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Original Article

Correlation of Mucosal Findings with the Type of Tobacco Abusive Habits

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ABSTRACT:

Aim- Correlation of mucosal findings with the type of tobacco abusive habits. **Objective-** To find out the predilection of oral mucosal lesions in patients consuming smokeless, smoking, or both (smokeless & smoking) or along with alcohol. **Material and Methods-** A cross-sectional questionnaire based study was conducted in Department of Oral Medicine and Radiology to assess correlation of mucosal findings with the type of tobacco abusive habits in Babu Banarasi Das College of Dental Sciences, Babu Banarasi Das University Lucknow. A total of 100 questionnaires were distributed among patients and results were collected and analyzed statistically using SPSS software version 17.0. **Results**- In a predetermined questionnaire with mucosal finding on the type of tobacco abusive habits, a survey was conducted to identify the comparison between the smokers and the smokeless tobacco, both or both with addition to alcohol and the results showed that the oral mucosal lesion were significantly higher in individuals involving in both smokeless & smoking tobacco users (100%), as compared to smokeless tobacco (91.6%), smoking (50%) and others (61.2%), **Conclusion-**Most of the lesions recognized in this study are pre-cancerous in nature thus giving us the opportunity to intercept them at an early stage. And with proper counseling, we may assist in eradicating this abuse to some extent and provide primary prevention.

Key words: Mucosal lesions, tobacco.

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INTRODUCTION

The oral cavity is prone for an innumerable of changes with advancing age as well as a result of environmental and lifestyle-related factors. Oral mucosal lesions can occur as a result of local trauma, systemic diseases, infection, consumption of tobacco (smoking and smokeless), betel quid and alcohol. (Sreedharan G, 2014).Tobacco use in any form is one of the leading preventable causes of morbidity and mortality in the world. According to the World Health Organization (WHO) observed, globally, there were 100 million premature deaths due to tobacco in the 20th century, and if the current trends of tobacco consumption continue, this number is expected to rise to 1 billion in the 21st century.

Tobacco in India was brought some 400 years ago by Portuguese by establishing tobacco trade based in Goa. India is world's third largest tobacco developing country and Bidi manufacturing is the largest tobacco industry in India. As per the latest nationally representative Global Adult Tobacco Survey (GATS), India had 275 million tobacco users in the year 2009-2010 (over 35 percent of adults): majority of them used smokeless tobacco (164 million) and 42 million used both forms of tobacco. (*Mishra A et al. 2015*). It is estimated that 250 million children and adolescents who are alive today, would die prematurely because of tobacco, most of them in developing countries. The WHO also predicts that India will have the fastest rate of rise in deaths attributable to tobacco in the future years. India also has one of the highest rates of oral cancers in the world, partly attributed to high prevalence of tobacco chewing. (*Vikneshan M et al 2016*). Oral cancer is a highly occuring life threatening diseases in

India. Tobacco and alcohol are considered to be the most important risk factors for oral cancer. (Rooban*, et al. 2010*), Prevalence of tobacco use is about 15% to over 50% among men. Amongst women, smoking is more common in north eastern states, Jammu and Kashmir and Bihar, while most other parts of India have prevalence rates of about 4% or less. (*Shyam Sundar Behura et al.2015*), The epidemic of tobacco use in India is inflicting a huge damage on the human health and the associated health care costs are creating a huge financial burden on the government. *(Mishra A et al., 2015).* Thus a need to carry out a questionnaires research to see correlation of prevalence of various lesions with different forms of tobacco abusive habits and thus educate the patient about the ill effects of consumption of tobacco.

MATERIAL AND METHODS- The survey was conducted to assess the correlation of mucosal findings with the Type of Tobacco Abusive Habits among patient. A cross-sectional questionnaire based survey was employed to assess mucosal findings with the type of tobacco abusive habits in Lucknow population after obtaining permission from the institutional research committee (IRC). A verbal consent of all patients was also taken .A total of 100 questionnaire were distributed among patients which were based on mucosal findings.

Questionnaire about Correlation of Mucosal Findings with the Type of Tobacco Abusive Habits:

1- Do you know about the ill effects of tobacco?
I. Yes II. No
III. Not aware IV. Can't tell

2 – Do you eat tobacco?
I. Yes II. No
III. Weekly IV. Occasionally

3 – In which form do you eat tobacco?
I. Only tobacco II.Tobacco with areca nut
III. Tobacco with lime IV. Tobacco with areca nut & lime.

4- Which brand of tobacco you eat?
I. Rajnigandha II. Kamala pasand
III. RajShree IV. Pukar

5- Do you eat tobacco with pan?
I. Yes II. No
III. Weekly IV. Occasionally

6- What is the frequency of eating tobacco?
I. < 5 time/day II. 5-10 time/day
III. 10-20 time/day IV. > 20 time/day

7- What is the duration to hold the tobacco in oral cavity?
I. <5 min. II. 5-10 min.
III. 10-15 min IV. 15-20min.

8-Where the quid is mostly placed in the oral (mucous membrane) cavity?
I. Lower buccovestibular mucosa
II. Lower labiovestibular mucosa
III. Upper buccovetibular mucosa
IV. Upper labiovestibular mucosa.

9- Do you smoke tobacco?
I .Yes II. No
III. Weekly IV. Occasionally

10- In which form you smoke tobacco?
I. Cigarette II. Bidi
III. Cigar IV. Pipe

11- What is the frequency of smoking?
I. < 5 pis/day II. 5-10pis/day
III. 10-20 pis/day IV. >20 pis/day

12- What is the duration of smoking?
I. 2 min. II. 2-5min.
III. 5-10 min. IV. > 10 min.

13- Do you reveres smoke?
I. Yes II. No
III. Weekly IV. Occasionally

14- Do you smoke with smokeless form of tobacco?
I. Yes II. No
III. Weekly IV. Occasionally

15- Do you eat/smoke another form of tobacco?
I. Gaja II. Charas
III. Sweeti supari IV. Others/specify

16- Do you drink alcohol?
I. Yes II. No
III. Weekly IV. Occasionally

17- Do you drink alcohol with tobacco?
I. Yes II. No
III. Weekly IV. Occasionally

18- If you drink alcohol with tobacco what is the frequency?
I. Daily II. Every alternative day
III. Weekly IV. Occasionally

19- What is the quantity of alcohol you drink with tobacco?
I. < 100ml II. 100-200 ml
III. 200-500 ml IV. >500 ml

20- Do you know that tobacco causes cancer?
I. Yes II. No
III. Not sure IV. Can't tell

21- Have you seen any advertisement that tobacco causes cancer?
I. Yes II. No
III. Not aware IV. Can't tell

22- Do you see the image of oral cancer/lung cancer/throat cancer present in the packet of tobacco?
I. Yes II. No
III. Not aware IV. Can't tell

23- Even after seeing advertisements and picture of covers on packets of tobacco; you still consume tobacco?
I. Yes II. No
III. Weekly IV. Occasionally

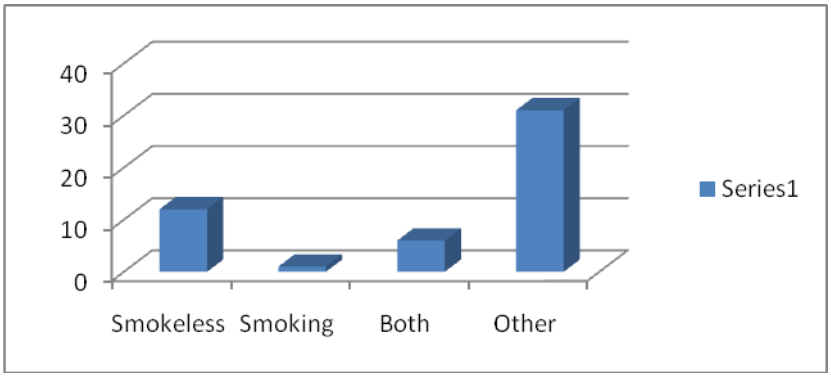
24- If have since when you have stopped eating tobacco?
I. 1 week II. 1 month
III. 6 month IV. 1 year

RESULTS

This study was conducted to assess the correlation of mucosal findings with the type of tobacco abusive habits in patients reporting to the department of Oral Medicine and Radiology Babu Banarasi Das College of Dental Sciences in Lucknow and to correlate its occurrence with the duration and frequency of habit.

Table: 1 Distribution of Habit in Study Participants

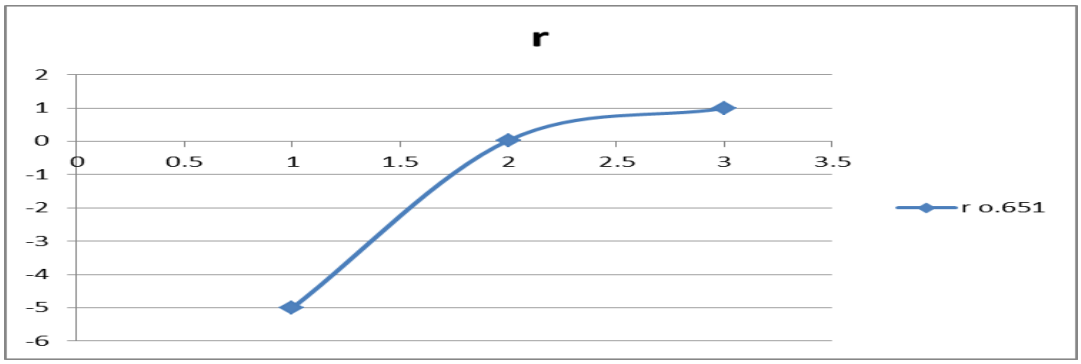
Habit	n	Percentage
Smokeless	24	24%
Smoking	2	2%
Both	12	12%
Other	62	62%



- The study observed that patient reported using smokeless tobacco alone was 24 (24%) and smoking tobacco in 2(2%) where as those indulging in both habits 12 (12%) and others in 62(62%) patients. (Table-1)

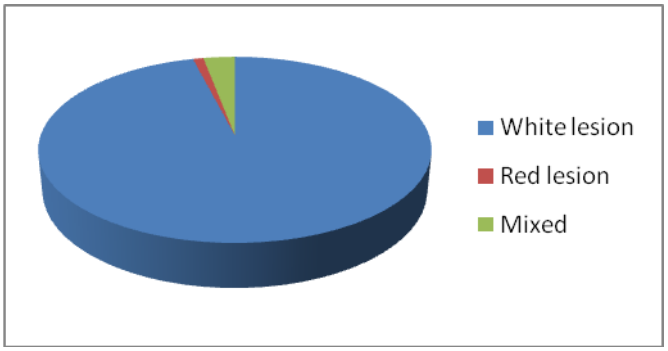
Table: 2 Correlations of Habits with Oral Mucosal Lesions

Habit	Lesion Present	Lesion Absent	r- Value
Smokeless	22 (91.6%)	2 (8.3%)	0.651
Smoking	1(50%)	1 (50%)	-5
Both	12 (100%)	0	0.028
Other	38 (61.2%)	24 (38.7%)	0.991



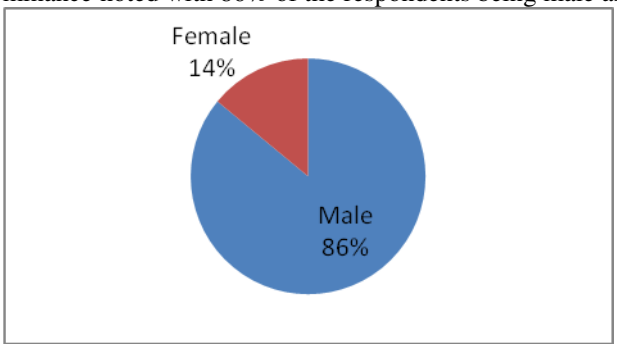
Graph 1: Correlation of Habits with Oral Mucosal Lesions

- The study results observed that presence of oral mucosal lesion were significantly higher in both smokeless & smoking tobacco users (100%) r value 0.028, as compared to smokeless tobacco lesion present in (91.6%) and lesion absent in (8.3%) r value 0.651, other lesion present in (61.2%) lesion absent in (38.7%) r value 0.991, and smoking lesion present in (50%) lesion absent in (50%) r value -5.(Table-2,Graph-1)
- The study results observed that presence of white lesion (96%) was significantly higher than red (1%) followed by mixed (3%) lesion.



Gender distribution respondents

- There was a clear male predominance noted with 86% of the respondents being male as against 14% of females.



DISCUSSION:

In India, in 1990, 1.5% of all deaths were related to tobacco use. Tobacco use is growing at a rate of 2-3% per annum and it may account for 13% of all deaths caused due to non communicable diseases by the year 2010.Tobacco causes over 20 categories of fatal and disabling diseases including cancer, cardiovascular and chronic respiratory diseases. Tobacco smoking source of cancer of the oral cavity, nasopharynx, oropharynx, lung, and hypo-pharynx, nasal cavity and paranasal sinuses, larynx, esophagus, stomach, pancreas, liver, kidney, ureter, urinary bladder, uterine cervix and myeloid leukemia of the bone marrow.

Forty percent of the tuberculosis load in India may be attributed to passive or active exposure to tobacco smoke. Smokeless tobacco is an important causative factor in cancers of the mouth, lip, tongue and pharynx.

In the present study we have tried to assess the correlation of mucosal findings with the type of tobacco abusive habits among the study sample. The correlation in smoking & smokeless tobacco with presence of oral mucosal lesion were significantly higher in both smokeless & smoking tobacco users (100%) r value of 0.028, was found with similar results as observed by Banoxy and Rigo, (1991), Van Wyck et al. (1993), Ross, (2000), Thomas et al, (2003), Gambhir, R.S, (2011), Patil et al. (2013), Sreedharan G, (2014), Sadeq A. Al-Maweri (2014), Vikneshan, M.(2015), Abdoul Hossain madani et al. (2017), and Dombi et al. Similar results was also observed by Mishra A et al. (2015). Tobacco associated oral mucosal lesions were seen in 508 (43.12%) subjects, out of them 439 were males and 69 were females. The union between the presence of oral lesions and the gender proved to be highly statistically significant ($\chi 2$ =54.83; P < 0.01).

The correlation in smokeless tobacco consumption lesion in (91.6%) and lesion absent in (8.3%) with r value of 0.651, was found in our study having similar results reported as of Al-Maweri SA, Al-Sufyani G. (2013), Prashant B Patil et al, (2012), Saraswathi et al. (2006), and Ray et al. (2013), Boddu Naveen-Kumar,et al, (2016).

In the group consuming smoking form of tobacco presented with (50%) and absent in (50%) with r value of -5. Ray et al. (2013), Vikneshan M1 et al,(2015). Sinor PN et al., [1990] in India, Shiau et al. [1979]. Boddu Naveen-Kumar et al. (2016), Abdoul Hossain madani et al. (2017), studies also matches our results.

The correlation in smoking & smokeless tobacco consumption along and with alcohol reported with lesion in (61.2%) with r value 0.991, almost similar results was observed by Chung CH, Yang YH, Wang TY.et al,(2005), Saraswathi TR, Ranganathan K, Shanmugam S, et al, (2006), Abdoul Hossain madani et al. (2017), 1Anzil KS Ali, 2Arshad Mohammed,(2017), in their respective observational studies.

The correlation of gender with lesion present showed male predominance with 86% as against 14% of females. Similar results was observed by Castellanos JL, Díaz-Guzmán L.(2008), Pentenero M, et al,(2008), Bhatnagar P, Rai S, (2013), and Sadeq A. Al-Maweri, (2014) The prevalence rate was significantly higher in men as compared to women (63.6% vs. 48.2%; *P* < 0.01)., Lima *et al.(2012)* and Ramandeep Singh Gambhir et al. 2011, also showed similar results more percentage of females 53.1 % were present in the age-group of 11-20 years as compared to males 46.9 %

whereas in all other age-groups males were more in number.

Similar results was also observed by Ambrish Mishra et al. 2015 who found that out of 1178 tobacco users studied, 893 (75.80%) were males and 285 (24.19%) females.

CONCLUSION:

Most of the lesions recognized in this study are pre-cancerous in nature thus giving us the opportunity to intercept lesions at a nascent stage and this study will be beneficial along with proper counseling, to assist in eradicating this abuse to a large extent.

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