

Prevalence of Oromucosal Lesions in Relation to Tobacco Habit Among North Indian Population

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ABSTRACT

Background: Smoking, drinking and chewing tobacco product have been positively associated with oral lesions. The objective of the present study was to determine the prevalence of oromucosal lesions in relation to tobacco habit among a North Indian population.

Materials and Methods: The present retrospective study was conducted among 1840 patients who reported in the department of dentistry at NSCB Medical College Jabalpur MP. Along with patient's demographic details, information regarding the type of habits, duration, frequency, site of placement, period of contact with mucosa, and history of discontinuation of habit were recorded using a standardized interviewer-based questionnaire. The diagnoses of clinically suspicious lesions were confirmed by biopsy. Tobacco-related OMLs were diagnosed based on the clinical features. The collected data were tabulated, and frequency and distribution tables of OMLs were generated using Statistical Package for Social Sciences version 21 (SPSS for Windows, Version 21.0. Chicago, SPSS Inc.).

Results: In the present study total patients were 3250 in which 1840 patients were having habits. 58.69% males were having habits and 41.30% females were having habits. 67.59% males were smokers, 21.85% males were chewers and 10.55% males were having mixed smokers. 63.15% males were smokers, 28.94% males were chewers, and 7.89% males were having mixed smokers. 36.90% patients were smokers,

42.38% patients were chewers and 20.71% patients were having both smoking and chewing habits. The prevalence of tobacco coated tongue (31.57%) was highest in females whereas in males prevalence of smoker's melanosis (30.46%) was highest among all oromucosal lesions.

Conclusion: Our study concluded that in both males and females smoking tobacco habit was more common than chewing. The prevalence of tobacco coated tongue was highest in females whereas in males prevalence of smoker's melanosis was highest among all oromucosal lesions.

Keywords: Smoking Tobacco, Tobacco Coated Tongue, Smoker's Melanosis, Oromucosal Lesions.

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INTRODUCTION

Chewing and smoking of tobacco along with consumption of alcoholic beverages have become common social habits in India.¹ Tobacco was introduced in India by the Portuguese nearly 400 years ago and since then it has become a part of the sociocultural milieu in various communities. India is the second largest producer and consumer of tobacco next to China.² The World Health Organization (WHO) predicts that tobacco deaths in India may exceed 15 lacs annually by 2020. Thus, with its 25 crore tobacco consumers, India is sitting on the verge of an

unparalleled health crisis.³ Every form of tobacco such as cigarettes, cigars, pipe tobacco, snuff, and chewing tobacco contain nicotine, which is highly addictive and is readily absorbed into the bloodstream when a tobacco product is chewed, inhaled, or smoked.⁴ Tobacco contains a large number of carcinogens, with the most significant being polycyclic aromatic hydrocarbons, aromatic amines, and nitrosamine which cause cellular damage.⁵ Both smoking and smokeless tobacco produce a number of oromucosal lesions (OMLs) ranging from melanin

pigmentation to potentially malignant disorders (PMDs).⁵ The objective of the present study was to determine the prevalence of oromucosal lesions in relation to tobacco habit among a North Indian population.

MATERIALS AND METHODS

The present retrospective study was study conducted among 1840 patients who reported in department of dentistry at NSCB Medical College Jabalpur MP over a period of 1 year (December 2018 to November 2019). Before the commencement of the study ethical approval was taken from the Ethical Committee of the institution and informed consent was obtained from the patients. Along with patient's demographic details, information regarding the type of habits (smoke and smokeless), duration, frequency, site of placement, period of contact with mucosa, and history of

discontinuation of habit were recorded using a standardized interviewer-based questionnaire. All patients were then clinically examined on a dental chair using diagnostic instruments under artificial illumination. The diagnoses of clinically suspicious lesions were confirmed by biopsy. Tobacco-related OMLs were diagnosed based on the clinical features using the Color Atlas of Common Oral Diseases as a guide.⁶

All patients with history of tobacco consumption were made aware of the harmful effects of tobacco and were motivated to quit. Based on the form of tobacco used, the patients were divided into smokers, chewers, and mixed (smoking + chewing) categories. The collected data were tabulated, and frequency and distribution tables of OMLs were generated using Statistical Package for Social Sciences version 21 (SPSS for Windows, Version 21.0. Chicago, SPSS Inc.).

Table 1: Distribution of the study population based on habits

Habits	Gender		Total N (%)
	Male N (%)	Female N (%)	
Smokers	730(67.59%)	480(63.15%)	310(36.90%)
Chewers	236(21.85%)	220(28.94%)	356(42.38%)
Mixed (smoking + chewing)	114(10.55%)	60(7.89%)	174(20.71%)
Total	1080(58.69%)	760(41.30%)	1840 (100%)

Table 2: Prevalence of various oromucosal lesions in the patients

Habits	Gender		Total N (%)
	Male N (%)	Female N (%)	
Leukoedema	106(9.81%)	216(28.42%)	322(17.5%)
Tobacco-induced oral pigmentation	65(6.01%)	198(26.05%)	263(14.29%)
Smoker's melanosis	329(30.46%)	4(0.52%)	333(18.09%)
Coated tongue	286(26.8%)	240(31.57%)	526(28.58%)
Tobacco-induced keratosis	67(6.20%)	35(4.60%)	102(5.54%)
Leukoplakia	109(10.09%)	32(4.21%)	141(7.66%)
Erythroplakia	26(2.40%)	15(1.97%)	41(2.22%)
Oral squamous cell carcinoma	92(8.51%)	20(2.63%)	112(6.08%)
Total	1080(58.69%)	760(41.30%)	1840(100%)

RESULTS

In the present study total patients were 3250 in which 1840 patients were having habits. 58.69% males were having habits and 41.30% females were having habits. 67.59% males were smokers, 21.85% males were chewers and 10.55% males were having mixed smokers. 63.15% males were smokers, 28.94% males were chewers, and 7.89% males were having mixed smokers. 36.90% patients were smokers, 42.38% patients were chewers and 20.71% patients were having both smoking and chewing habits. The prevalence of tobacco coated tongue (31.57%) was highest in females whereas in males prevalence of smoker's melanosis (30.46%) was highest among all oromucosal lesions.

DISCUSSION

Tobacco has become a global epidemic and its consumption is a global health problem.² It is most commonly smoked in the form of cigarettes or bidis (a crude form of smoked tobacco).⁷

In the present study total patients were 3250 in which 1840 patients were having habits. 58.69% males were having habits and 41.30% females were having habits. This can be due to sociocultural characteristics of males regarding tobacco consumption in India.^{8,9}

67.59% males were smokers, 21.85% males were chewers and 10.55% males were having mixed smokers. 63.15% males were smokers, 28.94% males were chewers, and 7.89% males were having mixed smokers. 36.90% patients were smokers, 42.38% patients were chewers and 20.71% patients were having both smoking and chewing habits. The prevalence of tobacco coated tongue (31.57%) was highest in females whereas in males prevalence of smoker's melanosis (30.46%) was highest among all oromucosal lesions.

In India, the prevalence of leukoplakia varies from 0.2% to 5.2% and malignant transformation ranges between 0.13% and 10% according to various studies.¹ Another Indian study reported leukoplakia (13.1%) and tobacco - induced keratosis (9.7%) in

smokeless tobacco users.¹⁰ A study by Saraswathi et al. reported only 4.1% of oral soft tissue lesions in which smoker's melanosis (1.14%) was found to be the most common soft tissue lesion, followed by stomatitis nicotina (0.89%) and leukoplakia (0.59%) which was very less.¹¹

A study was conducted by Thada and Pai revealed that indulgence in habit was seen more among males between age group 26–55 years and most of them had education above high school level. Smoking (51.9%) was most common oral habit. The prevalence of oral mucosal lesions was 46.1%. Reactive lesions (55.41%) were the most common followed by premalignant lesions/conditions (27.67%), malignant lesions (12.40%), and other lesions (4.49%).¹²

A study was done by Khan et al. concluded from the study that chewer's mucosa was seen in majority of the individuals who used the quid for a duration of 1–5 years, a frequency of 3–5 quids per day and chewed the quid containing betel leaf, areca nut, tobacco, and lime as its constituents.¹³

CONCLUSION

Our study concluded that in both males and females smoking tobacco habit was more common than chewing. The prevalence of tobacco coated tongue was highest in females whereas in males prevalence of smoker's melanosis was highest among all oromucosal lesions.

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