

## Original Research

# Prevalence Of Oral Cancer In A Tertiary Care Center Of Dumka District Jharkhand

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**ABSTRACT**

**Background:** Tobacco and its other forms used effects diverse sites of head and neck to develop cancer.

**Aims and Objectives:** To assess the prevalence of tobacco use among 15-65-year-old population of tertiary centre Dumka in Jharkhand state.

**Materials & Methods:** A cross-sectional study was conducted to study and examine the patients attending the tertiary hospital Dumka Jharkhand. All the data collected were entered into the spread sheets.

**Results:** Smoking and chewing tobacco cause a high risk of oral cancer. Most of the tobacco consumers were middle age (35-55 yrs of age). Mean±SD= 52.5±0.267. People younger than 30 years used betel quid in abundance (49.1%). Tobacco in the form of Bidi was used by 41-50 age group. Tobacco in the form of Gutkha was used in people less than ten years duration (20.7%). For frequency of 5-10 times a day, Bidi was consumed in 65.4% of instances. The prevalence was 54.2% of oral cancer.

**Conclusion:** A majority of cases were reported in third and fourth stages of cancer with ignorance. Thus, nationwide counseling awareness and tobacco cessation programs are required in order to prevent oral cancer with early diagnosis and reduce the overall burden on the national resources.

**Keywords:** Oral Cancer, Smoking, Tobacco, Counseling.

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**BACKGROUND**

India is the second largest consumer of tobacco products in the world in spite of the advances in public health campaigns complemented with tobacco control laws. Nearly 900,000 people die every year in India due to diseases attributed to tobacco.<sup>1</sup> According to the Global Adult Tobacco Survey (GATS), the prevalence of tobacco use among males in India is 48% compared with 20% among females (GATS: India, 2016).<sup>1</sup> Reports from the World Health Organisation predicts that deaths in India due to tobacco may exceed 1.5 million annually by 2022. Studies have shown that tobacco cessation advice from health professionals has enhanced the quit rate among patients.<sup>3</sup> Deeply embedded cultural habits concomitant with lack of knowledge on the risks

associated with tobacco are considered as major hurdles for tobacco control in India.<sup>4</sup> Effective treatments, if rarely utilized, have negligible population impact therefore, it is critical to maximize the reach of treatment.<sup>5,6</sup> According to GATS 2, 55% of Indian smokers and 50% of smokeless tobacco users plan or think of quitting tobacco use. In Jharkhand, only 18.4% smokers and 18.7% of smokeless tobacco users have made a quit attempt, far below the national average.<sup>1</sup> Around 5500 cancer-related deaths are reported in Jharkhand every year. The state of Jharkhand faces particular challenges because multiple forms of tobacco are in widespread use and limited resources are available for tobacco control. Moreover, there is paucity of information related to the prevalence

and treatment needs for oral cancer therefore there is need for the present study. Our study proposal emphasizes the study location for Dumka District in Jharkhand. As of 2011 it is the most populous district of Jharkhand (out of 24) and being the capital of Jharkhand. The present intervention study combines two main components – tobacco habits survey and oral cancer screening.

### MATERIALS AND METHODS

A cross-sectional study was conducted to assess the oral cancer status of Dumka tertiary centre hospital Phulojhano Medical College and Hospital with prior clearance from Institutional ethical Committee.

All patients attending the tertiary centre OPD of the Tobacco Cessation Centre as and when found positive for tobacco consumption. Those patients having adverse habits of Ganja, marijuana and others were excluded from the study. The center provided behavioral counselling and pharmacological interventions for tobacco users. Appropriate IEC material was also given. Sample size was calculated using the formula  $n = \frac{4pq}{L^2}$  where  $p$  = population proportion of positive character,  $q = 1 - p$  and  $L$  = allowable error after conducting pilot study. A maximum of 30-40 patients in one day could be given counseling. A written informed consent was obtained from all the patients who were willing to be included in the study. Training and calibration were done to prevent any diagnostic variability among the study participants. A questionnaire was prepared including the demographic details of the patients, their

habit of tobacco intake the duration frequency and form of tobacco intake, any complaints of self-examined lesion. Fagerstrom scale was also analysed. WHO oral health assessment form 2013 was used. The data collected was compiled and entered into excel and analysed using SPSS 21. The demographic data was represented by mean and interquartile ranges and student t test and one way ANOVA were used for continuous data and chi square test for categorical data. The Significant difference will be accepted at  $P \leq 0.05$ .

### RESULTS

Out of the total lesions observed in 124 cases, after the biopsy and velcoscope diagnostic tests we found 67 cases to be malignant. 25 cases were reported of Oral submucous fibrosis and 4 cases were of mucormycosis. This survey was conducted over a period of one year. Most of the cancer cases belong to the 55-65 years age group (32.4%). In the district cases were predominant with 54.2%. Cases in age group <30 consisted of the smallest group. (Table 1)

Overall gutkha chewing habit was more prevalent. In the age group less than 30 years, betel quid was used in abundance (46.4%). Bidi was the choice of tobacco for 41-50 years age group. (Table 2)

Fig 1 illustrates the cases according to the chewing and smoking tobacco habits. Khaini and Gutkha the most tobacco habits found followed by bidi. Gul and Cigarette smoking were also found in many cases.

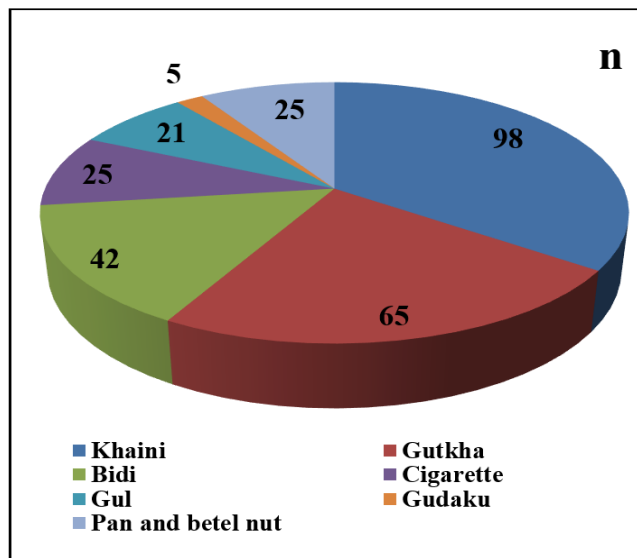
**Table 1: Age Distribution**

Age	GENDER	
	Male n1(%)	Female n2(%)
15-25	6	5
25-35	9	6
35-45	18	6
45-55	17	7
55-65	27	6
>65	14	3
<b>Total</b>	91	33

**Table 2: Site Distribution**

Site	Condition							$\chi^2$	p
	MT	L	LP	U	ANUG	C	A/O		
Vermillion border	2	1	2	1	0	0	0	0.034	S
Commissures	3	3	4	35	0	0	0		
Lips	7	2	0	12	0	0	0		
Sulci	22	14	6	10	6	0	0		
Buccal mucosa	42	17	26	13	6	0	10/25		
Floor of mouth	12	6	0	12	0	0	5		
Tongue	24	19	18	40	0	17	0		
Hard and soft palate	17	3	2	5	7	0	17/4		
Alveolar ridge / gingiva	16/0	0	0	13	4	7	0		

MT= Malignant tumour; L= Leukoplakia; LP= Lichen Planus; U= Ulceration; ANUG= Acute Necrotizing ulcerative gingivitis; C= Candidiasis; A= Abscess



**Fig 1: Description of the various forms of tobacco used**

**DISCUSSION**

The location of the present study is helpful to get maximum number of cases with different ethnic groups. The proportion of this disease is more in male in our study which is in correlation with studies done in neighbouring countries with similar lifestyle and culture.<sup>8,9,10</sup> This difference is probably due to more outdoor activities in male and more accessibility of tobacco forms. However, in another study done in south India it was more found in female.<sup>11</sup> Average age at presentation was 52.5 years which is similar to study done in neighbouring country India.<sup>12</sup> Occupation doesn't matter much; it can be seen in all different types of job holders and unemployed. Khaini followed by Gutkha was the commonest preparation unlike in a study where it was in less than 1/4th patients.<sup>12</sup> This may be a preference of preparation in that locality. A study from India showed that over 10% of urban males and 8% of rural males use gutkha or pan with tobacco.<sup>13</sup> Commercially freeze-dried products such as pan and gutkha have high concentrates of areca nut per chew and appear to cause OSMF more rapidly than by self-prepared conventional betel quid that contain smaller amounts of areca nut. In this study, Khaini or gutkha chewing with bidi smoking (bidi) were causes of malignancy (65%). Alcohol consumption has been associated with elevated risks of oral leukoplakia.<sup>14</sup> Tobacco smoking involves the inhaling of smoke, which may have less contact with the mouth and more contact with the throat and lung compared to tobacco chewing. Smokeless tobacco is an important etiological factor in the cancer of the mouth, lip, tongue, and pharynx.<sup>14</sup> The Indian subcontinent has one of the

highest rates of oral cancer in the world. 65% of all cancer in men and 33% of all cancers in women are tobacco related. Annual incidence of oral cancer is said to be 10/10000 of males. Smoking consumption alone has been found to have no effect in the development of oral cancer, however, its addition to areca nut consumption can be a risk factor for premalignant conditions.<sup>12</sup> In this study, male patients were more in comparison to females, with a prevalence of 54.2% compared to 4.47% in females. High proportion of cases among males may be due to high prevalence of tobacco consumption habits among males.<sup>14</sup> Another finding we found few female patients reported of oral cancer on lip and tongue with use of Gul. Many of the patients were unaware of the fact that Gul gudaku contains tobacco which was used as a pain reliever for tooth pain and as a toothpaste for cleaning teeth. This needs a concerned and alarming awareness so that the patients do not suffer innocently and trapped by cancer. This is largely due to the fact that there is sparse data available on the risk and awareness programs conducted so far. Also, a significant clinical finding noted was that the number of cases found of oral cancer were between duration 10-15 years. This can be explained by the fact that the tissue response and tissue changes to an irritant and with frequency and duration. However further interventional programs need to be incorporated for better control of oral cancer.

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