

SOCI 270
Drugs, Society and Behavior

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Chapter 10
Tobacco



The Tobacco Song
(truth*)



The Tobacco Dilemma

- A **legal** product used by a significant proportion of adults.
- A **leading cause of preventable death** among Americans.



1. History of Tobacco

a. Pre-Columbian Period

- Used by **Native Americans**, who presented tobacco leaves as a gift to Columbus in 1492
- “**Tabaco**” was adopted by the **Spanish**, either from an Arawak term they encountered in the Carribean or from the Arabic word “*tabbaq*,” which was used for *medicinal herbs*
- Methods** of use: users “took” (used snuff) or “drank” (smoked) tobacco



Native tobacco pouches

1. History of Tobacco

b. Spread of Tobacco Cultivation

Two main species grown today, out of more than 60 species of *Nicotiana*

- Nicotiana tobacum***: large-leaf species indigenous only to South America but now cultivated widely
- Nicotiana rustica***: small-leaf species from the West Indies and eastern North America



2. Types of Tobacco

a. **Snuff:** During the 18th century, smoking diminished but snuff use became widespread

- Snuff was perceived as a British product, and American use declined after the Revolution



b. **Chewing tobacco:** During the 19th century, nearly all tobacco produced and used in the United States was chewing tobacco

- Smoking did not surpass chewing until the 1920s



2. Types of Tobacco

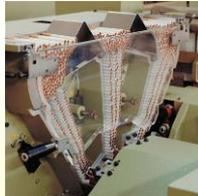
c. **Cigars:** A combination of chewing and smoking

- Peaked in popularity in 1920

d. **Cigarettes:**

The most popular form of tobacco use

- Native Americans used thin reeds filled with tobacco
- Factories appeared in 19th century
- Habit spread widely with the advent of inexpensive machine-produced cigarettes
- [What's in a cigarette?](#)



2. Types of Tobacco

d. **Cigarettes, cont.**

i. At the start of the 20th century, users preferred cigarettes with **Turkish tobacco**

ii. Other styles were introduced later

- 1913: Camels, which had a hint of Turkish tobacco
- 1939: King-size cigarettes (Pall Mall)
- 1954: Filter cigarettes (Winston)

iii. As a class, **filter cigarettes have over 90 percent of the current U.S. cigarette market**



3. Tobacco Law

a. Early Regulation

i. **1604:** King James of England published an anti-tobacco pamphlet stating that tobacco was harmful to health and morality

ii. **1908:** New York made it illegal for a woman to use tobacco in public over concern for women's health and morals



3. Tobacco Law

b. late 20th c. Regulation

- i. **1964:** Surgeon General's report states that smoking causes lung cancer in men
 - **Tobacco sales began a decline that continued for 40 years**
- ii. **1965:** Congress required warning labels on cigarette packages
- iii. **1971:** TV and radio cigarette ads banned
- iv. **1990:** Smoking banned on interstate buses and domestic airline flights
- v. **1995:** FDA proposed to further regulate tobacco and ads
 - Many additional state and local bans passed



3. Tobacco Law

c. Tobacco Company Resistance

- i. **Lawsuits** seeking compensation for the health consequences of smoking:
 - Unsuccessful for many years
 - Then . . . Victories in the 1990s
 - Changing legal climate
 - [Revelation of tobacco companies' actions in hiding information on the adverse effects of smoking](#)
- ii. **1998 settlement agreement** between 46 states and the major tobacco companies
 - \$205 billion in payments to the states
 - Advertising regulations enhanced
 - Programs to enforce laws prohibiting sales to minors

4. Current Tobacco Use

c. Smokeless Tobacco

i. Use of "chew" increased in the 1970s

as smokers looked for a method of tobacco use with a lower risk of lung cancer

ii. Forms

- Moist snuff; e-cig; snuff; snus; dissolvable

iii. "Benefits" compared with cigarettes

- Less expensive
- Easier to use outdoors
- More socially acceptable in some circumstances
- Less likely to cause lung cancer



4. Current Tobacco Use

c. Smokeless Tobacco, cont.

iv. Health & cosmetic concerns

- Bad breath, spitting, disposal of quid
- Significantly increased risk of dental disease and oral cancer
 - "Chew" contains potent carcinogens
- Nicotine dependence
 - Nicotine absorbed through mucous membranes

- Smokeless tobacco packages carry warning labels

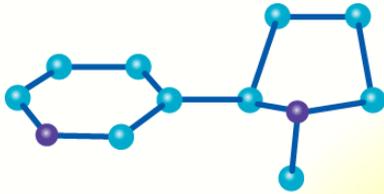


5. Nicotine

a. **Nicotine** = a naturally occurring liquid alkaloid that is colorless and volatile

- **Tolerance and dependence** develop quickly
- **Highly toxic**
 - Typically not delivered fast enough or in a high enough dose to be lethal
 - Lethal dose = 60 mg
 - A cigar contains twice that much

Nicotine Molecule



● Carbon ● Nitrogen

- Nicotine (1-methyl-2 [3-pyridyl] pyrrolidone)

5. Nicotine

b. Absorption and Metabolism

i. Inhalation is very effective

- 90 percent of inhaled nicotine is absorbed

ii. Most nicotine (80 to 90 percent) is deactivated in the liver and then excreted via the kidneys

iii. Use of nicotine increases the activity of liver enzymes responsible for nicotine deactivation

- Contributes to tolerance



5. Nicotine

c. Physiological Effects

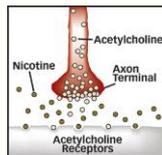
i. Mimics acetylcholine

ii. First stimulates and then blocks certain receptor sites

iii. Causes the release of adrenaline and has an indirect sympathomimetic effect

iv. Symptoms of nicotine poisoning

- Low-level (often experienced by beginning smokers): nausea, dizziness, and general weakness
- Higher-level: tremors, convulsions, paralysis of breathing muscles, death



5. Nicotine

d. Behavioral Effects

- i. Nicotine is the primary reinforcing substance in tobacco
- ii. Smokers report that nicotine has **both stimulant and calming** effects
- iii. User **expectation probably plays an important role** in the effects



5. Nicotine

d. Nicotine Dependence

- i. **Debate continues** despite conclusions made in the Surgeon General's report:



- ii. **Cigarettes** and other forms of tobacco **are addicting**
- iii. **Nicotine is the drug in tobacco that causes addiction**
- iv. The **processes** that determine tobacco addiction are **similar to** those that determine **addiction to drugs like heroin and cocaine**

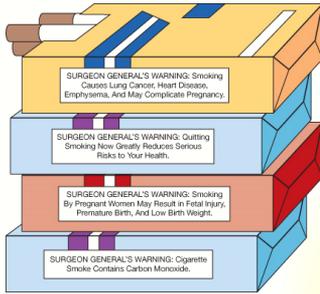
6. Health Effects

a. Smoking: Adverse Health Effects

- i. **Lung cancer** (see top right)
- ii. **Cardiovascular disease**
- iii. **Chronic obstructive lung diseases**, including emphysema (see bottom right)
 - Risk increases for those who start young, smoke many cigarettes, and continue to smoke for a long time
 - **Smoking is the single greatest avoidable cause of death**



6. Health Effects



Cigarette packages and advertisements are required to rotate among different warning labels

6. Health Effects

b. Secondhand smoke = nonsmokers inhaling cigarette smoke from the environment

- Components of environmental tobacco smoke
 - **Sidestream smoke:** the smoke rising from the ash of a cigarette
 - **Mainstream smoke:** the smoke inhaled/exhaled by the smoker



6. Health Effects



c. Smoking and Health in Other Countries

- Five million deaths** worldwide each year
- Perhaps as high as **8 million by 2030**
- Third World demand** for American cigarettes **has increased** markedly
- Asian countries** also experiencing **increased demand** for American cigarettes

6. Health Effects

d. Smoking and Pregnancy

i. Increased risk of miscarriage and low birth weight

ii. Later effects on physical and intellectual development

- **Neurological problems**, problems with certain reading and mathematical skills, and hyperactivity

iii. Effects are of the **same type and magnitude as those reported for “crack babies,”** and many more pregnant women smoke than use cocaine



6. Health Effects

e. How to Stop Smoking

i. There are more than 40 million ex-smokers in the United States

ii. **Challenges to quitting**

- Nicotine is a strongly reinforcing drug
- Pack-a-day smoker puffs at least 50,000 times a year
- Six-month relapse rate from smoking cessation is extremely high (70 to 80 percent)

6. Health Effects

e. *How to Stop Smoking, cont.*

iii. **Nicotine replacements** — nicotine without the tar and carbon monoxide

- Nicotine gum
- Nicotine patches
- Nicotine nasal spray
- Nicotine inhalers
- Nicotine lozenge



iv. **Combining counseling** and pharmacological treatments increases the odds of quitting

v. **Keep trying.** Most smokers quit for good only after multiple attempts.
