INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact factor: 4.295
(Volume 4, Issue 2)
Available online at: www.ijariit.com

Time to Act Now: Alarming Low Awareness about Oral Cancer among Patients with Oral Pre-Malignant Lesions in Bihar

Dr. Rathi Rela
dr.rathirela@gmail.com
Patna Medical College and Hospital, Patna, Bihar

Dr. Vikash R Keshri
vrkeshri@gmail.com
Asian Development Research Institute, Patna, Bihar

ABSTRACT

In India, oral cancer results in significant mortality and morbidity. Awareness about cancer, screening, early diagnosis, and treatment is the mainstay of management of oral cancer. There is very few evidence on the prevalence of oral cancer and oral pre-malignant lesion and awareness about them in Bihar. Therefore, this study was conducted with objectives to assess awareness about oral cancer, its risk factors and sign and symptoms among patients with oral pre-malignant lesions and to understand the determinants of awareness about oral cancer in Patna Bihar, India.

Keywords: *Oral Premalignant Lesions, Oral Cancer, Awareness, Bihar.*

1. CONTEXT

Cancer is the major cause of morbidity and mortality across the world and it is one of the leading causes of death in all societies with its relative position varying with age and sex. Oral and oropharyngeal carcinomas are the sixth most common cancers in the world.[1] In India, oral and oropharyngeal cancers are most common cancer among males.[2]
According to the World Health Report 2004, cancer accounted for 7.1 million deaths in 2003 and it is estimated that an overall number of new cases will rise by 50% in the next 20 years.[1] Oropharyngeal cancer is more common in developing than developed countries.[2] The prevalence of oral cancer is particularly high among men, the eighth most common cancer worldwide. Incidence rates for oral cancer vary in men from 1 to 10 cases per 100 000 population in many countries. In south-central Asia, cancer of the oral cavity ranks among the three most common types of cancer. In India, the age-standardized incidence rate of oral cancer is 12.6 per 100 000 population.[3]

The mainstay of cancer management is secondary prevention which included early diagnosis and prompt treatment. General awareness about risk factors and sign and symptoms and screening are two most important intervention for reducing cancer-related mortality and morbidity in the society. In India, general awareness about oral cancer is very low among the population; many important factors like general education, sex, income, occupation have been found to be important determinants of poor awareness. More ever there is wide variation in awareness among different states and also among different regions of a state in India.[2] Bihar is one of the largest states of India with more than 100 Million populations and low literacy, low per capital income, high population density, unemployment, poor health infrastructure and poor health indicators.[4] Prevalence of tobacco use both smoking (27.7%) and smokeless tobacco (32.7%) is considerably high in rural areas of Bihar.[5] There are very few evidence on prevalence of oral cancer and oral pre-malignant lesion and awareness about them in Bihar.

2. OBJECTIVES

- To assess the awareness about oral cancer, its risk factors and sign and symptoms among patients with oral pre-malignant lesions.
- To understand the determinants of awareness about oral cancer.

3. SETTINGS AND DESIGN

A hospital-based cross-section study was done between July 2014 to December 2014 in a tertiary care dental hospital in Patna, Bihar. All patient attending out-patient of Department of Oral Medicine and Radiology were screened for oral pre-malignant lesions. Out of all screened patients, those diagnosed with having oral pre-malignant lesions or potentially malignant lesions were invited to

participate in the study. Participation in the study was completely voluntary and only patients who gave written informed consent were included in the study.

4. METHODS AND MATERIAL

Based on a study conducted in similar urban population in Uttar Pradesh[6] where general awareness about oral cancer was found to be 13%, the sample size was calculated with a design effect of two considering this to be hospital-based study. Sample size calculation was done by Open EPI software and the calculated sample size was 348 at 95% confidence interval. The convenient sampling method was adopted to select only patients with oral pre-malignant lesions.

Pre-designed, pre-tested questionnaire based on World Health Organization's STEP approach for screening of non-communicable diseases were used to collect data.[7] Questionnaire included three parts, First part included Information on socio-demographic details of study participants, second part included information on behavioural risk factors for oral cancer and third part included specific 16 structured questions regarding awareness of oral cancer. Response categories for each of the questions were 'no', 'don't know' and 'yes' and the respondents were expected to tick mark only the most appropriate one. These were coded as 1, 2 and 3 respectively (Except for the question asking if oral cancer is contagious where the scores were 3, 2 and 1 respectively).

5. STATISTICAL ANALYSIS USED

An arbitrary score of 20 was reflective of overall general awareness. Collected data were entered into EPI Info 7 software and data analysis was done in same software. A statistical test of significance was applied and p-value less than 0.05 were considered to be significant.

6. RESULTS

Total 348 patients with pre-malignant lesions were included in a study out of which overwhelming majority 284 (81.6%) were male. Majority of the study subjects were more than 40 years of age (58.4%) Very small proportion (23.9%) of study participants was educated more than secondary level (high school passed the equivalent of 10 years of schooling). Among the study participants, 43.7% were involved in some type of own business, 27.6% were doing private jobs. To understand the economic status, we asked the total combined family income of the study subjects, a large majority of study participants were (71.9%) from the family with a total monthly income of less than 1000 Indian Rupees (Table.1).

Table.1: Socio-Demographic Profile of Study Participants

Socio-Demographic Profile		**Number (n= 348)**	**Percentage (%)**
SEX	Male	284	
	Female	64	
AGE		**Mean ± SD**: 52.78 ±13.69	
	Up to 20 years	26	7.5
	21 to 30 yrs.	43	12.4
	31 to 40 yrs.	76	21.8
	41 to 50 yrs.	89	25.6
	51 & Above	114	32.8
EDUCATION	**EDUCATION**		
	Illiterate	32	9.2
	Primary	86	24.7
	Secondary	147	42.2
	Senior secondary	57	16.4
	Graduate & Above	26	7.5
Occupation			
	Student	23	6.6
	Government Job	34	9.8
	Private Job	96	27.6
	Business / Self Employed	152	43.7
	Agriculture	28	8.0
	Others	15	4.3
Total Family Income Per Month (INR)			
	Up to 5000	129	37.1
	5001 – 10000	121	34.8
	10001 – 20000	85	24.4
	20001 or More	13	3.7

We assessed awareness about oral cancer using 16 closed questions in three domains of awareness including general awareness, awareness about signs and symptoms and awareness about risk factors, results are depicted in (Table.2).

General Awareness about Oral Cancer: Out of 348 study subject's majority were aware of oral cancer (62.3%), 47.2% participants were of aware about the preventability of oral cancer, 42.3% were aware of treatability of oral cancer. There was some misconception about oral cancers among study participants, 64% believed oral cancer is contagious and only 14% believed oral cancer risk increase with age.

Awareness about Signs/Symptoms: Overall awareness about signs and symptoms of oral cancer was poor and the majority of the study subjects were not aware of any signs and symptoms. 43% of respondents were aware of white or red spot as a symptom, 58% thought the pain I jaw as a pre-dominant symptom, 36% opined reduced mouth opening as one of the symptoms. Only 17% were aware of non-healing ulcers and 15% about undue falling of teeth and one-quarter of study participants were aware of the growth of abnormal tissue or mass.

Awareness about Risk Factors: Awareness about risk factors for oral cancer was comparatively better, 77% subjects were aware about smoking as a risk factor, 72% about smokeless tobacco as a risk factor. The family history of oral cancer is one the risk factor was also considered as a risk factor by as many as 46% of study subjects, 26% subjects said sedentary life style and 34% said alcohol as risk factors for oral cancer.

Table.2: Awareness about oral cancer among patients with oral pre-malignant lesions

Awareness about Oral Cancer	**Percentage Awareness (n = 348)**
General Awareness:	
Aware about Oral Cancer	62.30%
Is Oral Cancer Preventable	47.20%
Is Oral Cancer Treatable	42.30%
Is OC contagious	64%
Does risk of OC increase with age	14%
Signs/Symptoms	
The growth of abnormal tissue	25%
Non-healing wound	17%
White or red spot	43%
Reduced mouth opening	36%
The undue falling of teeth	15%
Continuous pain in the jaw	58%
Risk factors	
Smoking	66%
Alcohol	34%
Smokeless tobacco	72%
Sedentary life style	26%
The family history of cancer	46%

General awareness, awareness about oral cancer signs and symptoms and about risk factors for oral cancer was more among participants of 21 years to 40 years of age. Total family income was directly proportional to general awareness, awareness about oral cancer signs and symptoms and about risk factors for oral cancer (Figure.1 and Figure.2).

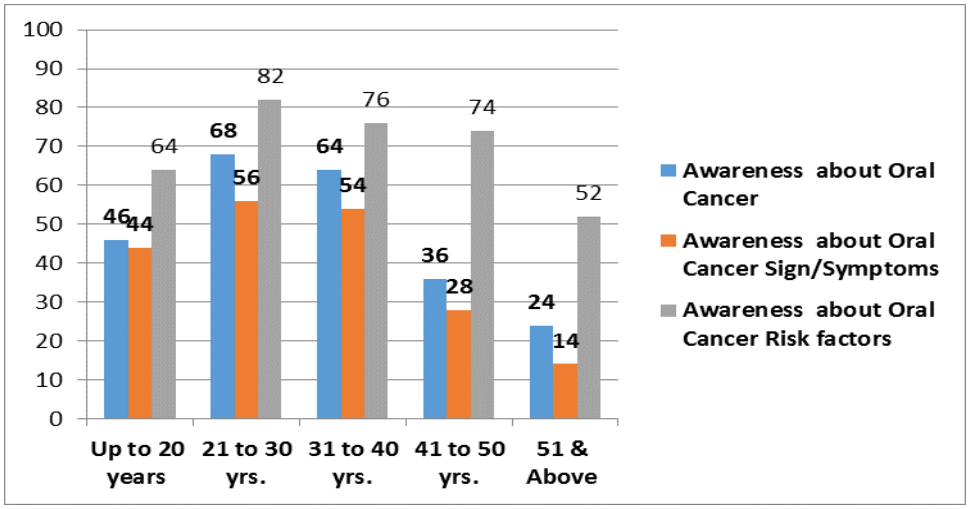

Figure.1: Age group awareness

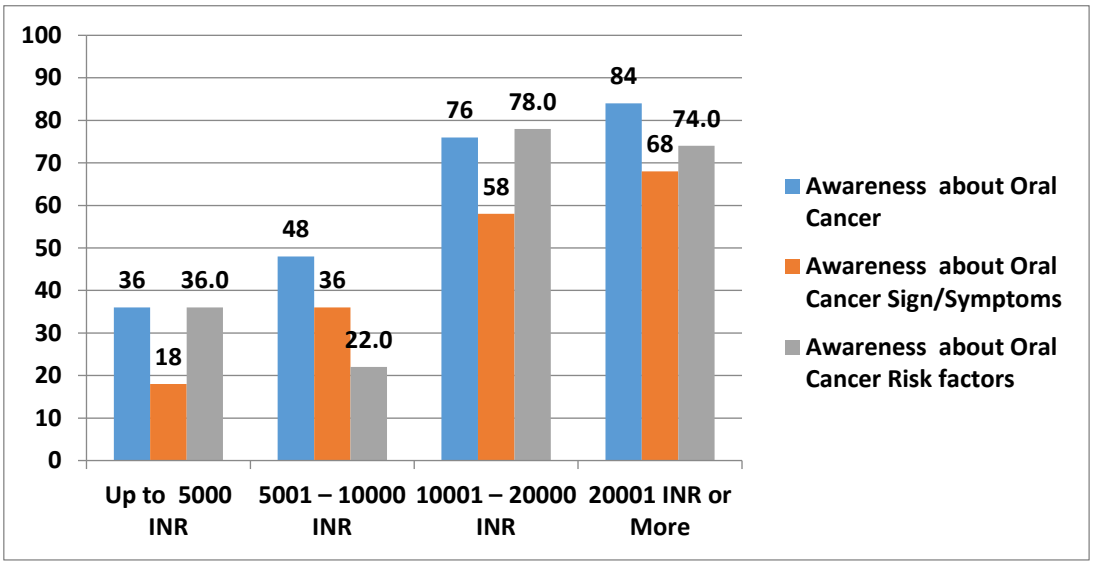

Figure.2: Income Group Awareness

To understand the determinants of awareness about oral cancer we classified the study participants according to age (more than 50 years and up to 50 years), sex, total family income (up to 10,000 INR and more than 10,000 INR) and educational status of participant (up to secondary and more than secondary) and test of significant (Chi Square test) was applied to estimate the statistically significant difference. Age up to 50 years, male, total family income more than 10,000 INR and education more than secondary was factored responsible for increased overall awareness (based on overall score for oral cancer awareness) and the difference between two categories of age, sex, education and total family income was found to be significant(Table.3).

Table.3: Determinants of Awareness about Oral Cancer

Factors	**Overall Awareness**		χ^2 **Value**	**P value**
	Score > 20	**Score < 20**		
Age:				
Up to 50 Years	110	124	27.26	<0.001 (Highly Significant)
Above 50 Years	88	26		
Sex				
Male	177	107	17.36	<0.001 (Highly Significant)
Female	21	43		
Total Family Income:				
Up to 1000 INR	149	101	36.68	< 0.001 (Highly Significant)
More than 1000 INR	26	72		
Education:				
Up to Secondary	108	57	4.04	0.044 (Significant)
Above Secondary	23	60		

7. DISCUSSION

Oral cancer being one the most common cancers among Indians, the focus should be on prevention, early diagnosis, and treatment. One of the main stay of prevention is awareness about oral cancer, its risk factors and sign and symptoms. Risk of developing oral cancer among patients with oral pre-malignant lesions is significantly very high. Lack of awareness among these sub groups is most alarming. Awareness is also directly affected prognosis and outcome of treatment. In the present study, we found the alarming low prevalence of awareness about oral cancer among patients of the oral pre-malignant lesion in Patna city of Bihar, India. Also, awareness was more among middle age group (20 years to 40 years), among male, people with higher education and higher family income. Our findings are consistent with the similar study done in northern India.[6] Patton et al also did a similar study in another part of the world and concluded about lower awareness about oral cancer.[7]

8. CONCLUSIONS

Oral cancer prevention strategy should focus mainly on awareness campaign among the general population. There is compelling need to introduce a screening and counseling programme for oral cancer especially for high-risk group with a history of significant risk factors.

9. REFERENCES

[1] World Health Organization. The World Health Report 2004: Changing history. Geneva: WHO Press; 2004.
[2] GLOBOCAN. India Fact Sheet 2010: Section of cancer information, International Agency for Research on Cancer 2010.
[3] Warnakulasuriya S. Global epidemiology of oral and oropharyngeal cancer. *Oral Oncol* 2009; 45:309-16
[4] Registrar General of India. Census 2011. Ministry of Home Affairs, Government of India.
[5] Sinha DN, Gupta PC, Pednekar MS. Tobacco use in rural area of Bihar, India. *Ind. J. Comm. Med.* Vol. XXVIII, No.4, Oct.-Dec. 2003.
[6] Agrawal M, Pandey S, Jain S, Maitin S. Oral cancer awareness of the general public in Gorakhpur city, India. *Asian Pacific J Cancer Prev*, 13 (10), 5195-5199
[7] Patton LL, Agans R, Elter JR, et al (2004). Oral cancer knowledge and examination experiences among North Carolina adults. *J Public Hlth Dent*, 64, 173-80.

