



PREVALENCE OF ORAL POTENTIALLY MALIGNANT DISEASES A HOSPITAL BASED STUDY IN BIHAR, INDIA

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ABSTRACT

Aim- To evaluate the prevalence of precancerous and cancerous lesions -A hospital based study.

Material and method - 70 patients were evaluated in the OPD of Buddha Dental College and Hospital, Patna. On the Basis of Clinical Findings, patients were diagnosed with oral carcinoma, leukoplakia, oral lichen planus and OSMF. Details of the habits such as form, duration in years, frequency, site of placement of quid in the oral cavity, and alcohol consumption were recorded. Statistical Analysis of the data was done.

Result- Male predominance was noticed in the study with 56 participants being male and 14 being female. Majority of the patients, i.e, 46% presented with Leukoplakia.

Conclusion- The study indicates the low level of awareness among patients regarding potentially malignant disorders and the requirement for conducting educational programs for the general population thereby motivating them to undergo regular screening procedures so that they can be treated before they turn malignant.

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INTRODUCTION

Oral cavity is prone for a myriad of changes with the advancement of age and as a result of various environmental and life – style related changes like unhealthy diet and the use of tobacco¹ oral mucosal lesions can arise as a result of infections, local trauma or irritation, systemic diseases and excessive consumption of tobacco, betel quid and alcohol². The use of tobacco is the most potential risk factors for the development of oral mucosal changes including potentially malignant disorders. Portuguese were the first to introduce tobacco in India 400 years ago.

Smoking tobacco in the form of cigarettes or bidis is a common practice in India and a major chewing form is pan with tobacco. Dry tobacco-areca nut preparations such as paan masala (mixture of betel leaf with lime, areca nut, clove, cardamom, mint and tobacco essence in the form of granules), gutkha(crushed betel nut, tobacco and sweet or savory flavorings) and mawa(thin shavings of areca nut with the addition of some tobacco and slaked lime wrapped in a cellophane paper) are also popular and extremely addictive. Thousands of chemical compounds are detected in both smoked as well as smokeless form of tobacco which act not only as irritants and toxins, but also are deadly carcinogens. Nicotine, an alkaloid, is mainly accountable for addiction,

which along with tobacco-specific nitrosamines, polycyclic aromatic hydrocarbons, and many others act as potent carcinogens.

MATERIALS AND METHODS

The present study was conducted at Buddha institute of dental sciences & hospital (Patna, India). Seventy patients from both suburban and rural areas attending the outpatient department of Oral medicine were randomly selected. The inclusion criteria included patients aged ≥ 20 to 70 years, who currently smoked, chewed tobacco, consumed tobacco, consumed alcohol, had stress or had a combination of these habits. Informed consent was obtained from all patients prior to interview and examination. Details of the habits such as form, duration in years, frequency, site of placement of quid in the oral cavity, and alcohol consumption were recorded. The clinical diagnosis of oral mucosa lesions /conditions such Oral carcinoma, leukoplakia, lichen planus and other lesion were based on the pertinent WHO criteria and International seminar on oral leukoplakia and associated lesions related to tobacco habits². Lesions such as frictional white lesion, oral candidiasis, and recurrent aphthous ulcer were grouped under other lesions. The clinical diagnosis of chewer's mucosa, oral submucous fibrosis (OSF), and quid-induced lichenoid lesion were based on the criteria provided by Zain et al. ³

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Statistical analysis was done using Graph Pad Prism software, Version 5. For qualitative analysis, Chi-square test was used to find the P values. For quantitative analysis, mean and standard deviations were estimated in the sample for each study group. Mean values were compared using one way ANOVA. $P < 0.05$ was considered statistically significant.

RESULTS

Male	56 (80%)
Female	14 (20%)

Of the 70 population (with habits), 56 (80 %) were males and 14 (20 %) were females aged between 20 to 70 years constituted the study population. The majority of the cases belonged to 30 – 70 year age group.

Age group	Male N (%)	Female N (%)	Total N (%)
20-30	0	0	0
30-40	2 (3.5)	10 (71.5)	12 (17.2)
40-50	38 (68)	4 (28.5)	42 (60)
50-60	14 (25)	0	14 (20)
60-70	2 (3.5)	0	2 (2.8)
Total	56 (100)	14 (100)	70 (100)

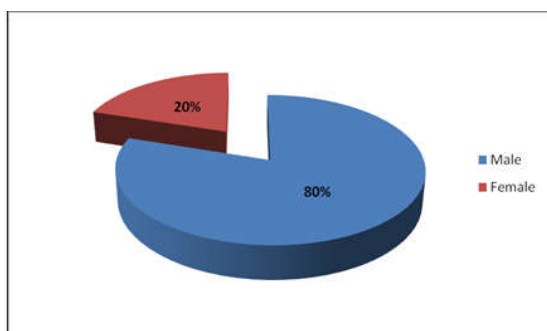


Fig Percentage of Total Male and Female participated in Study. 80% of the subjects are male while 20% of the subjects were female.

In the age group between 30-40 years of age male were 3.5% and female were about 71.5%. In the age group 40- 50 years of age male were 68 % and females were 28.5 %. In the age group between 50 -60 years 14 % were male with no females and in the age group in between 60 -70 years 2 % were males with no females in this age group.

In Potentially malignant disorders leukoplakia comprised of about 46 % in patients with habit. 24 % of patients comprised of Oral submucous fibrosis comprised of about 24 % of all the patients. Oral squamous cell carcinoma comprised of about 11 % of the patients and Oral Lichen planus comprised of about 19 % of all the patients.

It was observed that Leukoplakia was the most common oral mucosal lesion in about 46% of the population and the most common form of tobacco used by them was Khaini. Oral submucous fibrosis was the second most common lesion after leukoplakia and accounted for about 24%, these patients consumed raw betel nut as a form of tobacco. Oral Lichen planus was found in about 19 % of whole population which comprised of only females without any habit, but they were under some kind of mental stress. The last common oral mucosal lesion in our study was Oral squamous cell carcinoma accounted for about 11 % of whole population who consumed a mixed form of tobacco which included Gutkha, Khaini, raw betel nut and cigarette smoking was common for them.

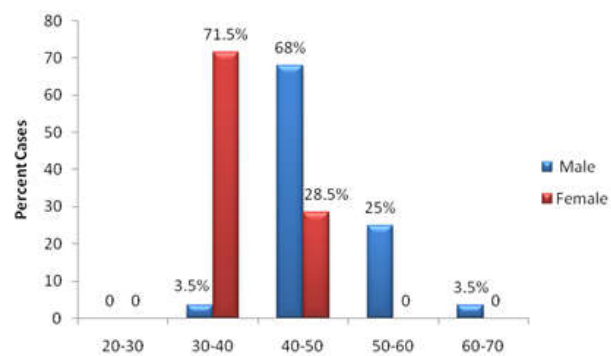
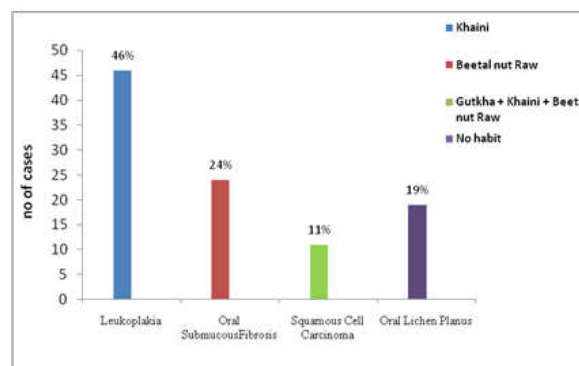


Fig –Total 70 subjects (male and female) were included in the study. 12 subjects were from age group 30-40 out of which 2 (3.5%) were male while 10 (71%) were female. In age group 40-50, 42 subjects were studied in which 38 (68%) were male and 4 (28.5%) were female. Out of 14 students in the age group of 50-60, 14 (25%) were male and no female subjects. 2(3.5%) subjects were in the age group of 60-70 which are male.

Type of tobacco	Disease	No of Patient (%)
Khaini	Leukoplakia	32 (46%)
Beetal nut Raw	Oral Submucous Fibrosis	17 (24%)
Gutkha + Khaini + Beetal nut Raw+Cigarette	Squamous Cell Carcinoma	8 (11%)
No habit	Oral Lichen Planus	13 (19%)
Total		70 (100%)

P<0.001



Gutkha + Khaini + Beetal nut Raw+Cigarette	Squamous Cell Carcinoma	8 (11%)
No habit	Oral Lichen Planus	13 (19%)
Total		70 (100%)

P<0.001

Out of 70 subjects included in the study 32(46%) subjects consume khaini are suffering from Leukoplakia. 17(24%) subjects consumes Beetal nut raw are suffering from Oral Submucosa Fibrosis. 8 (11%) subjects suffering from Squamous Cell Carcinoma consumes Gutkha + Khaini + Beetal nut Raw +Cigarette. 13(19%) subjects who have no habit of consuming tobacco products have only oral lichen plaque. One way anova was performed using tukey post test to analyse the results using Graph pad prism (version-5.0) software. ($P < 0.001$) which is statistically significant

DISCUSSION

In the present study the prevalence of oral mucosal lesion was conducted in 70 patients of age group of 20- 70 years. The prevalence of oral leukoplakia in the population was 32 (46%) this is consistent with the findings of Axell T *et al* which was 4.76%.⁴ Lichen planus was found in about 13 (19 %) population which is comparable with Hegde M N *et al* in 2014⁵. In our present study prevalence of Oral Submucous Fibrosis was 17 (24 %) which was comparable to Rajendra R *et al*⁶ in 1992 which was 2.73 %. In our present study the most prevalent Oral mucosal lesion was Leukoplakia 32 (46 %), followed by Oral Submucous Fibrosis 17 (24%), Oral lichen planus being 13 (19%) and Oral Squamous Cell Carcinoma being 8 (11%). This study is similar to Dagli RJ *et al* in 2008⁷. In our study gender wise distribution of Oral mucosal lesions age between 20 to 70 years. Out of 70 subjects Oral mucosal lesion, lesions were more common in male 56 (80 %) than females 14 (20 %). Leukoplakia was more prevalent in male 56 and 14 were female, similar study was also conducted by Kovac – Kovacic M *et al* in 2000 who stated that leukoplakia was more prevalent in men than in women 4.6% & 1.7% respectively.⁸

CONCLUSION

The results of this study indicate that patients lack in their awareness regarding potentially malignant disorders and do not realise that such disorders are at a higher risk of turning carcinomatous. The patients need to be educated regarding the harmful effects to tobacco consumption and more and more general population should be motivated to undergo regular screening for the above stated diseases.

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