Smokeless Tobacco

Tobacco was first brought to India by Portuguese merchants about 400 years ago. Although there were already some strains of locally grown tobacco in India these were outclassed by the new imported varieties from Brazil. The tobacco trade was established as the most important business from Goa in the 17th century. Virtually every household in the Portuguese colony took up the new fashion of smoking or chewing tobacco. Later on the British introduced modern commercially produced cigarettes.

http://www.bbc.co.uk/worldservice/sci_tech/features/health/tobaccotrial/india.htm

Smokeless tobacco, also called spit tobacco, chewing tobacco, chew, chaw, dip, plug, and probably a few other things, comes in two forms: snuff and chewing tobacco. Chewing is one of the oldest ways of consuming tobacco leaves. Smokeless tobacco is equally bad as smoking and it is a myth that chewing is not as harmful as smoking.

Smoking tobacco consists of two words. Most people might have heard of it but really do not have any idea of the impact of the product that these "two words" can have on the millions of "users" of smokeless tobacco.

http://ezinearticles.com/?Dangers-Of-Smokeless-Tobacco&id=394183

Smokeless tobacco are the cheapest, least taxed and most commonly used tobacco products. They are highly addictive and active carcinogens. They cause a broad spectrum of diseases; yet awareness about their ill effects is low. Chewing tobacco is made up of tobacco, nicotine, sweeteners and chemicals. The continuous chewing process elevates the mood and gives temporary relief from stress and anxiety. Small temporary relief leads the person to use it frequently and before the person realizes he is addicted.


In the past chewing tobacco was used mostly by young men living in rural areas. Today increased usage can be seen among young girls and people living in more urban settings can be seen. People in many other countries and regions, including India, parts of Africa, and some Central Asian countries, have a long history of chewing substances such as betel and areca nut. These products are used as antiseptics, breath fresheners and stimulants. These products are also known to cause oral cancers and many other diseases.

TYPES

Smokeless tobacco is available in many forms as follows:

**Loose-leaf tobacco** is sweetened and loosely packaged in aluminum lined pouches. The chewer simply takes a portion directly from the pouch.

**Plug tobacco** is pressed and formed into sheets, with the aid of a little syrup, mostly molasses, which helps maintain forms as well as sweetness. The sheets are then cut into individual plugs, wrapped with fine tobacco and then packaged.

**Twist tobacco** is spun and rolled into large rope-like strands and then twisted into a knot. The final product is much lower in moisture than plug or loose leaf and historic varieties could be smoked in a pipe as well as chewed. This was the most common form of chewing tobacco during 18th and 19th centuries.

**Tobacco bits** are formed by rolling sweetened and typically flavoured tobacco into small pieces which are consumed individually. These are typically packaged in small tins like mint.

**Powdered snuff** is a product of finely grounded dry tobacco that comes in tins or glass bottles. It is used by placing it in the mouth either by pinching it between the fingers or using a "brush", a stick sometimes chewed to make a brush end and then placing the wet end into the bottle or tin and getting the powder on it. The brush is then placed in the mouth.

**Moist ground tobacco:** This product is placed in round cans about three inches or so across. They are reported to have up to 5 times the nicotine as cigarettes.

Tobacco-specific nitrosamines (TSNAs):

Chewing tobacco and snuff contain approximately 28 cancer-causing agents. The most harmful carcinogens in smokeless tobacco are the tobacco-specific nitrosamines (TSNAs). Two of the most common TSNAs are NNK (4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone) and NNN (N-nitrosornicotin). They are derived from nicotine and other tobacco alkaloids. TSNAs are present in small amounts in fresh green tobacco leaves. The major part of TSNAs is formed in tobacco products during processing, curing and fermentation. TSNAs may also form in the mouth of users through the enzymatic action of saliva on tobacco constituents.

Other Careinogens:

Other cancer-causing substances in chewing tobacco include N-nitrosamines, volatile N-nitrosamines, benzo(a)pyrene, volatile aldehydes, formaldehyde, acetaldehyde, crotonaldehyde, hydrazine, arsenic, nickel, cadmium, benzopyrene, and polonium-210.

Areca-nut and its constituents:

Areca-nut is an ingredient of some popular smokeless tobacco products in India, including pan masala gutka and mawa (areca-nut with lime and tobacco). Areca-nut is the chief ingredient of pan (betel quid), a roll of betel leaves, arecanut, slaked lime and catechu, to which tobacco is commonly added. Areca-nut contains arecoline, the major arecanut-specific alkaloid.
Areca-nut and its constituents:

Arecoline mimics acetylcholine and binds to muscarinic receptors. Areca-nut as an ingredient in tobacco products confers taste as well as harmful constituents. Arecoline and areca-nut-specific polyphenols lead to collagen damage in the oral mucosa, probably underlying the development of the painful and precancerous condition of oral submucous fibrosis (OSF), in which the chewer has difficulty in opening the mouth. The increase in OSF has been linked to use of gutka, mawa and pan masala. Areca-nut products can also contain areca-nut-derived nitrosamines that form in the saliva during chewing, especially in the presence of nitrates.

http://www.ias.ac.in/cumsci/may252009/1324.pdf

**HEALTH RISKS**

Effects of chewing tobacco leads to numerous side effects, which can be internal or external. Due to genetic differences, there is much variation in the incidence of cancer of lip, oral cavity and pharynx in various parts of the world. Oral Cancer is one of the most common cancers in the world. In India, Bangladesh, Pakistan and Sri Lanka, it is the most common cancer and accounts for one third of total cancer. Epidemiological studies conducted in different parts of India and other parts of the world have demonstrated that cancer of the oral cavity and pharynx are related to a wide variety of tobacco chewing and smoking habits prevalent among men and women.

**CIGARETTES VS. SMOKELESS TOBACCO**

Considering that smokeless tobacco products still contain varying levels and types of carcinogens and causing different types of health risks compared to cigarettes, the only way to reduce an individual tobacco users health risks to the maximum extent possible is by quitting tobacco entirely with evidence-based treatments that have been scientifically documented to help people quit using tobacco (e.g., nicotine gum and patch, telephone-based behavioral counseling /quitlines).

Smokeless tobacco use among youth can lead to a lifetime addiction to smokeless tobacco or, frequently, to cigarettes, as the nicotine addiction created by smokeless tobacco use ultimately leads to habitual smoking. Evidence shows that adolescent boys who use smokeless tobacco products have a higher risk of becoming cigarette smokers within four years.


Those who say smokeless tobacco is safer than smoking should realize that they are only exchanging one form of the same poison for another.

The main harmful effects of tobacco are:

**CANCER:**

Smokeless tobacco users are at a higher risk for oral cancer compared to non-users and these cancers can form within five years of regular use. Constant exposure to tobacco juice causes cancer of the esophagus, pharynx, larynx, stomach and pancreas. The use of smokeless tobacco can cause a precancerous lesion in the mouth called leukoplakia, a disease of the mouth characterized by white patches and oral lesions on the cheeks, gums, and/or tongue. Leukoplakia, which can lead to oral cancer, occurs in more than half of all users in the first three years of use. Studies have found that 60 to 78 percent of smokeless tobacco users have oral lesions.


In India, Pakistan, Bangladesh, Sri Lanka, Myanmar, Thailand, the Lao People’s Republic, Cambodia, the Philippines, and Palau, smokeless tobacco products such as betel quid with tobacco, areca nut with tobacco, or gutka had significantly higher rates of oral, pharyngeal, and esophageal cancers. People who chewed betel quid with tobacco also showed higher prevalence of leukoplakia.


**Leukoplakia**

http://www.lib.uiowa.edu/hardin/md/cdc/6061.html

**Oral Cancer:** Continuous chewing process leaves infectious juices on tooth and lips. These develop in white patches that can be considered as an early symptom of oral cancer. People who indulge in tobacco chewing have higher risk of oral cancer to people who take alcohol. The most infected area in oral cancer is the tongue and the area below the tongue. The cancer slowly spreads to cheeks and throat. Though it can attack any part lips, tongue, upper and lower mouth, the cheeks, or gums and esophagus.

http://www.notosmoke.com/herbal-smokingarticles/effects-of-tobacco.htm
People who use oral snuff for a long time have a much greater risk for cancer of the cheek and gum than people who do not use smokeless tobacco products. The risk of cancer in soft oral tissues is almost 50 times greater in long-term users than non-users.

http://www.reizinearticles.com/71DangersOfSmokelessTobacco&id=364183

**Lung Cancer:** Chewing tobacco leads to oral cancer and affects lungs and linings of stomach. Reports show that 90% of lung cancers are cases of people who either smoke or chew tobacco. Destructive agents termed as carcinogens in tobacco and act on the lung cells. Over a period of time, these spoiled cells may develop into lung cancer.

http://www.notosmoke.com/herbal-smokingarticles/effects-of-tobacco.htm

**Gum Disease:** Gum disease (gingivitis) is caused by smokeless tobacco. Smokeless tobacco has also been linked to dental caries (tooth decay). A study by the National Institutes of Health and the Centers for Disease Control and Prevention found chewing tobacco users were four times more likely than non-users to have decayed dental root surfaces.


**Erodes Tooth:** The ingredients of tobacco consist of gravels, sand, and other harmful chemicals that erode the enamel of tooth. Continuous chewing leads to early loss of tooth.


**Early Tooth Decay:**
Smokeless tobacco contains high quantities of sugar. Chewing leaves small particles in tooth. This sugar get mixed with the plaque on teeth and form acids that eat away at the tooth’s enamel and gums, causing cavities which leads to decay of tooth.

http://www.notosmoke.com/herbal-smokingarticles/effects-of-tobacco.htm

**Gum Slump:**
Chewing leads to decomposing of gums, the gums get infected and the grip on tooth loosens which exposes the sensitive area of tooth.

**Bad Breath:**
There is nothing as bad as bad breath of a person, they are major turn off for people around them. The long-term habit of chewing and spitting is unacceptable and looks indecent.

**Affects Eating Habit:**
Eating habit of tobacco chewers lead to ill health and continuous chewing affects the taste bud and decreases the sensitivity. This leads to an increase in intake of more salt, sugar and spices in food as it feels a bland taste in the mouth.

**Damage to tongue, jaw and lips:**
As mentioned above chewing leads to the early decay of tooth, bad breath, damaged gums and falling of tooth. The addiction of tobacco affects the area around the mouth. The tongue and jaws face the following problems:

- Discoloring of lips and lip cancer
- Sore throat
- Difficulty in movement of jaws and tongue
- Rashes or irritation on tongue
- Burning sensation on lips and tongue


**Other ill-effects:**
http://www.entassociates.com/smokeless.htm

- Increased heart rate caused by nicotine in the blood stream due to release of hormones (such as adrenaline).
- Increased blood pressure caused by nicotine in the blood stream. Can cause irregular heartbeats as well.
- Nicotine constricts the blood vessels, slowing down the circulation of oxygen-rich blood to the organs.

The above effects of tobacco are just the beginning of trouble among tobacco chewers. It has more deep rooted and life threatening effects. Chewing of tobacco has major or even to fatal to addicted people.

**SMOKELESS TOBACCO - INDIAN SCENARIO**
The use of chewing tobacco is reaching at dangerous in
endemic levels in India. Students, professionals, taxi drivers, young and old - all take it. A recent survey identified the use of this bad habit by nearly 70% of college students in several Indian cities.

There could be several reasons for their use. Mostly due to its smoke-free use and can be well hidden inside the mouth. Although tobacco promotion is officially banned in India, it is well-targeted through the use of advertisements of brand name non-tobacco products. Its small, striking and low-cost sachets appeals to many young people.

http://hubpages.com/hub/Guttka

India ranks 4th in the total tobacco consumption of the world. Out of the total production, only 19% of the total consumption of tobacco is in the form of cigarette whereas 81% is in other forms like chewing, bidi, snuff, Gutkas paste, Jarda, hookah paste etc. However the consumption of tobacco has been a matter of national debate in view of the emerging anti tobacco drive in the country.

Tobacco is traditional item of India's foreign trade. India is one of the leading tobacco exporting countries in the world. India counts for 5.8% of the international trade and ranks 5th after Brazil, U.S.A, Turkey and Zimbabwe.

http://dacnet.nic.in/tobacco/handbook/intro.htm

Tobacco use in India

Prevalence and practices of tobacco use in India are varied and disparate. A common alternative to traditional cigarettes is the bidi, a hand-rolled, filter-less form of smoking tobacco. Tobacco is also used in the hookah (a traditional water pipe), as pan masala or gutika (a chewing tobacco containing areca nut), as chutta (a clump of tobacco smoked with the lighted end inside the mouth), and mishri (a powdered tobacco rubbed on the gums as toothpaste). ‘Dhoora’ is an indigenous form of tobacco and slaked lime used in and around Allahabad, Uttar Pradesh, India. In India an estimated 65% of all men and 33% of all women use some form of tobacco. The prevalence of smoking among men and women differs substantially: 35% of men and 3% of women smoke, while both use smoke-less tobacco products to approximately the same extent. Tobacco consumption continues to grow in India at 2-3% per annum, and by 2020, it is predicted that it will account for 13% of all deaths in India. (WHO, 1997)

Tobacco production and consumption in the post-independence period

(Adapted from: Tobacco Board 2002; Directorate of Tobacco Development 1997)

http://dacnet.nic.in/tobacco/handbook/intro.htm
http://www.whoindia.org/SCN/TobaccoReport/03-Chapter-02.2.pdf

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (x1000 hectare)</th>
<th>Production (million kg)</th>
<th>Tobacco consumption (million kg)</th>
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<tbody>
<tr>
<td>1950-1951</td>
<td>360</td>
<td>260</td>
<td>245</td>
</tr>
<tr>
<td>1960-1961</td>
<td>400</td>
<td>310</td>
<td>328</td>
</tr>
<tr>
<td>1970-1971</td>
<td>450</td>
<td>360</td>
<td>367</td>
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<td>1980-1981</td>
<td>450</td>
<td>480</td>
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<td>1990-1991</td>
<td>410</td>
<td>560</td>
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<tr>
<td>2000-2001</td>
<td>290</td>
<td>490</td>
<td>470</td>
</tr>
<tr>
<td>2001-2002</td>
<td>-</td>
<td>601</td>
<td>-</td>
</tr>
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</table>

In the NFHS-2 (1998-99), the states with the highest prevalence of smokeless tobacco use among women of reproductive age were in Orissa (34.9%), the North East states (16.5-60.7%), Maharashtra (18.5%), Karnataka (14.9%) and Madhya Pradesh (14.8%), while the national prevalence for women was 12.4%. Smokeless tobacco use is found among more than one-third (38.1%) of the men and around one-tenth (9.9%) of the women, according to the third round of the National Family Health Survey (NFHS-3), conducted in 2005-06.

Tobacco use prevalence among adults, for 1995-1996 and 1998-1999 for India

Rani et al. 2003, tobacco control, 12, e4
http://www.tobaccocontrol.com/cgi/content/full/12/4/e4
http://www.whoindia.org/SCN/TobaccoReport/03-Chapter-03.2.pdf

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<tbody>
<tr>
<td>Age group</td>
<td>15+ years</td>
<td>15+ years</td>
<td></td>
</tr>
<tr>
<td>No. surveyed</td>
<td>Urban + rural</td>
<td>396,546</td>
<td>315,597</td>
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<tr>
<td>Regular</td>
<td>M(%)</td>
<td>51.3</td>
<td>46.5</td>
</tr>
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India is now demonstrating a steady resolve to contain the menace of tobacco through a comprehensive control strategy that combines several demands and supply reduction measures. Many factors in the Indian tobacco control initiatives have collectively contributed to this national consensus. These include: increasing awareness of the health, environmental and developmental damages caused by tobacco; growing global support for tobacco control; developing policies and programs for effective action and decisive interventions by the activists, non-governmental organizations and the Indian government.


**ANTI-TOBACCO LAWS**

India accounts for nearly a third of an estimated three million tobacco-related deaths in the world per year. In 2001, the sale of cigarettes was banned to people under the age of 18.

India, a member of the FCTC (Framework Convention on Tobacco Control), had incorporated several effective tobacco control policies in the COTPA (The Cigarettes and other Tobacco Products Act). This law includes five important policies: ban on smoking in public places, ban on tobacco advertising and sponsorship, ban on sale to minors and within 100 yards of educational institutions, the requirement of health warning labels, and the regulation of contents. Rules for the first four of these have so far been notified.

http://www.bbc.co.uk/worldservice/sci_tech/features/health/tobaccotria

In view of high usages of tobacco and other tobacco containing products such as gutkha and existing available data on the role of chewing tobacco and cancer, it is necessary to look into the hazardous effects of these addictions and their impact on health and to eradicate these habits from the society and also to propagate quit tobacco from the society.

**Quitting Chewing**

Dentist or doctor can act as pivotal agents by providing information about the health risks of chewing tobacco that necessitates quitting of tobacco addiction. Friends, family members, teachers, and coaches can also help to quit chewing tobacco use by giving support and encouragement.

Strategies for discontinuation of the habit include:

- Using a nicotine gum or a patch (ask doctor about these options first)
• Planning ahead and using substitutes such as tobacco-free, mint-leaf snuff; sugarless gum; hard candy; beef jerky; sunflower seeds; shredded coconut; raisins; or dried fruit.

• Getting involved in healthier activities: lifting weights, shooting baskets, going for a swim, etc.

It’s tough to quit, but realize that backsliding is common, so don’t give up. Your chances of success increase with each try!