

Original Research Article

Oral cancer: general awareness, in-depth knowledge and associated biosocial factors

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ABSTRACT

Background: Oral cancer accounts for approximately 200,000 deaths annually worldwide and 46,000 deaths occurring in India. Oral cancer is largely preventable by avoiding known risk factors. Delayed presentation of oral cancer is mainly due to lack of awareness of the public about oral cancer and its associated risk factors. The knowledge and understanding of oral cancer influences individuals in prevention and treatment seeking behavior.

Methods: A cross-sectional community based survey was conducted in North-east Delhi and 775 families were covered. The eldest member from each family, were interviewed about oral cancer by using pre tested study schedule. Data were analyzed and appropriate tests of significance were applied.

Results: Majority of the study subjects were females (63.5%) and were belonging to socioeconomic class V and IV (68.1%). Although 80.9% of the study participants were aware and have heard about oral cancer, and this awareness was directly proportional to literacy status ($p=0.001$). "Chewing tobacco" was most commonly recognized risk factor (77.7%). Less than half of them knew that oral cancer is preventable (45%). The most common media through which this study population heard about oral cancer was electronic media (90.3%).

Conclusions: Although the majority of the study population had heard about oral cancer, but in-depth knowledge of its risk factors and sign and symptoms was poor that affects the practices regarding prevention and early detection negatively. For increasing awareness oral health education programs should be carried out.

Keywords: Oral cancer, Awareness, Risk factors

INTRODUCTION

Oral cancer accounts for approximately 200,000 deaths annually worldwide and 46,000 deaths occurring in India.¹ Tobacco use and excessive alcohol consumption have been estimated to account for about 90% of cancers in the oral cavity.² Oral cancer is largely preventable by avoiding known risk factors and national and international guidelines stress the importance of avoidance of risk factors and early detection of cancer.³

Smokeless tobacco products and betel quid with or without tobacco are the major risk factors for oral cavity

cancer in India and other neighboring countries.⁴ More than one-third (34.6%) of adults in India, use tobacco in some form, including 47.9% of males and 20.3% of females. Fourteen percent of adults use tobacco in form of smoking while 25.9% use smokeless tobacco.⁵

As far as diagnosis of oral cancer is concerned, earlier diagnosis is easy as the mouth is very accessible for a clinical or self-examination and greatly increases patient's chances of survival.⁶ However in India, oral cancer is generally diagnosed in advanced stages. Delayed presentation of oral cancer is mainly due to lack of awareness of the public about oral cancer and its

associated risk factors which also results in increased treatment morbidity and reduced survival.⁶ Moreover, most of oral cancers are preventable if people know which risk factors they must control or eliminate.⁷

The knowledge and understanding of cancer risk factors and outcome of the disease have an influence on an individual's decisions to participate in prevention and treatment seeking behavior. The study was conducted to assess general awareness and knowledge of risk factors, signs and symptoms of oral cancer.

METHODS

A cross-sectional community based survey was conducted at Nand Nagari, North-east Delhi, which is a resettlement colony. A resettlement colony is defined as a colony created by removing a group of households from the congested city core or an encroachment in public places and locating them generally in the periphery of the city.⁸ The study area is the field practice area of Department of Community Medicine of a Medical College of Delhi. There are 20 blocks in this colony and four blocks were selected randomly for data collection.

Study was done in March 2015 and data was collected by house to house survey. The eldest member from each family, found present at home during survey, ≥ 18 year of age, residing in selected blocks for at least one year was included in the study. The study participants were recruited from the consecutive houses of the randomly selected blocks. A peer reviewed, pretested questionnaire

was used to interview the study subjects. The objective and study protocol were explained to the study participants. The subjects who were severely ill, not in physical or mental condition of giving interview and who were not willing to participate in the study were excluded. During the course of the study, study participants who needed any kind of medical treatment were referred to the designated medical college as required. The questionnaire contained questions pertaining to demographic profile, various aspects of oral cancer such as general awareness about oral cancer, knowledge of symptoms, signs and risk factors of oral cancer and source of their information. Confidentiality was maintained throughout. The modified B.G. Prasad scale was used for assessing the socioeconomic status (SES) of the family.

Data was entered in Microsoft Office Excel 2007 spread sheet and analyzed using SPSS (Statistical Package for the Social Sciences) 20.00 version. Chi square test was used to test the association between categorized variables.

RESULTS

A total of 775 study participants were included in the study. Majority (63.5%), of them were females and in age group of 31-50 years (48.4%). Almost one fifth (22.6%) of the study population were illiterate and 40.8% were having primary/middle education, Almost two-third of them were belonging to socioeconomic class V and IV (68.1%) followed by III (21.7%) and I/II (10.2%) (Table 1).

Table 1: Awareness of oral cancer and associated socio-demographic characteristics.

Variables		N (column%)	Aware of oral cancer N (row%)	Significance
Sex	Male	283 (36.5)	244 (86.2)	P=0.004
	Female	492 (63.5)	383 (77.8)	
Age (in years)	< 30	238 (30.7)	204 (85.7)	P=0.001
	31-50	375 (48.4)	320 (85.3)	
	>50	162 (20.9)	103 (63.6)	
Educational status	Illiterate	175 (22.6)	118 (67.4)	P=0.001
	Primary/middle	316 (40.8)	249 (78.8)	
	Higher/senior secondary	240 (31.0)	219 (91.3)	
	Graduate & above	44 (5.7)	41 (93.2)	
Socioeconomic status	I/II	79 (10.2)	66 (83.5)	P=0.384
	III	168 (21.7)	138 (82.1)	
	IV	383 (49.4)	313 (81.7)	
	V	145 (18.7)	110 (75.9)	
	Total	775 (100.0)	627 (80.9)	

Oral cancer awareness and associated socio-demographic characteristics

Although 80.9% (627) of the study participants were aware and have heard about oral cancer, It was seen that male population were more aware than females

($p=0.004$). Similarly it was found that younger participants (<50 years) were more aware than the older age group ($p=0.001$). It was seen that the proportion of participants, who were aware increased as the literacy status increased, and this was statistically significant ($p=0.001$). However we did not find any statistical

significant association between oral cancer awareness and socioeconomic status ($p=0.384$) (Table 1).

Knowledge of risk factors

“Chewing tobacco” was recognized as a risk factor by 77.7% ($n=602$), “smoking” by 73.9% ($n=573$) and “Alcohol consumption” by 53.0% ($n=411$) while only 19.2% ($n=149$) of the study population mentioned “family history” as a risk factor for oral cancer (Table 2).

Knowledge of signs and symptoms

Level of Knowledge of symptoms/signs was 42.5% for “problem in chewing, swallowing and speaking”, 38.5% for “growth of abnormal tissue”, 37.0% for “non healing

wound”, 36.1% for “reduced mouth opening” and 25.7% for “white or red spot” (Table 2).

Knowledge of prevention and treatment

Less than half of them knew that oral cancer is preventable (45%) and curable (41.7%) if detected and treated early (Table 2).

Source of knowledge

Electronic media (television and radio) is the most common media (90.3%) through which this study population heard about oral cancer. Other sources of knowledge were relatives and acquainted people (40.2%), print media (30.5%) and health workers (7.8%) (Table 3).

Table 2: Status of in-depth knowledge regarding oral cancer ($n=775$).

	Items in questionnaire	Correct responses, n (%)
Knowledge of risk factors	Smoking	573 (73.9)
	Chewing tobacco cancer	602 (77.7)
	Alcohol	411 (53.0)
	Family history of oral cancer	149 (19.2)
Knowledge of signs/symptoms	Growth of abnormal tissue	298 (38.5)
	Non-healing wound	287 (37.0)
	White or red spot	199 (25.7)
	Problem in chewing, swallowing and speaking	329 (42.5)
	Reduced mouth opening	280 (36.1)
Prevention and treatment	Prevention of oral cancer possible	349 (45.0)
	Cure of oral cancer possible if detected and treated early	323 (41.7)

Table 3: Source of the knowledge about oral cancer.

S. No.	Source	N (627)	%
1.	Electronic media (Radio, TV, Internet)	566	90.3
2.	Neighbor/ Relatives/ Friends/ Family members	252	40.2
3.	Print media (Newspapers/ banners/posters)	191	30.5
4.	Health worker	49	7.8

DISCUSSION

Oral cancers, with its widely variable rate of occurrence, has one of the highest incidences in India constituting around 12% of all cancers in men and 8% of all cancers among women. It has been estimated that 83,000 new oral cancer cases occur here each year. Tobacco products are the major risk factors for oral cavity cancer in India hindering its prevention. Delayed presentation is mainly due to lack of knowledge of the public about symptoms and signs creating obstacle in early detection and treatment. In the present study, participants were assessed regarding general awareness, knowledge of risk factors, symptoms and signs of oral cancer and were enquired about source of their knowledge about oral cancer.

In our study, the participants were asked if they have heard of oral cancer. 80.9% of them were aware about

oral cancer and have heard of it. Comparatively higher level of general awareness was reported by Ariyawardana and Vithanaarachchi, (95%), West et al, (96%), Agrawal et al, (91%) and Ghani et al, (84%) while Monterio et al, (68.6); Cruz et al, (66%); Prayman et al, (55%) and Warnakulasuriya et al., (56%) reported comparatively low level of general awareness.^{6,7,9-14}

In present study oral cancer awareness was studied in relation to the different socio-demographic factors and was found significantly associated with age (85.7, 85.3 and 63.6% in below 30, 31 to 50 and above 50 years of age respectively), sex (86.2 and 77.8% in males and females respectively) and educational status (67.4, 78.8, 91.3 and 93.2% in illiterate, primary and middle, secondary and graduate above respectively) but not with socioeconomic status (83.5, 82.1, 81.7 and 75.9% in socio economic class I/II, III, IV and V respectively),

being less among olders, females and illiterate. Monterio et al and Ghani et al found less awareness among younger, males and less educated although insignificant.^{7,12} Monterio et al reported oral cancer awareness 68, 66, 71 and 83% among illiterate, primary school, high school and technical/university education groups respectively.⁷ 66 and 71% awareness was found in below 49 year and above 49 year of age respectively. 65 and 71% awareness was found in males and females respectively. Ghani et al reported 84.1 and 84.3% awareness in secondary and below and higher educated; he also reported 68,85,81 and 91% awareness in below 19, 20-39, 40-59 and 60 yrs and above age groups, while 81 and 86% in males and females respectively.¹² Agrawal et al found significantly less awareness among less educated and olders, with no gender difference.¹¹ Warnakulasuriya et al reported more awareness among older age group (64% in 35-64 yrs) than youngest age group (43% in 16-24 yrs) with no gender difference.⁶

Knowledge regarding oral cancer was varying for different major risk factors. "Chewing tobacco" was recognized as a risk factor by 77.7%, "smoking" by 91.4%, "alcohol consumption" by 53.0% and "family history" by 19.2%. Among the high risk factors, awareness regarding the association of excessive alcohol consumption with oral cancer was much lower than smoking and tobacco use. Better knowledge of risk factors may be due to major role of mass media as a source of knowledge of oral cancer in our study population as mass media mainly focus on educating about prevention and risk factors.

Similar trend with similar or low level of knowledge of risk factors was reported by Monterio et al (90 and 63% awareness about smoking and alcohol respectively); Ghani et al (92% for smoking and 52% for alcohol); Warnakulasuriya et al (76% for smoking and 19% for alcohol); and Ariyawardana and Vithanaarachchi (47% for smoking and 17% for alcohol).^{6,7,9,12}

In this study, Level of Knowledge of symptoms/signs was 42.5% for "problem in chewing, swallowing and speaking", 38.5% for "growth of abnormal tissue", 37.0% for "non healing wound", 36.1% for "reduced mouth opening" and 25.7% for "white or red spot".

Higher level of knowledge of sign/symptoms was reported by Monterio et al (90% for ulcer and 53% for red white patch); and Prayman et al. (78% for ulcer and 45% for red white patch).^{7,14} Higher number of illiterate and less educated participants in our study may have contributed to this comparatively lower level of knowledge of sign/symptoms. Similar to our study, they also reported more recognition of ulcer as sign/symptom than red white patches.

In our study, only less than half of them knew that it is preventable (45.0%) and curable (41.7%) if detected and treated early. higher level of belief that oral cancer can be

treated more effectively if it is presented at an early stage, was reported by Ariyawardana and Vithanaarachchi (89%); Prayman et al (96%) and Monterio et al (95%).^{7,9,14}

We found electronic media (television, radio), the most common sources (90.3%) of the knowledge of oral cancer followed by relatives and acquainted people (40.2%), print media (30.8%) and health workers (7.8%). Ghani et al reported better contribution of health staff (15%) and campaigns (21%) in knowledge of oral cancer in community compared to mass media (35%).¹² It can be expected that these respondents could have been more exposed to the mass media in terms of time spent watching television as around two-third of our study cohort are females which are housewives mostly. These findings corroborates earlier findings which report that mass media is a common source of information regarding oral cancer Ariyawardana and Vithanaarachchi.⁹

CONCLUSION

This study has highlighted that although the majority of the study population had heard about oral cancer, but in-depth knowledge of its risk factors and sign and symptoms was poor that affects the practices regarding prevention and early detection negatively. Compared to mass media, role of health workers was low in spreading knowledge of oral cancer in the community. Oral health education programs should be implemented effectively for the recognition of risk habits, warning signs and early detection of oral cancer. Such oral health education programs could be carried out utilizing the mass media and increasing the involvement of health staff to address gaps in knowledge as identified in this study.

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