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Dopehead of Tobacco users in western Rajasthan

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Abstract
The present study conducted in Jodhpur Rajasthan, shows that salary based and middle educated persons are consumed more tobacco in both forms so incidence of oral and health problems are increased. A healthy mouth enables an individual to speak, eat and socialize without experiencing active disease, discomfort or embarrassment. The adverse effects of tobacco and alcohol on oral health are well documented. These include both common and rare conditions and diseases, some harmless and some life-threatening. Conventional visual inspection and palpation of oral soft tissues for the early detection of premalignant and malignant changes have their limitations. The adjunctive application of technology to highlight such changes may increase the diagnostic yields. A number of techniques have been developed to supplement clinical examination and improve the diagnosis of early oral malignancy.

Keywords: tobacco products, health hazards, cardiovascular diseases

Introduction
In India, tobacco is used in a variety of forms such as smoking, chewing, local applications, drinking and gargling, leading to detrimental health effects such as increased incidence of and mortality from cardiovascular diseases, cerebrovascular diseases, respiratory diseases and cancer, in addition to detrimental reproductive outcomes, dental and oral diseases. Tobacco use, in any form, is more popular in lower socio-economic groups. Betel-quid chewing—a mixture of areca nut, slaked lime, catechu, other spices and condiments rapped in a betel leaf—is a popular, socially accepted, ancient custom and the introduction of tobacco reinforced this practice. Chewing products are kept all day and sometimes even all night in the buccal sulcus or pouch; usually in the anterior part of the mouth in populations from North India, and in the posterior part among South Indians, colouring the mouth in red. The introduction of commercial pan masala—dehydrated and non-perishable powdered areca nut, slaked lime, catechu, cardamom and other flavouring and perfuming agents with or without tobacco available in attractive sachets or tins—has enhanced the sale and use of smokeless tobacco. Cigarette smoking has always been taboo in India and the emergence of cheap and convenient to carry and use preparations of smokeless tobacco, with a longer shelf-life and promoted with aggressive marketing, has lead to a sudden dramatic increase in the habit of chewing tobacco, even among women and children.

There is no safe form of tobacco use. All forms contain nicotine and can cause addiction and health problems.

The euphoric and anxiety relieving effects of smoking and drinking are known to be mixed with their deleterious effect on the economy and health, both mental and physical. The harmful effects have always been searched by scientists.

The increase in the use of tobacco and alcohol is more socially acceptable tradition. The widespread uses of tobacco and alcohol have prompted concern in regard to the development of oral lesions in long term users.

Tobacco and alcohol both contain the same carcinogens as found in cigarette, snuff. Aromatic hydrocarbons, polonium, and nitrosamine are also contained in tobacco & alcohol

Smokeless Tobacco
Instead of smoking tobacco, smokeless tobacco products consist of tobacco or a tobacco blend that is most often chewed, sucked on, or sniffed. There are many different types of smokeless tobacco. The main types are:

- **Chewing Tobacco:** Sweetened, loose tobacco leaves are placed between the user's cheek and gum, held there, sometimes for hours at a time, to usually spit out or sometimes swallow the tobacco juices.
- **E-Cigarette:** Electronic cigarette or personal vaporizer, a battery powered device, which orally delivers smokeless nicotine vapor, flavor, and physical sensation similar to conventional cigarettes. Even though e-cigarettes do not contain tobacco, the FDA has found cancer-causing chemicals in the vapors.
- **Snuff:** Snuff is finely ground or shredded tobacco leaves, packaged in tins or tea bag-like pouches. A pinch is placed between the lower lip and gum or cheek and gum. Dry forms of snuff can be sniffed into the nose. The process of using snuff is also called dipping.
- **Snus:** Snus (pronounced snoos) is a spitless tobacco product. It comes in a pouch and users stick it between their upper lip and gums.
- **Dissolvable Tobacco:** These are pieces of compressed powdered tobacco, similar to small hard candies. They dissolve in your mouth, requiring no spitting of tobacco juices. They're sometimes called tobacco lozenges, but they are not the same as the nicotine lozenges used to help you quit smoking.

Health Risks - Smokeless Tobacco Products

- **Addiction:** Because smokeless tobacco contains nicotine, the user can get addicted, just as they can with cigarettes and other tobacco products. The body may actually absorb more

nicotine from chewing tobacco or snuff than it does from a cigarette.

- **Cancer:** Chewing tobacco and snuff contain 28 cancer-causing agents. The user's risk of esophageal, mouth, throat, lips, tongue, gum, and chin cancer increases if they use smokeless tobacco products.
- **Cavities:** Chewing tobacco and other forms of smokeless tobacco cause tooth decay. Chewing tobacco contains high amounts of sugar and coarse particles that make the user's teeth more vulnerable to cavities.
- **Gum Disease:** The sugar and irritants in smokeless tobacco can cause the user's gums to pull away from their teeth in the area of their mouth where they place the chew.
- **Heart Disease:** Smokeless tobacco use increases the user's heart rate and blood pressure. Repeated nicotine exposure through smokeless products contributes to accelerated coronary heart disease, hypertension and increases the risk of fatal heart attack and stroke.
- **Precancerous Mouth Lesions:** Smokeless tobacco increases the user's risk of developing small white patches called leukoplakia, which are precancerous lesions, are inside their mouth where the chew is most often placed.
- **Smokeless tobacco:** Tobacco that is not smoked but used in another form such as chewing tobacco or snuff. Cancers of the oral cavity (mouth, lip, tongue) have been associated with the use of chewing tobacco as well as snuff. The tumors often arise at the site of placement of the tobacco.
- Smokeless tobacco was formally classified as a "known human carcinogen" by the US government in 2000.
- Tobacco products contain a large array of chemicals, including nicotine, nitrosamines, nitrosamine acids, polycyclic aromatic hydrocarbons (PAHs), aldehydes, and metals [13]. As noted above, there are many different types of ST products. Because of the different manufacturing/preparation techniques, ST products vary widely in nicotine and chemical composition
- Nicotine is also found in snuff and chewing tobacco, like all tobacco products. Although nicotine is absorbed more slowly from chewing tobacco than from cigarettes, 3 to 4 times more nicotine is absorbed from chewing tobacco than from a cigarette, and the nicotine from chewing tobacco remains longer in the bloodstream. Nicotine is the substance responsible for tobacco addiction.

Chewing tobacco is not the same thing as chewing cigarettes. Chewing cigarettes (also termed e-cigarettes) are designed to provide nicotine in vapor to the user without burning tobacco. However, the smokeless cigarettes still provide addictive nicotine to the user and secondhand nicotine to others.

Cancer risk and chewing tobacco

Users of snuff and chewing tobacco are at an increased risk for certain types of cancer, most notably cancer of the oral cavity including cancers of the:

- cheek,
- gums,
- lips,
- tongue, and
- Floor and roof of the mouth.

Some studies have suggested a link between the use of chewing tobacco and the development of:

Pancreatic Cancer,

Esophageal Cancer, And

Stomach Cancer.

Those who use chewing tobacco have an increased risk of:

- Developing gum diseases and gum recession (pulling away of the gum tissue from the teeth);
- Leukoplakia (whitish patches inside the mouth that can become cancerous);
- Abrasion (wearing down) of teeth;
- Staining of teeth;
- Tooth decay; and
- Tooth loss.

Alcohol and Tobacco are the most common drugs of abuse, also consumed as one of the chief source of variety of pleasure of life in India as much in the west. The trend of Alcohol and Tobacco consumption is on the rise globally. It is preferred drink and smoke in most of civilized and uncivilized part of India and the World. Both have deleterious effect on economy and mental or physical health in addition to their euphoric and anxiety relieving effect. Majority of drinking and smoking population lives in developing countries.

Material and method

The present study was carried out on 100 individuals selected from the patients attending at Deptt. Of and they were from a mixture of urban and rural settings within several different areas of western Rajasthan.

1. **Case no:**
2. **Name of Subject**
3. **S/D/W of:**
4. **Age:**
5. **Sex:**
6. **Address:**
7. **Rural/ Urban:**
8. **Education:** Upto Middle/ 9th to 12th/ Post school education
9. **Occupation:** Salaried/ Business/ Laborer/ Farmer/ Unemployed/ House Wife
10. **Socio economic status:** Below Poverty line/ Poor/ Lower Middle/ Upper Middle/ High/ Above High
11. **Types of addiction:**

Tobacco			Alcohol	Both	None
Chewer	Smoker	Both			

12. **Tobacco Consumers:**

(A) Chewers

a) Type of Tobacco
b) Direct/with betel leaves
c) Direct/Plain/with lime
d) Quantity (Each Time)
e) No. of intake per day
f) Approximate duration of consumption

(B) Smokers

a) Bidi/Cigarette/Hukka/Pipe
b) Cigarette: Filter/Non Filter
c) No. of smoking/Day
d) approximate duration

13. **Alcohol Consumers:**

a) Type of Alcohol- Country made or English
b) Quantity Consumed (at one time)
c) Frequency of consumption: Daily/Frequent/Occasional
d) Approximate duration of consumption

14. **Any gross lesion observed in oral cavity.**

1) Case

For the purpose of this study a "case" had been defined as a

person who used to have any type of addiction singly or in combination with.

2) Age

Age was recorded in complete years, as on the last birthday.

3) Education

Literacy measures the incorporation of knowledge and values in an individual. As per census of India, it was recorded as-

- Illiterate-The persons who could neither read nor write or those who could merely read but could not write were considered as illiterates.
- Primary – Those had passed fifth standard.
- Middle – Those who had read beyond primary school but up to eighth standard.
- Secondary – This category includes those who had read beyond eighth standard but up to matriculation.
- Senior Secondary – Those who had read beyond secondary up to twelfth.
- Graduation - This category includes those who had read beyond twelfth standard or had been awarded bachelors degree.
- Post Gradation - This category includes those who had read beyond graduation or had been awarded master's degree.

In this study, the educational status was categorized into three categories-

- Upto Middle-
- 9^{th} to 12^{th}-
- Post school education

4) Occupation

For the purpose of this study, the classification used by RGI/SRS has been followed

- ***Salaried:*** A person employed in a govt. agency or private institution and who is getting a fixed amount of pay, for this purpose.
- ***Wage-earner/ Laborer:*** A person who is working on daily wages or doing a petty business and is not a professional or a cultivator or an agriculture laborer.
- ***Professional/Businessman:*** A person who is running a business of his own (e.g. a shopkeeper) or a professional.
- ***Farmer:*** A person who works on other person's land for wages in money or kind.
- ***Unemployed:*** Any group of the followings can be included in this category-
- ***Student:*** All students included those taking part time classes, correspondence courses, attending literacy centers and not engaged in economically productive activity.
- ***Dependent:*** All infants and children not attending school or persons permanently disabled from work because of illness or old age.
- ***Non-worker:*** All non-earning adults, excluding old aged and permanently disabled because of illness.

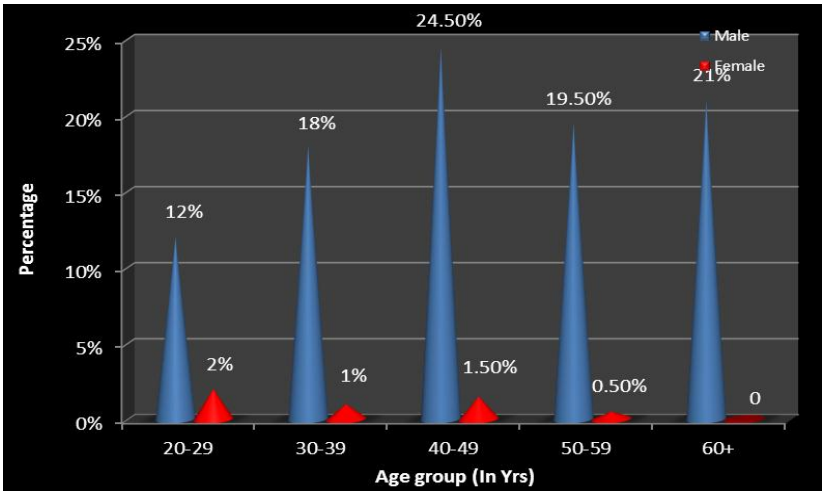
Table 1: No. of cases according to the addiction:

Addiction	No. of cases
Alcoholic	25
Chewer	25
Smoker	25
Smoker+Alcoholic	25
Chewer+Alcoholic	25
Chewer+Smoker	25
Chewer+Smoker+Alcoholic	25
Normal	25
Total no. of cases = 200	

Observation and result

Table 2: Distribution of subjects according to age & sex

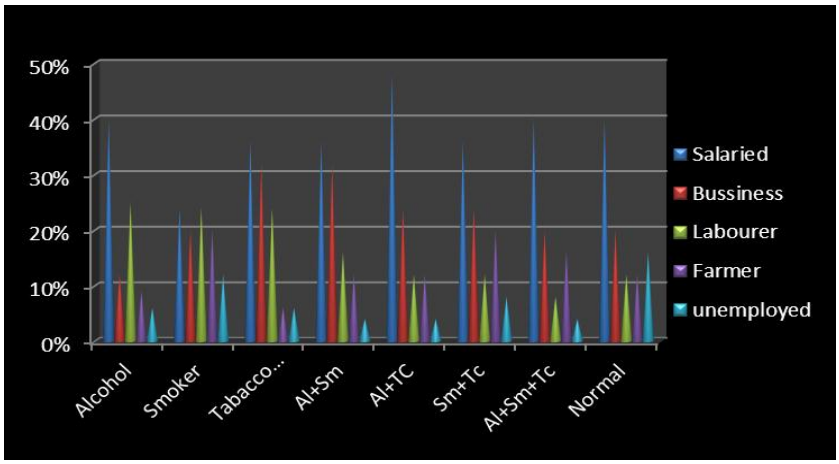
Age Group (InYears)	Sex		Total
	Male	Female	
20-29	24 (12.00%)	4 (2.00%)	28 (14.00%)
30-39	36 (18.00%)	2 (1.00%)	38 (19.00%)
40-49	49 (24.5%)	3 (1.5%)	52 (26.00%)
50-59	39 (19.5%)	1 (0.5%)	40 (20.00%)
60+	42 (21.00%)	0 (0.00%)	42 (21.00%)
Total	190 (95.00%)	10 (5.00%)	200 (100%)



The present data showed that 95% men are consumed tobacco mainly out of that 24.5% belongs to age group of 40-49 and then +60

Table 3: Distribution of subjects according to group & occupation

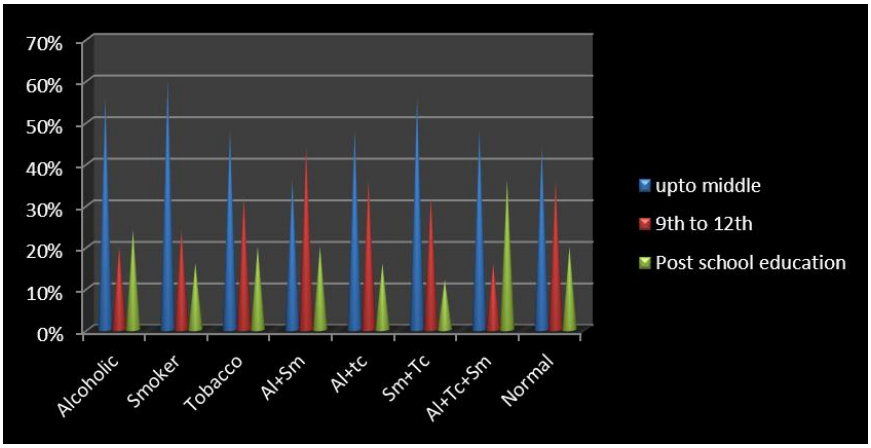
Group			Occupation			Total
	Salaried	Bussiness	Labourer	Farmer	unemployed	
Alcoholic	10 (40.00%)	3 (12.00%)	7 (25.00%)	3 (9.00%)	2 (6.00%)	25 (100%)
Smoker	6 (24.00%)	5 (20.00%)	6 (24.00%)	5 (20.00%)	3 (20.00%)	25 (100%)
Tobacco chewer	9 (36.00%)	8 (32.00%)	4 (16.00%)	2 (6.00%)	2 (6.00%)	25 (100%)
Al+Sm	9 (36.00%)	8 (32.00%)	4 (16.00%)	3 (9.00%)	1 (4.00%)	25 (100%)
Al+Tc	12 (48.00%)	6 (24.00%)	3 (12.00%)	3 (12.00%)	1 (4.00%)	25 (100%)
Sm+Tc	9 (36.00%)	6 (24.00%)	3 (9.00%)	5 (20.00%)	2 (6.00%)	25 (100%)
Al+sm+tc	13 (52.00%)	5 (20.00%)	2 (6.00%)	4 (16.00%)	1 (4.00%)	25 (100%)
Normal	10 (40.00%)	5 (20.00%)	3 (9.00%)	3 (9.00%)	4 (16.00%)	25 (100%)
Total	78 (39.00%)	46 (23.00%)	32 (16.00%)	28 (14.00%)	16 (8.00%)	200 (100%)



This graph shows that salary based person is consuming more after that business men and least consuming by the unemployed person. So the risk of cancer and tobacco associated harmful effect more in salary based.

Table 4: Distribution of subjects according to educational status

Group		Education		
	Upto to middle	9th-12th	Post school education	Total
Alcoholic	14 (56%)	5 (20%)	6 (24%)	25 (100%)
Smoker	15 (60%)	6 (24%)	4 (16%)	25 (100%)
Tobacco chewer	12 (48%)	8 (32%)	5 (20%)	25 (100%)
Al+ Sm	9 (36%)	11 (44%)	5 (20%)	25 (100%)
Al+tc	12 (48%)	9 (36%)	4 (16%)	25 (100%)
Sm+Tc	14 (56%)	8 (32%)	3 (12%)	25 (100%)
Al+tc+sm	12 (48%)	4 (16%)	9 (36%)	25 (100%)
Normal	11 (44%)	9 (36%)	5 (20%)	25 (100%)
Total	99 (47.25%)	60 (32.50%)	41 (22.50%)	200 (100%)



The present graph shows that in this upto to middle educated group very prone to oral cancer and other side effects because the consume a low variety or local variety of tobacco.

Result and Discussion

Present study was undertaken in Jodhpur area of western Rajasthan show that mainly the person belongs to salary class, between age group of 40-49 and educated up to the middle consume more smokeless tobacco is a major for Oral cancer which is a health problem in India and accounts for 60-70% are affected. Mainly two types of tobacco used in India i.e. Smoking and Smokeless. Smokeless tobaccos are more prone to oral cancer and health hazardous. The number of people's consumed tobacco and alcohol and they are carcinogenic property. So, it gives brief significant idea increasing risk of cancer especially oral cancer.

Mehta *et al* 1969, 1972 [3, 4] studied that in epidemiologic surveys among adult villagers in 5 states of India (Kerala, Andhra Pradesh, Maharashtra, Gujarat & Bihar) of oral cancerous and precancerous conditions like leukoplakia strong associations were shown for smoking cigarettes, bidies, clay pipes such as chillum, hookah, and hookli. Reverse chutta smoking has been shown to be associated with palatal carcinomas.

Orr (1933) [7] and Hirayma (1966) [2] established a dose response relationship between betel quid chewing and cancer of the oral cavity.

Wynder & Bross, 1957 Alcohol, particularly in association with tobacco, has been recognized as an important risk factor for mouth cancer for almost half a century.

Ogden *et al*., 1999, [5] Ogden & Wight, 1998 [6] *et al* alcohol in patients at risk of oral cancer has been assessed by using quantitative exfoliative cytology

Jayant K, Jussawala DJ, 1977 *et al* were told that Oral cancer is a major health problem in India and accounts for 50-70% of all cancers diagnosed. In India two types of smokeless tobacco use, i.e. betel quid with tobacco and khaini are well studied. Pan Masala with tobacco is on increase.

Gupta, P.C. in 1984 [1] described a study of dose response relationship between tobacco habits and oral leukoplakia. He interviewed 12213 tobacco chewers about the details to their tobacco usage and examined for the presence of leukoplakia. The dose relationship was stronger for the smoking habit than for chewing habit. The frequency of tobacco habit was associated with the prevalence of leukoplakia indicating a positive dose response relationship.

Winn (1989) told that tobacco and alcohol contain known carcinogens and aromatic compounds cause the risk of oral cancer.

Livingston *et al* in 1990 sampled squamous epithelial cells from oral mucosa of 48 young adults equally divided to represent users and non users of smokeless tobacco and described that frequency of micronucleated cells was significantly (P less than 0.01) higher in the labial mucosa of tobacco exposed (2.22%) compared to unexposed tobacco (0.27%) individuals and this frequency of micronuclei widely between subjects but was higher in heavily (2.48%) compared to lightly (1.29%) exposed individuals.

Rao, Ganesh *et al* in 1994 [8] of 713 male oral cancer patients seen at Tata Memorial Hospital, Bombay, during 1980-84, to assess the association between chewing, smoking and alcohol habits. Male controls were chosen among those persons who attended the hospital during the same period and were diagnosed as free from cancer, benign tumor and infectious disease. Established factors such as tobacco chewing and bidi smoking showed a significant association with oral cancer. For the alcohol habit, the relative risk was 1.42 and the dose response relationship, in terms of frequency and duration of habit, was also observed. After adjusting for compounding variables such as age, residence, illiteracy and known factors such as tobacco chewing and bidi smoking the study was brought out the significance of a non vegetarian diet as high risk factor for oral cancer compared to a vegetarian diet.

Conclusion

India has one of the highest rates of oral cancer and Health hazards in the world. Tobacco-related cancers - 1/2 of all cancers - men & ¼ th among women. Men are affected 2-3 times than women due to higher use of alcohol & tobacco. Effects of tobacco use, heavy alcohol consumption, and poor diet together explain over 90% of head & neck cancers. The younger generation is very much addicted to these products especially gutkha and pan masala. Tobacco is responsible for a significant amount of morbidity & mortality among middle aged adults (30-49 years), salary depended person which consume due to depression and upto middle educated person. These include both common and rare conditions and diseases, some harmless and some life-threatening. Conventional visual inspection and palpation of oral soft tissues for the early detection of premalignant and malignant changes have their limitations. The adjunctive application of technology to highlight such changes may increase the diagnostic yields. A number of techniques have been developed to supplement clinical examination and improve the diagnosis of early oral malignancy.

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