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EFFECTS OF SNUFF DIPPING AND CIGARETTE SMOKING ON ORAL HEALTH AMONG ADULT MALES AT A TERTIARY CARE HOSPITAL PESHAWAR

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ABSTRACT: *The objective of the study was to determine the effects of snuff dipping and cigarette smoking on oral health of 20-60 years males with special reference to periodontal diseases and the development of oral cancers and pre cancers at Tertiary Care Hospital, Peshawar.This was a descriptive cross sectional study. Sample size calculated was 162. A specially designed questionnaire was completed over a four month period. The questionnaire was filled from 162 participants who were cigarette smokers, and/or snuff dippers. The participants were evaluated for different oral conditions for the effects of snuff dipping and cigarette smoking. Statistical analysis was done on SPSS version 22 and Microsoft Excel.Among 162 participants (31.5%) were cigarette smokers, 24 (14.8%) were snuff dippers, while 87 (53.7%) were both snuff dippers and cigarette smokers. The ratio of plaque was 69.8%, gingivitis 29.0%, periodontitis 16.7%, caries 51.2%, staining 45.7%, gingival recession 49.4%, leukoplakia 4.9%, and cyst 1.9% among participants. From the result of this study it was revealed that consumption of tobacco in both of these forms effect the oral cavity. Some of the diseases like gingivitis; periodontitis, dental caries, dental staining, and gingival recession were commonly seen among snuff dippers and/or cigarette smokers. The awareness programs should be arranged for the prevention of diseases with the use of tobacco products.*

KEY WORDS: cigarette smoking, snuff dipping, oral health

INTRODUCTION

As the use of tobacco products is very high in South Asia (1)The plant of tobacco is considered to be originated on the earth planet between North and South America. Cultivation of tobacco plant has been started 5000 years ago (2). Tobacco is the most prominent cause of death now a day in the world the use of which can be controlled, which kills half of the users (3).

Tobacco use is the major cause of most non communicable diseases like cardiovascular diseases, stroke, low birth weight, cancers and oral diseases (4,5,6). Tobacco is considered the major and very important risk factor for lots of oral conditions for example oral mucosal lesions, failure of dental implants and wound healing, periodontal diseases, gingival inflammation, acute necrotizing ulcerative gingivitis and aphthous ulcers. Most of the evidence suggests that the frequent usage

tobacco increases the risk of oral diseases and its cessation reduces the risk (1). Tobacco is use in many forms including the products of smoking and smokeless tobacco (5,7). These products induce many of the oral diseases (5).

Some users place it under the tongue (2). The snuff is more accepted socially and one can use it without someone noticing him without detection (8). Snuff dipping is common in Pakistan, Afghanistan, Iran, South Africa and central Asia (2). It is mostly associated with pre cancers lesions which can lead to morbidity and mortality if it is not diagnosed earlier (9). Other conditions including gingival recession, dental caries, tooth attritions and other risk factor for cardiovascular diseases, diabetes, diseases related to reproductive system and overall mortality (8). Smokeless tobacco use is twice high compared to smoking. Smokeless tobacco is mainly used either as snuff or as chewing tobacco. Snuff may be dry or may be moist, the later is taken orally. Snuff is actually a mixture of tobacco after crushing, ash, powdered lime and is places between cheeks and gums at the vestibule in the form of a ball (10). Carcinomas of smokeless tobacco users are mostly limited to the site where it is placed. Using moist snuff leads to the mutations, chromosomal aberration, and the sister chromatic exchange. Snuff dipping induces pre-cancer lesions which may develop oral cancer (11).

Smoking includes cigars, bidi smoking pipe and cigarettes (12). Since many years smoking is considered to link with cancers, poor pregnancy outcomes, low birth weight and miscarriages, and lung diseases. For the 2 decades evidences suggested that smoking is linked with periodontal diseases. Cigarette smoking induces some irreversible process which does not progress after cessation (13). Tobacco smoking is a major risk factor for periodontitis, pre cancers, and oral cancers (4). Smoking is related to tooth loss as well (12,14). Smoking us also considered a risk factor for peri-implant mucositis, greater marginal bone loss, postoperative infections and implant failure (14). Oral cancer serves the 3rd most common cancer among males and the 2nd common cancer among females in Pakistan. Both cigarette smoking and snuff dipping causes squamous cell carcinoma (15).

Dental related therapies are having poor prognosis if a patient continues to smoke. While for the achievement of oral health the cost will be increased for a better and intensive therapy. A patient who quit smoking at the very early stages will suffer less from financial burden (5).

METHODS

A descriptive cross sectional was conducted to assess the use of two different forms of tobacco that is snuff and cigarette, and the oral health risks of the use of these products among male population visiting a tertiary care hospital LRH Peshawar from February to May. Permission was taken from the undergraduate research committee of Institute of Health Sciences, Khyber Medical University and allow obtained from the administration of Hospital in Peshawar. The sample size selected was 162 with the justification and calculations. Convenience sampling technique was used to achieve the exact sample size. Subjects visited the hospital with or without dental related

problems were included. All of the volunteer males who used to smoke cigarette and/or were snuff dippers, were examined and took history and relevant data from them. Subjects who refused to participate in the study, diabetic patients, stomach patients, mentally retarded patients, and children were excluded from the study.

A questionnaire was used to collect data and record all of the related information like demographic data, consumption of type of tobacco, and to record oral manifestation. . The clinical examination of the oral cavity including the soft and hard tissues was conducted using sterilized examination instruments with special consideration given to infection control/cross infections. The examination of the oral cavity was conducted for the assessment of the snuff dipping and/or cigarette smoking like gingivitis, periodontitis, gingival recession, dental staining, dental caries, pre cancer lesions, and oral cancer.
The obtained data were putted and analyzed on SPSS version 22.

RESULTS

In this study we used sample size of 162 males in whom we wanted to determine the effects of snuff dipping and cigarette smoking on oral health. Different age patients were included in the study ranging from 20 to 60 years.

Table 01: Ratio of Snuff dippers and/or Cigarette Smokers

Total Participants	Snuff Dippers	Cigarette Smokers	Both snuff and cigarette users
162	14.8% (n=24)	31.5% (n=51)	53.7% (n=87)

In total among 162 participants 51 (31.5%) were cigarette smokers, 24 (14.8%) were snuff dippers while 87 (53.7%) were both snuff dippers and cigarette smokers.

Table 02: Frequency of Snuff dipping and/or Cigarette smoking per day

Frequencies	1-5 times/day	5-10 times/day	10-15 times/day
Users	69.8%	27.2%	3.1%

Among total participants, 69.8% of the total was using tobacco products for 1-5 times/day 27.2% were using 5-10 times/day while 3.1% were using the products 10-15 times/day.

Table 03: Different effects of snuff dipping/ Cigarette Smoking and their frequencies

S.No	Variables	Total Participants	Effected Participants	Frequency
01.	Plaque/ Calculus	162	113	69.8%

02.	Gingivitis	162	47	29.0%
03.	Periodontitis	162	27	16.7%
04.	Dental Caries	162	83	51.2%
05.	Dental Staining	162	74	45.7%
06.	Gingival Recession	162	80	49.4%
07.	Fibrosis	162	08	04.9%
08.	Leukoplakia	162	10	06.2%
09.	Cyst/ Carcinoma	162	03	01.9%

The table 1 shows different effects of snuff dipping and cigarette smoking along with the frequencies. Calculus was present on the teeth of (69.8%) of the participants, (29.0%) claimed gums bleeding/ gingivitis, (16.7%) of the participants have periodontitis, caries in (51.2%) of the total participants, stained teeth in (45.7%), (49.4%) have gingival recession, Fibrosis was seen in the (4.9%),Leukoplakia in (6.2%), and cyst/ carcinoma in (1.9%) participants.

DISCUSSION

The result of this study showed the effects of snuff dipping and cigarette smoking on oral health of the male population in a Tertiary Care Hospital, Peshawar. The harmful effects were generally similar with the previous studies and literatures.

In our study 31.5% were cigarette smokers while those conducted in 2008 by Rashid Ahmad, 23% of population were current smokers. 14.8% of participants in our study were snuff dippers while results from study conducted by Sardar Z Imam on medical students in Pakistan revealed 6.4% smokeless tobacco users and those conducted in Khyber Pakhtunkhwa showed that 15% of KPK population is addicted to Smokeless tobacco (naswar). In comparison to study conducted in 2014 by Muhammad Arif Nadeem et.al, 12.4% were smoking tobacco while 7.7% were smokeless tobacco users.

Periodontitis was seen in 16.7% of participants of our study and study conducted in Pakistan by Sheikh Arslan Sehgal revealed that 90% of patients with periodontitis are smokers. 3.1% of participants in our study showed oral lesions and the study from Scandinavia revealed nearly 100% of snuff dippers have oral lesions while prevalence of lesions in USA is low. It is revealed that 4.9% of the participants have leukoplakia whereas study from England revealed 3.6% of tobacco users have leukoplakia.

Tobacco used in the forms of different products is considered a risk factor for many oral diseases like periodontal diseases, gingival recession, dental caries, lesion and ulceration, and oral cancers.

It has been showed with many evidences that the risk of oral diseases increases with the use of tobacco while the risk of these diseases decreases lowering the use of tobacco. The magnitude of oral diseases is very high among tobacco users as compared to those who do not use these products. Tobacco use increases the risk of periodontal diseases and oral cancers. Patients already suffering from oral cancer with continuously using tobacco products can expose to the second primary cancers (13).

In India the use of tobacco was about 55% among Police personnel in the total sample size. The percentages and prevalence of oral lesions and periodontal diseases were greater among tobacco users (3). From Finland study it was reported that 15% of the participants had periodontitis. Smokers had increased ratio of periodontitis than non-smokers. Boys who used to smoke had more caries lesions than non-smokers and they were not regularly brushing their teeth than non-smokers (14). In Sudan, a case report study was conducted in 2017 on young male students, who were smokeless tobacco users for a long time, it was suggested that it can lead to fibrosis, pre cancers lesions (leukoplakia), snuff dipper's lesions, and carcinomas (9).

Our study was confined to males only and the sample size used was less, more studies should be conducted on the effects of snuff dipping and cigarette smoking with increased sample size and females included. The purpose of any research should be the awareness of population. Primary prevention should be aimed at creating awareness among the general public. This goal can be achieved by arrangement of free camps at the hospitals and clinics in order to prevent its occurrence and if it starts should be managed and treat properly. As it is clear that snuff dipping and cigarette smoking causes serious oral diseases so our secondary prevention should be supplemented with the allotment of funds by the government for the purpose to aware society by arranging workshops.

CONCLUSION

Gingivitis, periodontitis, gingival recession, oral lesions, and oral cancers are the effects of tobacco use either in the form of smokeless or smoking tobacco and are very closely related to it. Different studies conducted in different countries and regions have reported that tobacco use leads to periodontitis, oral mucosal lesions and cancer. From this review it is obvious that using tobacco has a negative influence on oral health and this study shows an accurate picture of the effects of snuff dipping and cigarette smoking.

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