



## PREVALENCE OF ORAL SUBMUCOUS FIBROSIS (OSMF) AMONG SMOKELESS TOBACCO CONSUMERS IN A RURAL HOSPITAL: A CROSS - SECTIONAL STUDY

### Surgery

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### ABSTRACT

India, country with diverse culture, health beliefs, practices, habits and risk factors for disease is facing epidemiological and demographic translation in arena of rise of non communicable disease. Tobacco use was introduced in the 16th century. Tobacco is one of the most important plant product which gathers attention from all the health professionals, just because variety of diseases caused by its use. Tobacco can cause a wide range of diseases which impacts nearly every organ of body. South Asia is major producer and net exporter of tobacco. India is also second largest consumer of tobacco products and third largest producer of tobacco products

### KEYWORDS

Oral Submucous Fibrosis, Oral Leukoplakia, Erythroplakia, Orthopantogram

### INTRODUCTION

India, country with diverse culture, health beliefs, practices, habits and risk factors for disease is facing epidemiological and demographic translation in arena of rise of non communicable disease. Tobacco use was introduced in the 16th century. Tobacco is one of the most important plant product which gathers attention from all the health professionals, just because variety of diseases caused by its use. Tobacco can cause a wide range of diseases which impacts nearly every organ of body. South Asia is major producer and net exporter of tobacco. India is also second largest consumer of tobacco products and third largest producer of tobacco products.[1,2] About 1.2 billion Indians consume tobacco. Tobacco is consumed in two forms smoking and smokeless tobacco. In India, the use of smokeless tobacco is almost double that of smoking.[3] Active and Passive smoking can also cause damage to respiratory system, cardiovascular system resulting in lung cancer.[4] In India smokeless tobacco is consumed in the form of Gutka, Khaini, Mainpuri tobacco, Mishri, Pan, Zarda etc. Tobacco contains various harmful substances such as nicotine, tar, hydrogencyanide, volatile aldehyde, nitrosamines. Many of these compounds are not only irritants and toxins but they are also carcinogens. Common Oral Premalignant Conditions like Oral submucosal fibrosis, Leukoplakia, Erythroplakia etc are very common. Also the risk of oral malignancy, lung cancers, intra uterine growth retardation are common. Areca nut and tobacco are primary risk factors for Oral Submucous Fibrosis. Oral Submucous Fibrosis is commonly seen in Gutka, Mishri users and Pan chewers. Indians are attracted to smokeless tobacco due to low price, ease of purchase, lack of awareness and that it reduces hunger. Government is making efforts to eradicate tobacco by means of mass media, public discussions, health camps, newspapers also warning messages on packets. Thus the purpose of present study was to know prevalence of smokeless tobacco associated Oral Submucous Fibrosis among subjects and to correlate the dose response relationship among this subset of population.

### MATERIALAND METHODS

The present cross-sectional observational study was conducted in MIMER MEDICAL COLLEGE AND Dr BST RURAL HOSPITAL, Talegaon -Dhabade. The study population was selected from patients visiting the SURGERY AND E. N. T. O. P. D. from March 2025 to August 2025. Age group of 15 years and above. Individuals who currently chew smokeless tobacco (current smokeless tobacco user is defined as any use during the previous week) for a minimum period of 6 months. Individuals having Oral Submucous Fibrosis who consume tobacco in only one smokeless tobacco are included in the study. Age below 15 years are excluded. Individuals suffering from any obvious systemic disease that most likely may influence the oral mucosa, HIV positive patient and individuals having dental problems causing oral lesions were excluded in the study.

### Data Collection:

After obtaining informed consent from the patients, detailed history was collected, the patient was examined by making the patient sit on a

regular chair, using head light and during day light. The oral cavity was examined using tongue depressor, indirect laryngoscopic mirror and other sufficient amount of autoclaved instruments with all aseptic precautions. However punch biopsy, scrape biopsy was taken in case of doubt in diagnosis in multiple lesions or suspected malignancy. Radiological investigations like X-ray, Orthopantogram and CT scan was done to assess the bony erosion in difficult mouth opening and its spread in case of suspected malignancy.

**Statistical Analysis:** All responses were entered into Microsoft Excel 2024, following which the dataset was cleaned and rechecked to ensure data quality and accuracy. The cleaned data were analyzed using IBM SPSS Version 30. software. Categorical variables were expressed in terms of percentage.

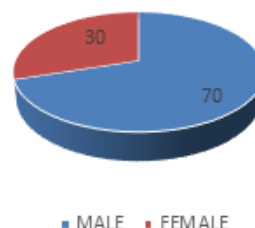
### RESULTS:

Total 100 patients who underwent detailed questionnaire & clinical examination were included in the study, they were in the age group of above 15 yrs of age. There was male preponderance observed in every age group as shown in the table. Maximum number of patients was in the age group of 40-59 years.

**Table 1: Sex Distribution Of Smokeless Tobacco Consumers With Oral Submucous Fibrosis (OSMF)**

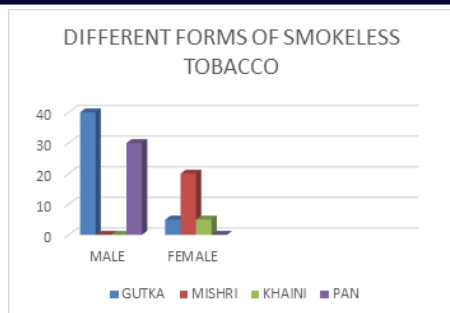
|        | SMOKELESS TOBACCO WITH OSMF |
|--------|-----------------------------|
| MALE   | 70                          |
| FEMALE | 30                          |

### SEX DISTRIBUTION OF CASES CONSUMING SMOKELESS TOBACCO WITH OSMF



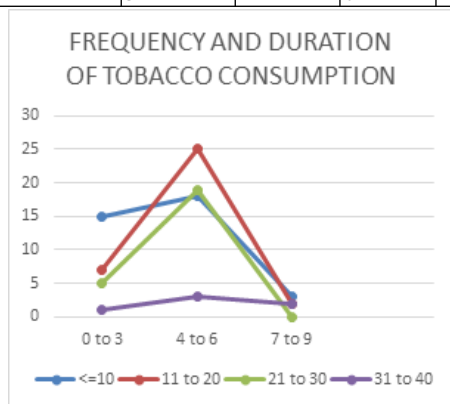
**Table 2: Case Wise Distribution Showing Different Forms Of Smokeless Tobacco**

|        | GUTKA | MISHRI | KHAINI | PAN |
|--------|-------|--------|--------|-----|
| MALE   | 40    | 0      | 0      | 30  |
| FEMALE | 5     | 20     | 5      | 0   |



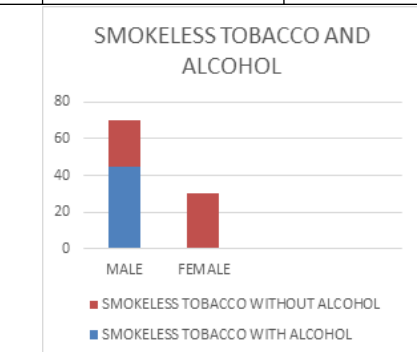
**Table 3: Case Wise Distribution Of Frequency In No Of Times Per Day And Duration In No Of Years Of Smokeless Tobacco Consumption**

| Duration | Frequency | <=10 | 11-20 | 21-30 | 31-40 |
|----------|-----------|------|-------|-------|-------|
| 0-3      | 15        | 7    | 5     | 1     |       |
| 4-6      | 18        | 25   | 19    | 3     |       |
| 7-9      | 3         | 2    | 0     | 2     |       |



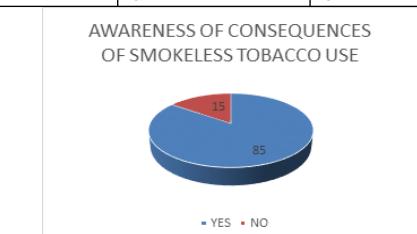
**Table 4: Case Wise Distribution Showing Oral Submucous Fibrosis In Smokeless Tobacco With And Without Alcohol Consumption**

|        | SMOKELESS TOBACCO WITH ALCOHOL | SMOKELESS TOBACCO WITHOUT ALCOHOL |
|--------|--------------------------------|-----------------------------------|
| MALE   | 45                             | 25                                |
| FEMALE | 0                              | 30                                |



**Table 5: Case Wise Distribution Showing Awareness Among People Related To Smokeless Tobacco Consumption**

|     | Number | Percentage % |
|-----|--------|--------------|
| YES | 85     | 85           |
| NO  | 15     | 15           |



## DISCUSSION

In our study we found that smokeless tobacco was more common in males. A cross-sectional study was conducted by Puthia A in 2017, among army personnel. In his observations the most common form of smokeless tobacco used was Khaini about 41.21% in males. The second common form consumed was Gutka.[5] This contradicts our study where Gutka consumption was higher and most common form of smokeless tobacco among males. Also Khaini consumption in our study was 5% which was in females not males. In his study about 91.76% subjects were aware of the consequences of tobacco use. This supports our study in which 85% of the subjects were of tobacco abuse. In 2017, Chawla RM found that 61% of female population living in slums used Mishri.[6] This coincides with our study where 66.67% of the total female subset used Mishri. In his study only 17% were aware of the ill effects of its use, which supports our study where only 25% of females were aware. In cross-sectional survey conducted by Corsi DJ in 2014, it was found that tobacco chewing was higher among men. In his study the prevalence of smokeless tobacco was 5.0%. and in women was 1.0%.[7] This study supports our study where smokeless tobacco consumption prevalence is 70%.

In 2015, Nair S found that out of total subset of women 64% used only one type of smokeless tobacco. Of these 30%, about 20% used Mishri and 5% used Gutka. This concurs with our study where of women used only one type of tobacco. In our study also Mishri consumption is more common than Gutka.[8].

Low socio economic status, inadequate nutrition and odd working hours lead to an increase in consumption of Gutka than smoking in fishermen was found by Anzil K in 2016. The consumption of Gutka was about 32.4% among the fishermen. In our study, Gutka consumption was very common among workers of having odd working hours and of low socio economic status.[11] In the study by Liu B in 2015 there was higher prevalence of oral premalignant lesions by consuming tobacco and alcohol together.[12] This is in support to our study as about 45% of our population having oral lesions consumed tobacco with alcohol. In 2015, Singh A found that Oral submucosal fibrosis was more commonly seen with Gutka chewing.[13] This concurs with our study where Gutka use is the major factor responsible for Oral submucosal fibrosis. [14] The prevalence of tobacco associated lesions was more common with smokeless tobacco of about 37.9% of subset was found by Joshi M in 2016. He also found that there is a strong relation of duration and frequency of its use.[15] This is similar to our study where the incidence of oral lesions with smokeless tobacco increased significantly with duration of more than 10 years of consumption. Also the frequency of more than 3 times per day was the contributing factor. In our study we found that Oral submucosal fibrosis was more common with Gutka chewing. This is similar to study conducted by Singh A in 2015 where all subjects showed Oral submucosal fibrosis present over the buccal mucosa and retromolar trigone.[13] In 2017, Junaid M conducted a study in which Oral submucosal fibrosis was due to consumption of Mawa in about 53% of subjects whereas in our study Gutka chewing is the commonest cause for the condition.[18] In 2015, Reddy SS in his study found that chewing tobacco lead to chewer's mucositis in about 59.5% of subset. This was the most commonly observed lesion.[19] But in our study, we found oral submucosal fibrosis to be the most common condition associated with chewing tobacco. Tobacco use is more common among those who can least afford it. This was found by Sarkar BK in his study in 2017.[20]

## CONCLUSIONS

Lower socio economic status and other factors such as easy availability, low pricing, easy to carry and lack of warning message. Oral Submucous Fibrosis is more commonly observed with increasing chronicity and increasing frequency of tobacco consumption. Consumption of alcohol and tobacco together increases chances of Oral Submucous fibrosis. Oral submucosal fibrosis is the most commonly observed oral lesion in patients with smokeless tobacco. There appears to be a strong co- relation for developing Oral Submucous Fibrosis on consumption of Gutka in males and Mishri in females.

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