



GENDER BASED PREVALENCE OF ORAL MUCOSAL LESION ASSOCIATED WITH TOBACCO USE

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ABSTRACT

Background: Oral cavity hosts different variety of microbes which protects the oral mucous membrane but some irritants harm the tissue and ultimately develop into lesions. The main cause of these oral lesions is habit like smoking, tobacco chewing, alcohol, or some injury. **Aim:** The aim of the study is to evaluate gender based prevalence of mucosal lesions associated with habits in modinagar population. **Design:** A total number of 943 subjects from various villages of western Uttar Pradesh who were attended the free dental checkup camp with smoking and/or chewing habits aged 15 years and over were included in the study through random selection. **Result:** there was a significant correlation showing gender based prevalence. 87.2% men having smoking habits shows presence of mucosal lesions & only 12.8% women shows prevalence of mucosal lesions.

KEYWORDS : Mucosal lesions, Tobacco, prevalence

INTRODUCTION :

Oral diseases are major public health problem. Among them oral cancer is at the top of the list. It is the 6th most common cancer in the world which accounts for 350,000 new cases and 128,000 deaths annually. ¹A good oral health reflects an aesthetic and functional dentition which allows individuals to continue in their desired social and functional role. Poor oral health leads to altered oro-facial form and function i.e. difficulty in speaking or mastication etc. Hence the social wellbeing of an individual or the quality of life is hampered either directly or indirectly. Oral mucosal conditions and diseases may be caused by local diseases (bacterial or viral), systemic diseases, drug-related reactions, or lifestyle factors such as the consumption of tobacco, betel quid, or alcohol. However Smoking and chewing tobacco is considered to be the most important cause of the oral mucosal lesions. ²

In recent years, various commercial preparations known as *pan masala* and *gutkha* have become available in India and in many parts of Asia. Many brands of these products contain areca nut and tobacco, both of which have been implicated in occurrence of oral cancer. The investigators have also observed that smoking and chewing of tobacco and betel quid act synergistically in oral carcinogenesis and that persons with mixed habits form a substantially high-risk population ³In comparison to western populations, in which oral cancer represents about 3% of malignancies, it accounts for over 30% of all cancers in India; this difference can be attributed to regional variation in the prevalence and pattern of habits. However, epidemiological data of the changing trends are lacking. The purpose of this study was to investigate the prevalence of oral mucosal changes in individuals with smoking, chewing, and mixed habits and to assess the relative risk of oral lesions resulting from the habits. ⁴

MATERIAL AND METHOD:

An epidemiological survey was conducted and total number of 1143 subjects from various villages of western Uttar Pradesh who were attended the free dental checkup camp with smoking and/or chewing habits aged 15 years and over were included in the study through random selection.

A screening examination including intraoral clinical examination was performed in the out patient department, D.J College of Dental Sciences & Research, Modinagar using

artificial light, dental mirror, dental explorer, gauze, and other materials. Cotton swabs were used to remove debris and to see whether white lesion can be wiped off.

Personal data including age, gender, chief complaint, and social habits were recorded. Details of the habits such as duration in years, frequency, site of placement of quid in the oral cavity, and alcohol consumption were recorded.

Individuals were divided into habits (like tobacco chewing in the form of gutkha, paan, supari etc., smoking) and without habits. The clinical diagnosis of oral mucosal lesions/conditions such as leukoplakia, oral submucous fibrosis, lichen planus, smoker's palate, and other lesions were based on the pertinent WHO criteria.

RESULT

In the present study, 87.2% of males and 12.8% of females constituted the study population. As seen from the findings, the difference in the pattern of habits in two sexes were found to be statistically significant.

Table 1: Prevalence of habits according to gender

	Frequency	Percentage
Males	922	87.2
Females	221	12.8
total	1143	100

In the present study, out of 1143 subjects, 806 i.e 70.5% subjects were smokers while 337 i.e 29.5 % subjects were non smokers

Table 2: prevalence of oral mucosal lesions in study group with habits

	Frequency	percentage
Tobacco habits	806	70.5
No habitss	337	29.5
total	1143	100

In this study, there is a strong correlation of oral mucosal lesions between smokers and non-smokers.

The study showed an increased consumption of tobacco in men and an increased incidence of oral mucosal changes among smokers with some additional habits (chewing/

alcohol) as compared to those with lesions who did not smoke. This was found to be statistically significant i.e. $P < 0.001$).

DISCUSSION

Oral mucosal lesions could be due to infection (bacterial, viral, fungal), local trauma and or irritation (traumatic keratosis, chemical burns), systemic disease (metabolic or immunological), or related to lifestyle factors such as the usage of tobacco, areca nut, betel quid, or alcohol. Oral lesions can lead to interference of daily activities due to discomfort or pain that interferes with mastication, swallowing, and speech, producing additional symptoms such as halitosis, xerostomia, or oral dysesthesia, which hampers an individual's daily social activities.⁵

The prevalence of oral lesions in population has been documented in many parts of the world like Argentina⁶, USA, Israel and Cambodia, mainly based on clinical evaluation of the lesions.⁷⁻⁹ In contrast, Correa et al and Dehler et al conducted prevalence studies based on the clinic opathological correlation, evaluating the biopsies of the observed lesions.^{10,11}

The prevalence of these lesions in general population has been reported 9.7% in Malaysia, 15.5% in Turkey, 25% in Italy 4 and 61.6% in Slovenia.¹²⁻¹⁴ These lesions have been found in 15% of Saudi Arabian and 41.2% of Indian dental patients.^{15,16}

Tobacco was introduced in India by the Portuguese nearly 400 years ago and since then it rapidly became a part of socio-cultural milieu in various communities.¹⁷ India is the second largest producer and consumer of tobacco next only to China. India accounts for one-fifth of World's tobacco consuming population with 240 million tobacco users out of which One-third of women and two-third of men use tobacco in one or the other form.¹⁸ Smoking, drinking and tobacco chewing have been positively associated with oral lesions such as leukoplakia, oral submucous fibrosis and oral lichen planus which have the potential for malignant transformation. Tobacco consumption also remains the most important avoidable risk factor for oral cancer. Tobacco related cancers account for nearly 50% of all cancers in men and 25% in women.¹⁹ Oral squamous cell carcinoma may occur either de novo or from the precursor lesions. As a result, prompt intervention at appropriate levels may aid in prevention and better control of tobacco induced lesions. Keeping in view the major risk factors for oral mucosal lesions and its associated effects, a range of preventive measures could be implemented at primary, secondary or tertiary levels.²⁰

Potentially malignant disorder of oral cavity may turn into oral squamous cell carcinoma, that is, the most common malignancy of oral epithelium. There are substantial evidences that tobacco (either in smoked form or smokeless), alcohol, and areca nut and their related products cause malignancy of oral epithelium in most of the cases. Hence, it is expected that potentially malignant disorder of oral cavity may also be caused by these factors.²¹

Asper GATS-2 India, 2016-2017, 42.4% of all men and 14.2% of all women and 28.6% of all adults in India currently use any form of tobacco, which is the most predominant cancer-causing habit. For West Bengal, the percentage is 33.5%, little higher than the overall Indian percentage.²²

In our study, 87.2% men and 12.8% were included and among them 70.5% people having habits of smoking have mucosal lesion whereas 29.5% shows absence of mucosal lesions.

In a study conducted by Bhattacharjee T et al 42.4% patients have cancer causing habit and among them 33.15% are men and 9.09% were women which is in concordance with our study.

Another study conducted by Ain TS et al shows 52.5% subjects have habits out of that 72% are male and 28% females. 78.6% males having habits shows presence of oral lesions and 21.3 % were devoid of any lesion.

In a study, conducted by Thada SR et al shows 46.73% of males and 40.18% females having oral habits shows mucosal lesions that is mucosal lesions are equally present without any gender discrimination.

So, many studies have been done on gender and habit related oral disease which shows habits are directly connected to lesions which may initiate or may progress the lesion but gender based data regarding oral lesions is insufficient and we need to do more studies to rule out any probability of gender based mucosal lesions.

CONCLUSION:

In conclusion, our study has provided significant data related to oral mucosal lesions associated with habits. So we need to focus on ways to educate people regarding ill effects of habits like smoking or smokeless tobacco so that the mucosal lesions can be avoided or prevented from occurrence as some of mucosal lesions has the potential of malignant transformation.

As some of these lesions are premalignant, it is imperative for the dental and medical professionals to familiarize with their pattern and presentation to effect early diagnosis and management.

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