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### Tobacco: a menace impending 'Tobacco kills, don't be duped'

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#### Abstract

Tobacco use is increasing day by day and moreover, it's vast use in various forms has not only caused deleterious effects but has also led to increased mortality and morbidity rates. Tobacco causes various general health issues along with numerous ill-effects on oral health further effecting the normal daily life of an individual. Tobacco cessation is mandatory to improve oral health as well as general health. 5As and 5Rs are most important approaches to be followed for cessation of tobacco. Dentists play an important role in combating the use of tobacco at both community and national levels. The focus should be directed on tobacco problems in India and what all measures to be followed to reduce tobacco use.

**Keywords:** tobacco, nicotine, tobacco cessation

#### Introduction

Nearly six million people are killed due to consumption of tobacco worldwide each year. According to the evaluation of the World Health Organization (WHO), universally, tobacco consumption has led to 100 million premature deaths in the 20th century, and if the of tobacco consumption doesn't stop, this estimated value is anticipated to reach 1 billion in the 21st century<sup>[1]</sup>. Both physical and psychological dependence is due to the presence of nicotine in tobacco. Level of nicotine dependence of an individual can be assessed by measuring the amount of 'cotinine' (metabolite of nicotine) in saliva/ urine/ serum<sup>[2, 3]</sup>.

Portuguese introduced tobacco in India and in addition to this cigarettes were promoted by Britishers which further led to establishment of tobacco industry in the country<sup>[4]</sup>. Snuff was one of the most commonly and primarily used tobacco, which has been overtaken by cigarettes in the early 20th century<sup>[5]</sup>. There are about 275 million people using tobacco in India as revealed by Tobacco Control Policy India Project Report.

#### Forms of Tobacco

In India with diverse population following different cultures and traditions, tobacco consumption has been regarded as a part of cultural practice and in some parts as a hobby or to relieve the stress. Majority of tobacco consumers are youngsters who start this under peer-pressure but later on become addictive and encourage others to get involved in this activity of tobacco consumption.

Broadly tobacco in India is used in two forms smoked form and smokeless form. Bidis, hand-rolled cigarettes, pipes, cigars, hookah, water pipes, sticks, chuttas, dhumti, chillum, and kreteks comes under smoked form of tobacco where as smokeless tobacco products or spit tobacco includes chewing tobacco products such as betel quid with tobacco, khaini, gutkha, paan masala, mainpuri tobacco, mishri, mawa, gul, bazaar, gudakhu, and snuff<sup>[6-9]</sup>.

**According to the conclusions derived from The National Sample Survey conducted in 1999–2000:**

	<b>Rural areas (At least one member of each household in)</b>	<b>Urban Areas (At least one member of each household in)</b>
Bidis smoked	Over one-third of households	One fifth of households
Smokeless tobacco used	Alot one-third of households	Almost one-sixth of households

**Components of Tobacco**

<b>Ingredient</b>	<b>Description</b>
Nicotine	<ul style="list-style-type: none"> <li>Addictive Ingredient in tobacco</li> <li>Lightens and soothers the mood of smokers by releasing neurotransmitters.</li> <li>It gives pleasure and reduces anxiety and tension.</li> </ul>
Tar	<ul style="list-style-type: none"> <li>Sticky material that sticks to the tiny hairs (cilia) present on lungs.</li> <li>Narrows the bronchioles further reducing the elasticity of the lungs.</li> </ul>
Carbon Monoxide	<ul style="list-style-type: none"> <li>Causes hypoxia i.e. amount of oxygen in blood is reduced which further leads to insufficient supply of oxygen to organs.</li> </ul>

**General Health Considerations of Tobacco Use**

Smoking and use of smokeless tobacco is the major cause of deaths globally. Risk of cancer of lungs, cervix, larynx, oesophagus, throat, kidney and bladder increases with frequent use of tobacco. Tobacco in both the forms either smoke or smokeless forms leads to deleterious effect on health. Smoking attributes to nearly about forty percent of tuberculosis cases in India. Green tobacco sickness (GTS) is a

mild nicotine toxicity which occurs after nicotine absorption through the skin, it mainly effects the people or workers involved in tobacco cultivation [10]. It may also lead to various cardiovascular disorders like atherosclerosis, tachycardia and hypertension. Consumption of tobacco also causes oxidative damages to cell further causing change in the genetic material leading to cancer, heart diseases, and cataracts.

**Dental Considerations of Tobacco Use**

<b>Oral cancer</b>	<b>The larynx and oral cavity are at highest relative risk after lung cancer.</b>
Oral leukoplakia	Most common premalignant lesion associated with tobacco use. Predominantly white in color. The lesion may appear smooth, fissured, nodular or corrugated.
Tooth abrasions	Holding cigarettes and pipes in the same location in mouths lead to notching of incisal edges and cusp tips.
Smoker's Melanosis	Excessive melanin is produced by the mucosal melanocytes due to smoking. Severity of this depends on the dose consumption of tobacco.
Nicotine palatinus	White keratotic lesion in the hard palate usually seen in heavy pipe or cigar smokers.
Oral Submucous fibrosis	Precancerous condition causing stiffness of the oral mucosa.
Tobacco pouch keratosis	Wrinkled white keratotic plaque with tobacco encrustations over the surface. Seen in areas with direct contact snuff or tobacco (mostly placed in the buccal mucosa- buccal pouch keratosis). After quitting the habit mucosa can be reversed back to normal.
Acute Necrotizing Ulcerative Gingivitis (ANUG)	Mostly seen in tobacco users. Smokers contribute nearly ninety-eight percent of ANUG patients, and smokers with frequency of using more than ten cigarettes per day have a tenfold increase in ANUG preponderance compared to non-smoker [11].
Periodontium	Deeper pockets, more alveolar bone loss, tooth mobility, and greater tooth loss are seen in smokers than in non-smokers [12-14]

**Possible Measures of Tobacco Control**

Tobacco menace cannot be completely eradicated but can surely be diminished or reduced. Ill-effects of tobacco on health should be illustrated to the general population. One of the major problem to combat tobacco use is implementation of tobacco control laws.

In 2008, National Tobacco Control Programme (NTCP) was launched by The Ministry of Health and Family Welfare, Government of India for ensurement of implementation of tobacco control laws. 42 districts of 21 states/union territories of India were covered, the activities implemented were – training and capacity building; information, education, and communication (IEC) activities; tobacco control laws; and reporting survey and surveillance (National Health Portal). Tobacco-related education for schoolchildren should be enhanced and promoted [15].

Ban on tobacco products advertisements, promotions and sponsorship can also reduce tobacco usage by 7% as reported by WHO. It was further reported that there was decline in tobacco consumption of up to 16 % in some countries.

Students and youth should be encouraged to keep their schools and college tobacco- free as during this age group

most of the people are under peer-pressure.

**Role of Dentists**

Dentists play an important role in guiding and encouraging patients to quit tobacco both at community and national levels. They can also set examples by prohibiting use of tobacco or quitting successfully. Dentists are the first one to see or find any tobacco-related lesions in the oral cavity during dental check-ups. Dentists not only provide dental treatments but can also influence children and their parents to maintain their oral hygiene. They can also emphasize the importance of maintaining good oral health. They should inform the patients about dangerous ill-effects of tobacco.

**Conclusions**

Diseases or oral lesions caused due to tobacco consumption are increasing at higher rates and it has been anticipated that the universal death rate will rise up to 10 million annually in the upcoming years. Along with all the ill-effects of tobacco it also impairs one's quality of life. Implementation of anti-tobacco strategies and laws should strictly be followed to reduce the increasing rate of tobacco- related morbidity and

mortality. The government should also contribute greatly towards control of tobacco use and effective and efficient implementation of tobacco control laws.

This review provides information on the components and vast use of tobacco along with its ill-effects on health. In addition to this it also enlightens some possible measures to be followed for tobacco control, role of dentists and further future recommendations to diminish or reduce tobacco usage.

#### **Future Recommendations To Combat Tobacco Usage**

- Smoking should be banned and restricted.
- Community education should be provided for reduction of exposure to environmental tobacco smoke at home.
- The unit price for tobacco products should be used.
- Mass media campaigns should be used to create awareness among people.
- Strategies appropriate for healthcare systems and providers should be proposed and followed.
- Multi-component interventions that include telephonic support of patients.

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