

# The effects of tobacco use on oral health

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# Epidemiology

- ▶ The tobacco epidemic is one of the biggest public health threats the world has ever faced, killing more than 8 million people a year, including around 1.2 million deaths from exposure to second-hand smoke.
- ▶ All forms of tobacco are harmful, and there is no safe level of exposure to tobacco.

# Epidemiology

- ▶ Over 80% of the 1.3 billion tobacco users worldwide live in low-and middle-income countries
- ▶ Tobacco use contributes to poverty by diverting household spending from basic needs such as food and shelter to tobacco.

# Epidemiology

- ▶ The economic costs of tobacco use are substantial and include significant health care costs for treating the diseases caused by tobacco use as well as the lost human capital that results from tobacco-attributable morbidity and mortality.

# Epidemiology

- ▶ Tobacco kills up to half of its users.
- ▶ Tobacco kills more than 8 million people each year. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed to second-hand smoke.
- ▶ Over 80% of the world's 1.3 billion tobacco users live in low- and middle-income countries.

# Epidemiology

- ▶ In 2020, 22.3% of the global population used tobacco, 36.7% of all men and 7.8% of the world's women.
- ▶ To address the tobacco epidemic, WHO Member States adopted the WHO Framework Convention on Tobacco Control (WHO FCTC) in 2003. Currently 182 countries have ratified this treaty.

# Epidemiology

- ▶ A total of 32 studies and 5 policy documents were reviewed. Findings suggest that;
- ▶ Tobacco consumption was higher among men, illiterates, older people, people living in rural and mountainous areas, and those who initiated smoking as adolescents.
- ▶ Peer pressure and parental/family smoking were major contributing factors for tobacco initiation.

# Epidemiology

- ▶ Tobacco use was significantly increased among the participants from rural areas, who had reduced communications during COVID-19 compared to pre-pandemic.



# TYPES OF TOBACCO PRODUCTS

- ▶ Cigarette smoking,
- ▶ bidi,
- ▶ khaini,
- ▶ areca nut,
- ▶ slaked lime,
- ▶ snuff,
- ▶ gutkha,

- ▶ paan,
- ▶ hookah,
- ▶ chillum,
- ▶ kankad,
- ▶ sulfa;

# TYPES OF TOBACCO PRODUCTS

- ▶ When tobacco is **smoked**, nicotine **rapidly** reaches peak levels in the bloodstream and enters the brain; if the smoke is **not directly inhaled** into the lungs, nicotine is absorbed through mucous membranes and reaches peak blood levels and therefore the brain **more slowly**

# TYPES OF TOBACCO PRODUCTS

## ▶ **Bidis**

- ▶ Small, thin hand-rolled cigarettes
- ▶ Consist of tobacco wrapped in a tendu or temburni leaf (plants native to Asia)
- ▶ Associated with an increased risk for oral, lung, stomach, and esophageal cancer and an increased risk for coronary heart disease and heart attacks, and risk for chronic bronchitis. Bidis are carcinogenic.
- ▶ Higher concentrations of nicotine, tar, and carbon monoxide than conventional cigarettes sold in the United States, so are even more addictive than cigarettes.



# TYPES OF TOBACCO PRODUCTS

- ▶ **Cigarettes**



- ▶ Cigars, Cigarillos and Little Cigars

Cigars contain higher level of nicotine than cigarettes. For those cigar smokers who inhale, the nicotine is absorbed through the lungs as quickly as it is with cigarettes. For those who do not inhale, the nicotine is absorbed more slowly through the lining of the mouth.

Studies have shown that cigar smoking is linked to cancers of the mouth, lips, tongue, throat, larynx, lung, pancreas and bladder cancer. Cigar smoking, like cigarette smoking, is also linked to gum disease, where the gums shrink away from the teeth. It also raises your risk that teeth will



# TYPES OF TOBACCO PRODUCTS

## ► Hookah



- According to a World Health Organization advisory, a typical one-hour session of hookah smoking exposes the user to **100 to 200 times** the volume of smoke inhaled from a single cigarette.
- Even after passing through water, tobacco smoke still contains high levels of toxic compounds, including carbon monoxide, heavy metals and cancer causing chemicals (carcinogens).
- Hookah smoking also delivers significant levels of nicotine — the addictive substance in tobacco.



# TYPES OF TOBACCO PRODUCTS

- ▶ Hookah smoking has been associated with lung, mouth and other cancers, heart disease and respiratory infections.
- ▶ The substances used to heat the tobacco also produce carbon monoxide, heavy metals and cancer causing chemicals, creating it own health hazards.
- ▶ Sharing the mouthpiece of the Hookah has been associated with mouth and other infections including herpes, tuberculosis and hepatitis.
- ▶ Hookah smoking is no safer than other forms of tobacco use.

# TYPES OF TOBACCO PRODUCTS

## ► Dissolvable Tobacco

- This type of tobacco is finely processed to dissolve on the tongue or in the mouth. Varieties include strips, sticks, orbs and compressed tobacco lozenges. They are smoke and spit free, are held together by food-grade binders and look similar to a breath mint or candy.

- Contain nicotine



# TYPES OF TOBACCO PRODUCTS

## ▶ Smokeless Tobacco

- ▶ The two main types of smokeless tobacco in the United States are **chewing tobacco** and **snuff**.
- ▶ Chewing tobacco comes in the form of loose leaf, plug, or twist.
- ▶ Snuff is finely ground tobacco that can be dry, moist, or in sachets (tea bag-like pouches).





# TYPES OF TOBACCO PRODUCTS

- ▶ Although some forms of snuff can be used by sniffing or inhaling into the nose, most smokeless tobacco users place the product in their cheek or between their gum and cheek. Users then suck on the tobacco and spit out the tobacco juices, which is why smokeless tobacco is often referred to as spit or spitting tobacco.
- ▶ The nicotine in this tobacco is absorbed primarily through the skin in the mouth.

# TYPES OF TOBACCO PRODUCTS

- ▶ Smokeless tobacco is a significant health risk and is not a safe substitute for smoking cigarettes.
- ▶ Smokeless tobacco contains 28 cancer-causing agents (carcinogens).
- ▶ It increases the risk of developing **cancer of the oral cavity**, is strongly associated with **leukoplakia** (a lesion of the soft tissue in the mouth that consists of a white patch or plaque that cannot be scraped off) and **recession** of the gums.
- ▶ Using smokeless tobacco can lead to nicotine addiction and dependence and is not a safe alternative to smoking.

# leukoplakia







# TYPES OF TOBACCO PRODUCTS

- ▶ **Electronic cigarette or E- cigarette (nicotine delivery system)**
- ▶ The e-cigarette is a battery-powered device that contains a cartridge filled with nicotine, flavor and other chemicals.
- ▶ The e- cigarette is not a tobacco product but a nicotine delivery system.
- ▶ The e-cigarette turns the nicotine and other chemicals into a vapor that is then inhaled by the user.
- ▶ The user will puff on it, similar to a cigarette, and receive a vaporized solution of propylene glycol/nicotine. There is no tobacco or burning of tobacco involved and the e-cigarette produces no smoke. It does produce a fine, heated mist.



# TYPES OF TOBACCO PRODUCTS

- ▶ No studies showing that the electronic cigarette is a safe and effective nicotine replacement therapy and no scientific evidence to confirm the product's safety. Recent studies by the FDA show that the e-cigarette contains known carcinogens and toxic chemicals that are harmful to the user.

# Tobacco effects



- ▶ Tobacco consumption is one of the major public health problems in the world
- ▶ The use of tobacco products in their various forms has resulted in multiple health complications, such as chronic obstructive pulmonary disease, cancer, cardiovascular diseases, and many more

# TOBACCO AND ORAL HEALTH

- ▶ All of the major forms of tobacco used have oral health consequences
- ▶ Cigarette smoking can cause a spread of adverse oral effects, including;
  1. Gingival recession
  2. Impaired healing following periodontal therapy
  3. Oral carcinomas
  4. Mucosal lesions (e.g., oral leukoplakia, nicotine stomatitis)
  5. Periodontal disease
  6. Premature tooth loss
  7. Tooth staining.



# TOBACCO AND ORAL HEALTH

- ▶ The use of **smokeless tobacco** is associated with increased risks of oral cancer and oral mucosal lesions.
- ▶ Oral cancer being the second most common cancer in **Nepal** and sixth among the cancer deaths.

# TOBACCO AND ORAL HEALTH

- ▶ **Smokeless tobacco** use also causes oral conditions like;
- ▶ gingival keratosis
- ▶ tooth discoloration
- ▶ Halitosis
- ▶ enamel erosion
- ▶ gingival recession
- ▶ alveolar bone damage
- ▶ periodontal disease
- ▶ coronal or root-surface dental caries due to sugars added to the product
- ▶ tooth loss.
- ▶ reduced blood supply to the mouth
- ▶ increased build-up of plaque and tartar on your teeth
- ▶ delayed healing following dental extractions and other oral surgery
- ▶ increased risk of oral cancer

# TOBACCO AND ORAL HEALTH

## Oral precancerous lesions

- Leukoplakia
- Erythroplakia
- Smokeless tobacco keratosis

## Oral cancers

### *Squamous cell carcinomas of the*

- Tongue
- Floor of the mouth
- Lip
- Gingiva

### *Verrucous carcinomas of the*

- Buccal mucosa
- Gingiva
- Alveolar ridge

## Periodontal diseases

- Increased plaque and calculus depositions
- Ischaemia
- Gingival inflammation
- Periodontal pockets
- Gingival recession
- Alveolar bone loss

## Root caries

## Peri-implantitis

## Halitosis

## Taste derangement

## Stained teeth and restorations

**THANKS**  
**FOR YOUR**  
**ATTENTION**

