

## ORIGINAL ARTICLE

### EPIDEMIOLOGICAL STUDY OF TOBACCO AND TOBACCO INDUCED ORAL MUCOSAL LESION AMONG POPULATION

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#### ABSTRACT:

**Background:** Consumption of various tobacco products is becoming an upcoming trend for today's world. Epidemiologic studies have demonstrated a wide variety in prevalence rates in oral lesions in different population due to various habits. This study was conducted to estimate the habit of tobacco usage among population and to record tobacco induced lesion in oral cavity. **Materials and Methods:** The study was conducted in Oral Medicine & Radiology department among patients visiting the department. Out of 5000 patients examined, 3240 patients had habit of tobacco usage in various forms. It comprised of 2268 (70%) males and 972 (30%) females. **Results:** Out of 3240 patients, 2268 were male and 973 were female. In age group from 10- 25, 25% males and 20% females were present. In age group from 21- 30, 14% males and 26% females were present. Age group 41-50, 26% males and 22% females and age group 51-60, 7% males and 5% female were seen. Highest prevalence was seen in age group 31- 40 years in both male and females. The difference was statistical among both sex. Leukoplakia was more prevalent among all oral mucosal lesions in both male and females. It was seen in 12 males, 7 females followed by smoker's palate, 9 in males, 4 in females, tobacco pouch keratosis, 10 in males, 4 in females, smoker's melanosis, 8 in males, 6 in females, oral submucous fibrosis, 7 in males, 3 in females, chemical burn, 6 in males, 3 in females, lichenoid reaction, 6 in males, 3 in females and other lesions, 2 in males and 2 in females. Cigarette usage is highest both in males (60%) and females (45%), followed by multiple usage, 15% in males and 16% in females, gutka 7% in males, 10% in females, bidi 10% in males, 14% in females, pan 8% in males, 15 in females. 51% of males and 49% of females were aware of ill effects whereas 47% male and 53% females were unaware of ill effects. The difference was non significant (P-0.5). Among various reason for tobacco usage, Friends Company was seen in 18 patients, work load (22), habit (40) and other tensions (10). The difference was significant (P-0.02). **Conclusion:** Author concluded that effective tobacco cessation programs should be conducted to educate the people about harmful effects of tobacco use.

**Key words:** Leukoplakia, Tobacco, smoker's melanosis

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#### INTRODUCTION

Consumption of various tobacco products is becoming an upcoming trend for today's world. Epidemiologic studies have demonstrated a wide variety in prevalence rates in oral lesions in different population due to various habits. It has been reported that the oral mucosal disease may affect 25–50% of individuals having various habits, depending on the population studied. Chewing, smoking, and consumption of alcoholic beverages have become a common social habit in India. Consumption of various tobacco products is since 600 AD.<sup>1</sup> It is becoming an upcoming trend for today's world. It causes both premalignant lesions and conditions depending upon type of usage. Tobacco is the second major cause of death in the world. The death toll from tobacco consumption is now 4.9 million people a year. If the

present consumption pattern continues, the number of deaths will increase to 10 million by the year 2020.<sup>2</sup> Tobacco habit is prevalent both in males and females however higher tendency in males as compare to females. Furthermore, the prevalence was higher among the rural population and those with no formal education.

It is available in smoking and smokeless tobacco. Cigarette smoking is more common in urban than rural area. It is available in different forms like pan, pan masala, khaini, mishri, zarda, mawa, supari. Smokeless tobacco contains, arecanut, tobacco, catechu, slaked lime. It causes various lesions like leukoplakia, tobacco pouch keratosis, smokers palate, smokers melanosis etc.<sup>3</sup>

This study was conducted to record the prevalence of tobacco usage and tobacco induced lesion in study population.

**MATERIALS AND METHODS**

A total of 5000 patients visited the department of Oral Medicine & Radiology in year 2015. A thorough oral examination was carried out in all the patients. Out of which 3240 met the criteria and selected for the study. It comprised of 2268 (70%) males and 972 (30%) females. Diagnosis of the lesion was made based on history, clinical features, according to standard guidelines. Results thus obtained were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

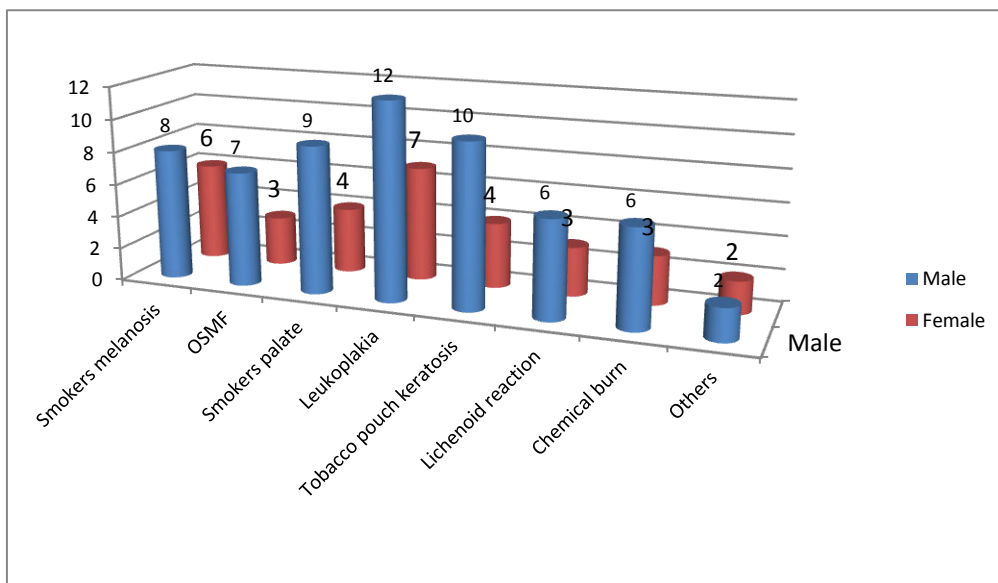
Table I shows age and sex distributions of patients. Out of 3240 patients, 2268 were male and 973 were female. In age group from 10- 25, 25% males and 20% females were present. In age group from 21- 30, 14% males and 26% females were present. Age group 41-50, 26% males and 22% females and age group 51-60, 7% males and 5% female were seen. Highest prevalence was seen in age group 31- 40 years in both male and females. The difference was statistical among both sex (P-0.01). Out of 3240 patients, only 2.7% (90) patients (1.8% males, 1% females) showed oral mucosal lesion. Leukoplakia was

more prevalent among all oral mucosal lesions in both male and females. It was seen in 12 males, 7 females followed by smoker’s palate, 9 in males, 4 in females, tobacco pouch keratosis, 10 in males, 4 in females, smoker’s melanos, 8 in males, 6 in females, oral submucous fibrosis, 7 in males, 3 in females, chemical burn, 6 in males, 3 in females, lichenoid reaction, 6 in males, 3 in females and other lesions, 2 in males and 2 in females. (Graph I) Graph II shows distribution of various tobacco products used by males and females. Cigarette usage is highest both in males (60%) and females (45%), followed by multiple usage, 15% in males and 16% in females, gutka 7% in males, 10% in females, bidi 10% in males, 14% in females, pan 8% in males, 15 in females. Graph III shows awareness level of ill effects of tobacco usage by males and females. 51% of males and 49% of females were aware of ill effects whereas 47% male and 53% females were unaware of ill effects. The difference was non significant (P-0.5). Among various reason for tobacco usage, Friends Company was seen in 18 patients, work load (22), habit (40) and other tensions (10). The difference was significant (P-0.02). (Graph IV)

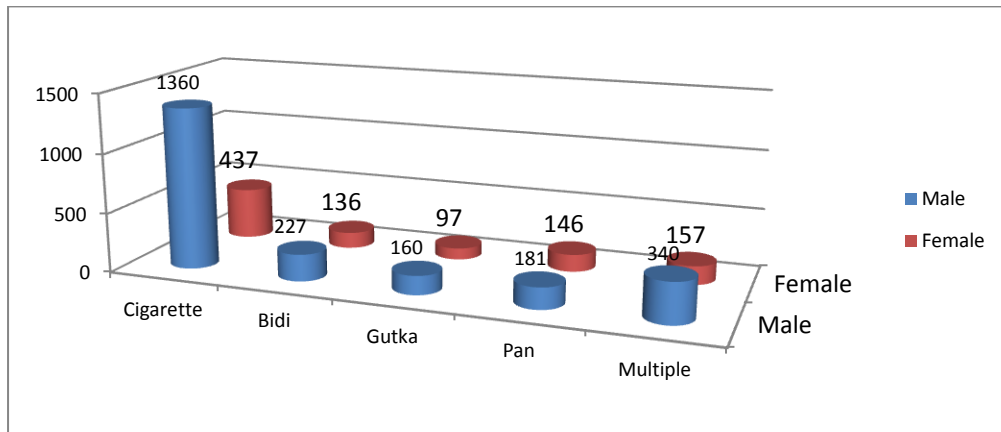
**Table I:** Age and sex distribution of patients

AGE GROUP	MALE	FEMALE
10-20	566(25%)	195(20%)
21-30	318(14%)	253(26%)
31-40	635(28%)	263(27%)
41-50	590(26%)	214(22%)
51-60	159(7%)	47(5%)
<b>TOTAL</b>	<b>2268 (70%)</b>	<b>972 (30%)</b>

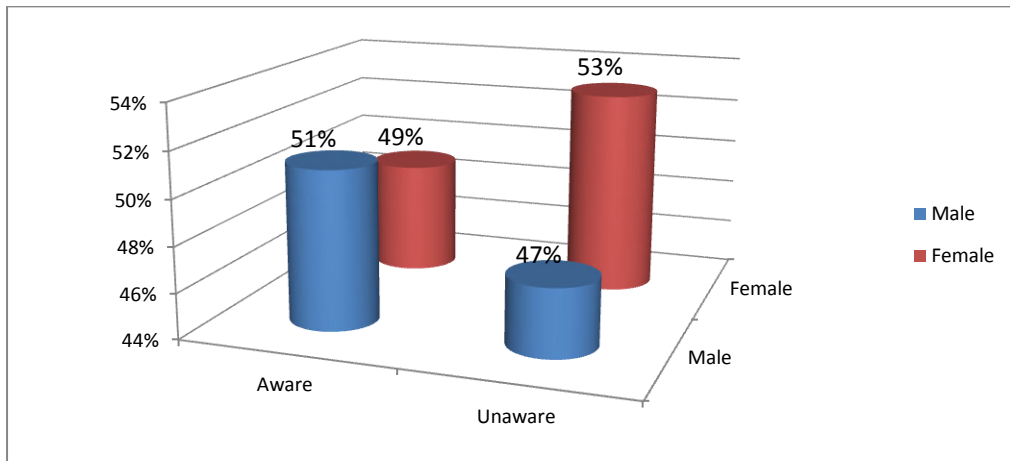
**Graph I:** Distribution of oral mucosal lesions among males and females



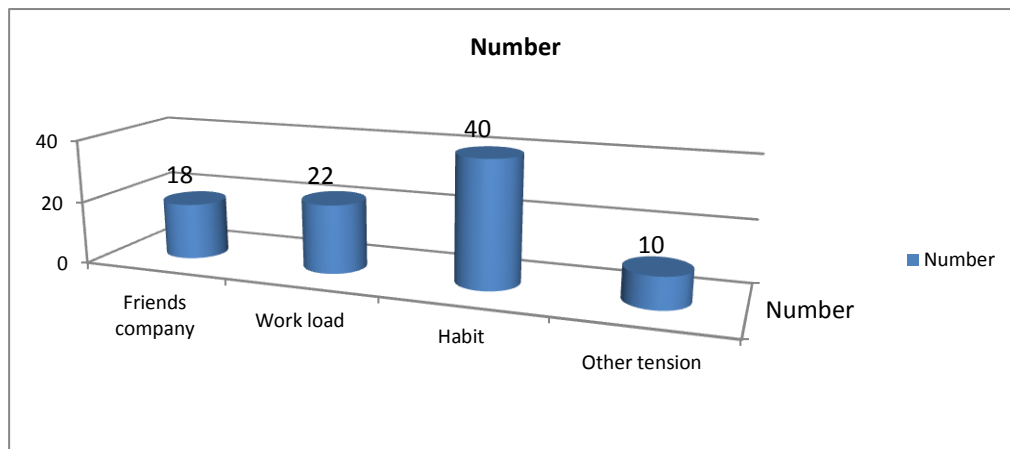
**Graph II:** Distribution of types of tobacco usage among male and females



**Graph III:** Awareness level of ill effects of tobacco usage in males and females



**Graph IV:** Reason for consumption of tobacco



## DISCUSSION

Today, our universe is in a state of tobacco epidemic with a larger population of tobacco users emerging day by day. In our country, various forms of smoking and chewing tobacco are practiced by the people. Most common form is bidi and cigarette followed by cherrut or chutta, chillum hukli and hukkah which is rare. In India, there are 240 million tobacco users accounting for one-fifth of the world's tobacco consuming population. India is world's third largest tobacco growing country.<sup>4</sup> In our country, various forms of smoking and chewing tobacco are practiced by the people. Most common form is bidi and cigarette followed by cherrut or chutta, chillum hukli and hukkah which is rare.<sup>5</sup> Bidi smoking is predominant in many parts of Rural India. When compared to cigarettes, bidis produce only a smaller volume of smoke. But the smoke which is generated is rich in higher concentrations of several toxic agents such as hydrogen cyanide, carbon monoxide, ammonia, and carcinogenic hydrocarbons. Bidi smoking is also considered to cause about 2–3 times greater nicotine and tar inhalation than conventional cigarettes.<sup>6</sup>

The prevalence of deleterious habit in our study was male (70%) population being more prone than females (30%). The difference was statistical significant. This is in accordance with the other studies. The reason being, In India males are more dominating in family and they consume tobacco as society symbol whereas females are still not going outside and not working much.

In present study, age group 31- 40 showed highest tobacco users both in males and females. This age group is mostly working age group. They are exposed to external environment and hence prevalence is more. Pednekar and Gupta<sup>7</sup> in their study found similar results.

In our study, maximum cases of leukoplakia were observed. This is due to the fact that in our studies 60% of patients were using cigarette in form of smoking tobacco hence the numbers were higher as compare to other mucosal lesion. Multiple habit reported by the patient in the present study was 15% in males and 17% in females. This may be due to modern society where multiple forms are used nowadays. This is supported by a study done by Kumar et al.<sup>8</sup> There was no significant difference among different forms of tobacco usage among males and females.

This may be due to cultural belief that tobacco is remedy for various ailments.

In our study, 51% of males and 49% of females were aware of ill effects of tobacco. Whereas 47% of males and 53% of females were unaware of tobacco ill effects. Sujatha et al<sup>9</sup> reported 82% of subjects who were not aware of ill effects. Various reason for tobacco usage were friends company, work load, habit and other tensions. Habit was mostly seen in our study as a main reasons for tobacco usage.

## CONCLUSION

Author concluded that effective tobacco cessation programs should be conducted to educate the people about harmful effects of tobacco use. However large scale studies are required to substantiate the results obtained in our study.

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