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ijirset@gmail.com

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Effects of Smoking on Human Body

Prachi Gangwar

Assistant Professor in Mathematics, PD Mahila PG College, Fatehgarh, India

ABSTRACT: Smoking is a practice in which a substance is burned and the resulting smoke is typically breathed in to be tasted and absorbed into the bloodstream. Most commonly, the substance used is the dried leaves of the tobacco plant, which have been rolled into a small rectangle of rolling paper to create a small, round cylinder called a cigarette. Smoking is primarily practised as a route of administration for recreational drug use because the combustion of the dried plant leaves vaporizes and delivers active substances into the lungs where they are rapidly absorbed into the bloodstream and reach bodily tissue. In the case of cigarette smoking these substances are contained in a mixture of aerosol particles and gases and include the pharmacologically active alkaloid nicotine; the vaporization creates heated aerosol and gas into a form that allows inhalation and deep penetration into the lungs where absorption into the bloodstream of the active substances occurs. In some cultures, smoking is also carried out as a part of various rituals, where participants use it to help induce trance-like states that, they believe, can lead them to spiritual enlightenment.

Smoking is one of the most common forms of recreational drug use. Tobacco smoking is the most popular form, being practised by over one billion people globally, of whom the majority are in the developing countries. Less common drugs for smoking include cannabis and opium. Some of the substances are classified as hard narcotics, like heroin, but the use of these is very limited as they are usually not commercially available. Cigarettes are primarily industrially manufactured but also can be hand-rolled from loose tobacco and rolling paper. Other smoking implements include pipes, cigars, bidis, hookahs, and bongs.

Smoking can be dated to as early as 5000 BCE, and has been recorded in many different cultures across the world. Early smoking evolved in association with religious ceremonies; as offerings to deities, in cleansing rituals or to allow shamans and priests to alter their minds for purposes of divination or spiritual enlightenment. After the European exploration and conquest of the Americas, the practice of smoking tobacco quickly spread to the rest of the world. In regions like India and Sub-Saharan Africa, it merged with existing practices of smoking (mostly of cannabis). In Europe, it introduced a new type of social activity and a form of drug intake which previously had been unknown.

Perception surrounding smoking has varied over time and from one place to another: holy and sinful, sophisticated and vulgar, a panacea and deadly health hazard.

In the last decade of the 20th century, smoking came to be viewed in a decidedly negative light, especially in Western countries. Smoking generally has negative health effects, because smoke inhalation inherently poses challenges to various physiologic processes such as respiration. Smoking tobacco is among the leading causes of many diseases such as lung cancer, heart attack, COPD, erectile dysfunction, and birth defects. Diseases related to tobacco smoking have been shown to kill approximately half of long-term smokers when compared to average mortality rates faced by non-smokers. Smoking caused over five million deaths a year from 1990 to 2015. The health hazards of smoking have caused many countries to institute high taxes on tobacco products, publish advertisements to discourage use, limit advertisements that promote use, and provide help with quitting for those who do smoke.

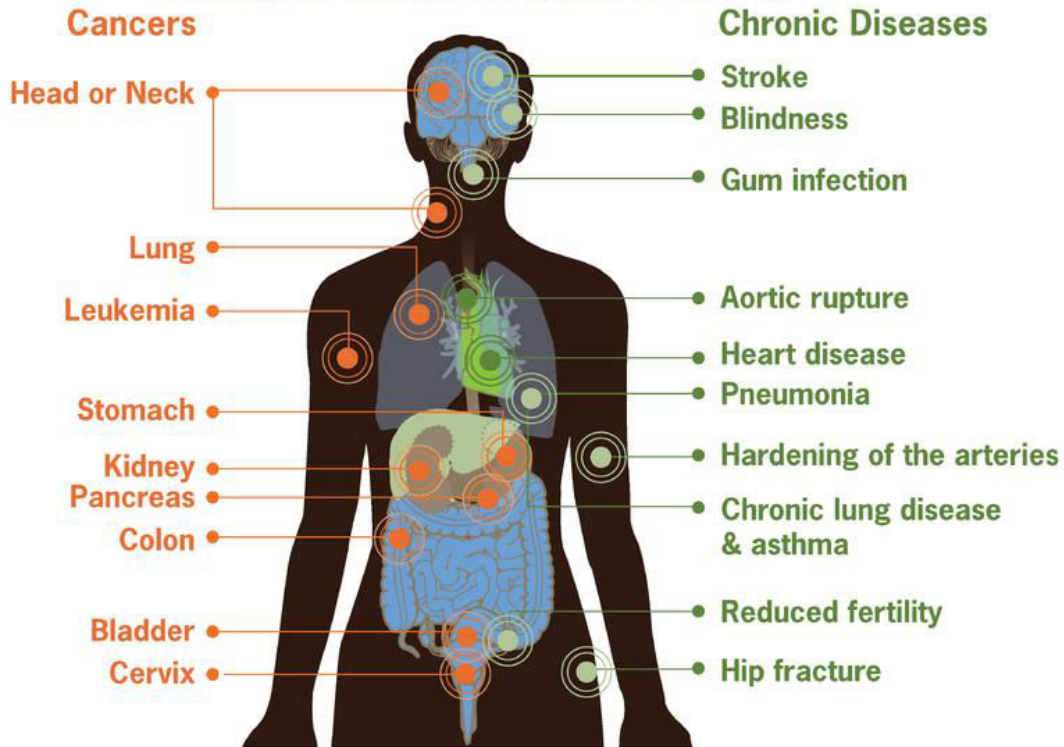
KEYWORDS: smoking , human, body, effect, lungs, carbon, cancer, tobacco, death

I. INTRODUCTION

Many people have been critical about tobacco use since it gained popularity. In 1798, Dr. Benjamin Rush (early American physician, signer of the Declaration of Independence, Surgeon General under George Washington, and anti-tobacco activist) was "against the habitual use of tobacco" because he believed it (a) "led to a desire for strong drink," (b) "was injurious both to health and morals," (c) "is generally offensive to" nonsmokers, (d) "produces a want of respect for" nonsmokers, and (e) "always disposes to unkind and unjust behavior towards them."

Risks from Smoking

Smoking can damage every part of the body



With the modernization of cigarette production compounded with the increased life expectancies during the 1920s, adverse health effects began to become more prevalent. In Germany, anti-smoking groups, often associated with anti-liquor groups, first published advocacy against the consumption of tobacco in the journal *Der Tabakgegner* (The Tobacco Opponent) in 1912 and 1932. In 1929, Fritz Lickint of Dresden, Germany, published a paper containing formal statistical evidence of a lung cancer–tobacco link. During the Great Depression, Adolf Hitler condemned his earlier smoking habit as a waste of money, and later with stronger assertions. This movement was further strengthened with Nazi reproductive policy as women who smoked were viewed as unsuitable to be wives and mothers in a German family.[1]

The movement in Nazi Germany did reach across enemy lines during the Second World War, as anti-smoking groups quickly lost popular support. By the end of the Second World War, American cigarette manufacturers quickly reentered the German black market. Illegal smuggling of tobacco became prevalent, and leaders of the Nazi anti-smoking campaign were assassinated. As part of the Marshall Plan, the United States shipped free tobacco to Germany; with 24,000 tons in 1948 and 69,000 tons in 1949. Per capita yearly cigarette consumption in post-war Germany steadily rose from 460 in 1950 to 1,523 in 1963. By the end of the 20th century, anti-smoking campaigns in Germany were unable to exceed the effectiveness of the Nazi-era climax in the years 1939–41 and German tobacco health research was described by Robert N. Proctor as "muted." In the UK and the US, an increase in lung cancer rates, formerly "among the rarest forms of disease", was noted by the 1930s, but its cause remained unknown and even the credibility of this increase was sometimes disputed as late as 1950.




For example, in Connecticut, reported age-adjusted incidence rates of lung cancer among males increased 220% between 1935–39 and 1950–54. In the UK, the share of lung cancer among all cancer deaths in men increased from 1.5% in 1920 to 19.7% in 1947. Nevertheless, these increases were questioned as potentially caused by increased reporting and improved methods of diagnosis. Although several carcinogens were already known at the time (for example, benzo[a]pyrene was isolated from coal tar and demonstrated to be a potent carcinogen in 1933), none were known to be contained in adequate quantities in tobacco smoke. Richard Doll in 1950 published research in the British Medical Journal showing a close link between smoking and lung cancer. Four years later, in 1954 the British Doctors Study, a study of some 40 thousand doctors over 20 years, confirmed the link, based on which the government issued advice that smoking and lung cancer rates were related. In 1964 the United States Surgeon General's Report on Smoking and Health demonstrated the relationship between smoking and cancer. Further reports confirmed this link in the 1980s and concluded in 1986 that passive smoking was also harmful. As scientific evidence mounted in the 1980s, tobacco companies claimed contributory negligence as the adverse health effects were previously unknown or lacked substantial credibility. Health authorities sided with these claims up until 1998, from which they reversed their position. The Tobacco Master Settlement Agreement, originally between the four largest US tobacco companies and the Attorneys General of 46 states, restricted certain types of tobacco advertisement and required payments for health compensation; which later amounted to the largest civil settlement in United States history.[2]

From 1965 to 2006, rates of smoking in the United States have declined from 42% to 20.8%. A significant majority of those who quit were professional, affluent men. Despite this decrease in the prevalence of consumption, the average number of cigarettes consumed per person per day increased from 22 in 1954 to 30 in 1978. This paradoxical event suggests that those who quit smoked less, while those who continued to smoke moved to smoke more light cigarettes. This trend has been paralleled by many industrialized nations as rates have either leveled-off or declined. In the developing countries, however, tobacco consumption continues to rise at 3.4% in 2002. In Africa, smoking is in most areas considered to be modern, and many of the strong adverse opinions that prevail in the West receive much less

attention. Today Russia leads as the top consumer of tobacco followed by Indonesia, Laos, Ukraine, Belarus, Greece, Jordan, and China.

SMOKING HEALTH RISKS

- 
- CARDIOVASCULAR DISEASE
 - CATARACTS & LOSS OF EYESIGHT
 - ATHEROSCLEROSIS
 - REDUCED FERTILITY
 - REDUCED LIFE EXPECTANCY
 - CHRONIC OBSTRUCTIVE PULMONARY DISEASE
 - CANCERS
 - PERIODONTAL DISEASE
 - ASTHMA
 - AGEING & FACIAL WRINKLES
 - ULCERS

At the global scale, initial ideas of an international convention towards the prevention of tobacco had been initiated in the World Health Assembly (WHA) in 1996. In 1998, along with the successful election of Dr. Gro Harlem Brundtland as the Director-General, the World Health Organization set tobacco control as its leading health concern and has begun a program known as the Tobacco Free Initiative (TFI) in order to reduce rates of consumption in the developing world.

Cigarette component



Do you still want to smoking??

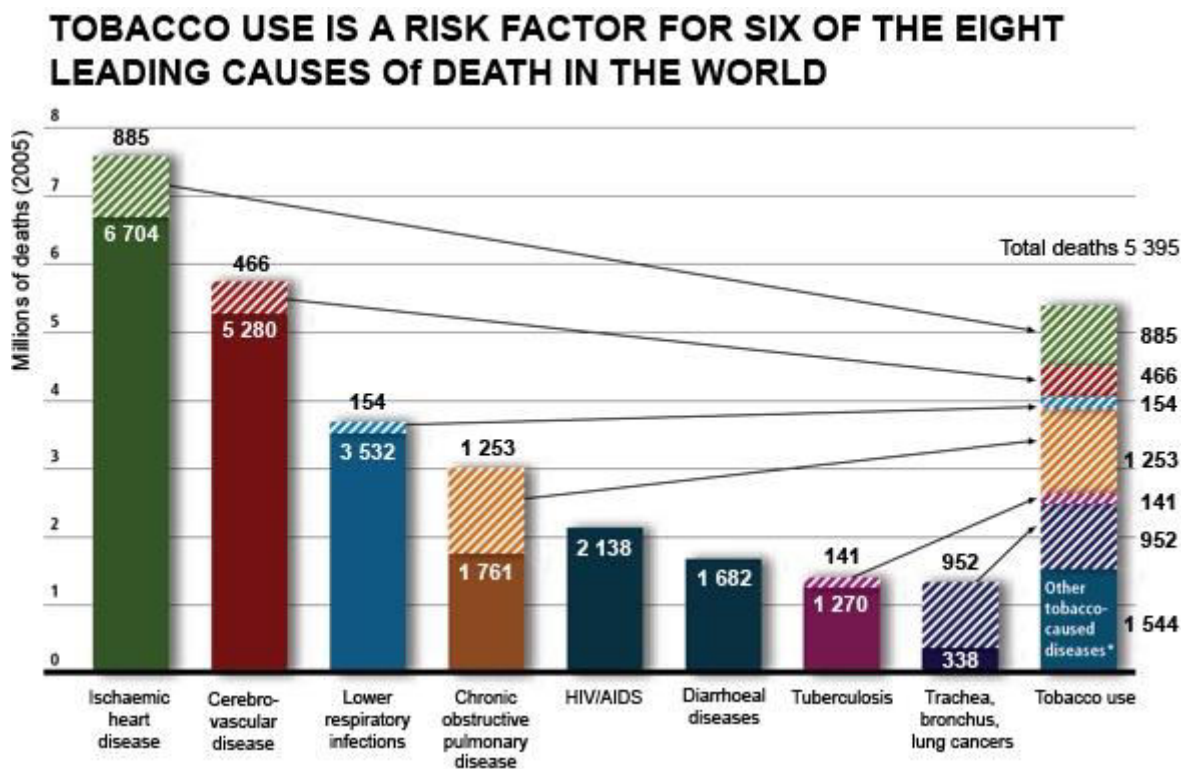
However, it was not until 2003 that the Framework Convention on Tobacco Control (FCTC) was accepted in WHA and entered into force in 2005. FCTC marked a milestone as the first international treaty concerning a global health issue that aims to combat tobacco in multiple aspects including tobacco taxes, advertisement, trading, environmental



affects, health influences, etc. The birth of this evidence-based and systematic approach has resulted in the reinforcement of tobacco taxes and the implementation of smoke-free laws in 128 countries that led to the decrease of smoking prevalence in developing nations.[3]

II. DISCUSSION

Smoking is one of the leading causes of preventable death globally and is the cause of 15% of all deaths. In the United States, about 500,000 deaths per year are attributed to smoking-related diseases and a recent study estimated that as much as 1/3 of China's male population will have significantly shortened life-spans due to smoking. Male and female smokers lose an average of 13.2 and 14.5 years of life, respectively. At least half of all lifelong smokers die earlier as a result of smoking. The risk of dying from lung cancer before age 85 is 22.1% for a male smoker and 11.9% for a female current smoker, in the absence of competing causes of death. The corresponding estimates for lifelong nonsmokers are a 1.1% probability of dying from lung cancer before age 85 for a man of European descent, and a 0.8% probability for a woman. Smoking just one cigarette a day results in a risk of coronary heart disease that is halfway between that of a heavy smoker and a non-smoker.



The non-linear dose–response relationship may be explained by smoking's effect on platelet aggregation. Among the diseases that can be caused by smoking are vascular stenosis, lung cancer, heart attacks and chronic obstructive pulmonary disease. Smoking during pregnancy may cause ADHD to a fetus. Smoking is a risk factor strongly associated with periodontitis and tooth loss. The effects of smoking on periodontal tissues depend on the number of cigarettes smoked daily and the duration of the habit. A study showed that smokers had 2.7 times and former smokers 2.3 times greater probabilities to have established periodontal disease than non-smokers, independent of age, sex and plaque index, however, the effect of tobacco on periodontal tissues seems to be more pronounced in men than in women. Studies have found that smokers had greater odds for more severe dental bone loss compared to non-smokers, also, people who smoke and drink alcohol heavily have much higher risk of developing oral cancer (mouth and lip) compared with people who do neither. Smoking can also cause melanosis in the mouth.[4]

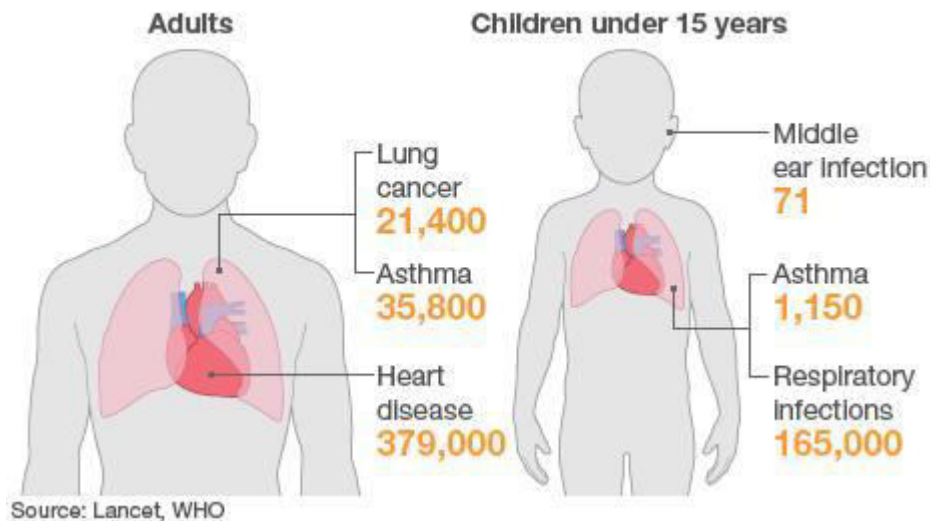
Smoking has been also associated with oral conditions including dental caries, dental implant failures, premalignant lesions, and cancer. Smoking can affect the immune-inflammatory processes which may increase the susceptibility to infections; it can alter the oral mycobiota and facilitate colonization of the oral cavity with fungi and pathogenic molds. Many governments are trying to deter people from smoking with anti-smoking campaigns in mass media stressing the harmful long-term effects of smoking. Passive smoking, or secondhand smoking, which affects people in



the immediate vicinity of smokers, is a major reason for the enforcement of smoking bans. These are laws enforced to stop individuals from smoking in indoor public places, such as bars, pubs and restaurants, thus reducing nonsmokers' exposure to secondhand smoke. A common concern among legislators is to discourage smoking among minors and many states have passed laws against selling tobacco products to underage customers (establishing a smoking age). Many developing countries have not adopted anti-smoking policies, leading some to call for anti-smoking campaigns and further education to explain the negative effects of ETS (Environmental Tobacco Smoke) in developing countries. Tobacco advertising is also sometimes regulated to make smoking less appealing.

Despite the many bans, European countries still hold 18 of the top 20 spots, and according to the ERC, a market research company, the heaviest smokers are from Greece, averaging 3,000 cigarettes per person in 2007. Rates of smoking have leveled off or declined in the developed world but continue to rise in developing countries. Smoking rates in the United States have dropped by half from 1965 to 2006, falling from 42% to 20.8% in adults. The effects of addiction on society vary considerably between different substances that can be smoked and the indirect social problems that they cause, in great part because of the differences in legislation and the enforcement of narcotics legislation around the world. Though nicotine is a highly addictive drug, its effects on cognition are not as intense or noticeable as other drugs such as cocaine, amphetamines or any of the opiates (including heroin and morphine). Smoking is a risk factor in Alzheimer's disease. While smoking more than 15 cigarettes per day has been shown to worsen the symptoms of Crohn's disease, smoking has been shown to actually lower the prevalence of ulcerative colitis. Smokers are 30-40% more likely to develop type 2 diabetes than non-smokers, and the risk increases with the number of cigarettes smoked.[5]

Estimated deaths from exposure to second-hand smoke Worldwide, 2004



Inhaling smoke into the lungs, no matter the substance, has adverse effects on one's health. The incomplete combustion produced by burning plant material, like tobacco or cannabis, produces carbon monoxide, which impairs the ability of blood to carry oxygen when inhaled into the lungs. There are several other toxic compounds in tobacco that constitute serious health hazards to long-term smokers from a whole range of causes; vascular abnormalities such as stenosis, lung cancer, heart attacks, strokes, impotence, low birth weight of infants born by smoking mothers. 8% of long-term smokers develop the characteristic set of facial changes known to doctors as smoker's face.

Tobacco smoke is a complex mixture of over 5,000 identified chemicals, of which 98 are known to have specific toxicological properties. The most important chemicals causing cancer are those that produce DNA damage since such damage appears to be the primary underlying cause of cancer. Cunningham et al. combined the microgram weight of the compound in the smoke of one cigarette with the known genotoxic effect per microgram to identify the most carcinogenic compounds in cigarette smoke.

III. RESULTS

Most tobacco smokers begin during adolescence or early adulthood. Smoking has elements of risk-taking and rebellion, which often appeal to young people. The presence of high-status models and peers may also encourage smoking.[6]



Because teenagers are influenced more by their peers than by adults, attempts by parents, schools, and health professionals at preventing people from trying cigarettes are not always successful. Smokers often report that cigarettes help relieve feelings of stress. However, the stress levels of adult smokers are slightly higher than those of nonsmokers. Adolescent smokers report increasing levels of stress as they develop regular patterns of smoking, and smoking cessation leads to reduced stress. Far from acting as an aid for mood control, nicotine dependency seems to exacerbate stress. This is confirmed in the daily mood patterns described by smokers, with normal moods during smoking and worsening moods between cigarettes. Thus, the apparent relaxant effect of smoking only reflects the reversal of the tension and irritability that develop during nicotine depletion. Dependent smokers need nicotine to remain feeling normal.

In the mid-20th century psychologists such as Hans Eysenck developed a personality profile for the typical smoker of that period; extraversion was associated with smoking, and smokers tended to be sociable, impulsive, risk taking, and excitement-seeking individuals. Although personality and social factors may make people likely to smoke, the actual habit is a function of operant conditioning. During the early stages, smoking provides pleasurable sensations (because of its action on the dopamine system) and thus serves as a source of positive reinforcement. After an individual has smoked for many years, the avoidance of withdrawal symptoms and negative reinforcement become the key motivations. Like all addictive substances, the amount of exposure required to become dependent on nicotine can vary from person to person. In terms of the Big Five personality traits, research has found smoking to be correlated with lower levels of agreeableness and conscientiousness, as well as higher levels of extraversion and neuroticism.

IV. CONCLUSION

Education and counselling by physicians of children and adolescents has been found to be effective in decreasing the risk of tobacco use. Systematic reviews show that psychosocial interventions can help women stop smoking in late pregnancy, reducing low birthweight and preterm births. A 2016 Cochrane review showed that the combination of medication and behavioural support was more effective than minimal interventions or usual care. Another review



"suggests that neither reducing smoking to quit nor quitting abruptly results in superior quit rates; people could therefore be given a choice of how to quit, and support provided to people who would specifically like to reduce their smoking before quitting." A doctor can help you quit smoking. Speak to your doctor if you're ready to quit, or find a doctor to help you quit. A doctor can talk to you about medications that can help you quit or put you in touch with local resources.[6]

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