47.6% participants heard about oral cancer. (9) In our study 76% and 62% participants respond that oral cancer is not preventable and curable respectively.

Early diagnosis and management of cancers of oral cavity increases the possibility of eradicating the disease and improve the survival of the affected patient. (14) A cross-sectional study regarding oral cancer awareness among the Spain population was carried in June 2016 in which 85.5 % participants considered a non-healing ulcer as a warning sign of oral cancer in the oral cavity (15) .In our study 51 % participants have positive response and said that they will visit to a dentist for diagnosis when they notice a small lesion in the oral cavity while only 16 % participants did not show a positive attitude toward checkup after a lesion in the oral cavity.

Prevalence of oral cavity cancer increases with age, and there are many causative agents that lead to oral cancer but the major risk factors are smoking, alcohol and betel quid consumption. A research carried out in California showed strong an association between ultra violet radiation and lip cancer in females. (16) .81.2 % and 61.2% participants recognize that tobacco and alcohol are the main causes for oral cancer respectively. Similarly, only 25.4 % participant said that sunlight can cause cancer and 38.9 % respond that cancer increases with age.

Several dietary components have distinct modes of action that contribute to both cancer prevention and cancer development, growth, and spread. Fruits, vegetables, curcumin, and green tea help reduce the risk of oral cancer, whereas a diet high in red meat and fried foods, known as a pro-inflammatory diet, can increase the risk. (17) A multicenter case control study was carried out in greater Milan region in northern Italy from 1992 to 2009. This is the first study to look at the link between diet and oropharyngeal cancer, and their findings suggest that increasing anti-inflammatory foods, such as plant-based foods high in fiber and phytochemicals, and reducing proinflammatory foods, such as fried foods or processed foods high in saturated fat or animal protein, could help prevent oral and pharyngeal cancer.(18) In our study participants were unaware of association between food and oral cancer and only 39.4% participants consider that diet is a causative agent for oral cancer.

CONCLUSION

The current study shows us that public of Lahore city have awareness about oral cancer and they were able to recognize that tobacco and alcohol are causative agents for oral cancer but they have inadequate knowledge about the certain risk factors like sunlight, old age and diet. Similarly, only 51 % responders said that they will go immediately for checkup when they will notice a lesion in the oral cavity. so it is suggested that there is a need for educational awareness program related to oral hygiene care, risk factors, early screening for oral cancer.

Limitation of the Study: Because of large population of Lahore city, it was not possible to gather data from whole population. As a result, the data may not precisely reflect the entire public. This can be viewed as a significant flaw in the current study. Other flaws include respondent bias and study design bias.

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