*EJPMR, 2026, 13(6), 562-572* **Review Article** **Impact Factor: 8.158**

**EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH**

www.ejpmr.com

**ISSN (O): 2394-3211**
**ISSN (P): 3051-2573**
**Coden USA: EJPMAG**

# THE IMPACT OF NICOTINE CONSUMPTION AND MODERN CESSATION TECHNIQUES

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**DOI:** https://doi.org/10.5281/zenodo.20525604

**How to cite this Article:** Mayur Kayande*, Shubham Umale, Gajanan Kute, Vaishnavi Gawande, Kalyani Saubhage, Divya landge, Yash Tathod, Prof. Akash More, Dr. Shivshankar D. Mhaske,. (2026). The Impact of Nicotine Consumption And Modern Cessation Techniques. European Journal of Pharmaceuticaland Medical Research, 13(6), 562–572.



**Article Received on 05/05/2026** **Article Revised on 25/05/2026** **Article Published on 03/06/2026**

## ABSTRACT

Nicotine consumption remains a major global public health concern due to its addictive nature and its association with various chronic diseases. This paper examines the impact of nicotine use on human health, including its effects on the cardiovascular system, respiratory function, and neurological behavior. Particular emphasis is placed on the rising use of alternative nicotine delivery systems such as e-cigarettes and their potential risks. The study also explores the social and economic consequences of nicotine dependence, especially among adolescents and young adults. In addition, the paper reviews modern cessation techniques that have been developed to reduce nicotine addiction. These include pharmacological therapies such as nicotine replacement therapy (NRT), bupropion, and varenicline, as well as behavioral interventions like counseling, cognitive behavioral therapy, and digital health tools including mobile applications and telehealth support. The effectiveness, advantages, and limitations of these approaches are critically analyzed. The findings suggest that a combination of pharmacological and behavioral strategies yields the most successful outcomes in nicotine cessation. The study concludes by highlighting the importance of awareness programs, policy implementation, and personalized treatment plans to effectively combat nicotine dependence in modern society.

**KEYWORDS:** Nicotine addiction, Smoking, E-cigarettes, Nicotine replacement therapy, Smoking cessation, Public health, Behavioral therapy, Pharmacological treatment, Varenicline, Bupropion, Digital health interventions, Tobacco control.

## INTRODUCTION

Although there are several studies conducted on teenage smoking, the causes to become smokers in adolescence remain unclear. Several factors were identified but the extent of its influence still obscure. Therefore, the purpose of this study is to investigate the significant difference in the extent of influence of these identified factors when teens are group according to gender and age group of 13 to 16 years old versus 17-19years of age. Smoking is a process in which tobacco is burnt and smoke is inhaled by different ways i.e., cigarette, cigar, Biri and pipe. It gives sense of pleasure and satisfaction to the smoker. It is complex external and internal stimulus consisting of visual, tactile, mechanical (mouth movement), gustatory, olfactory and irritating factor. The average per capita cigarette consumption in hungry is among the highest in the world (WHO). Cigarette smoking is one of the leading health indicators that reflect the major health concerns in the USA. Although the percentage of the population that smokes has declined in the USA and other industrialized countries. It is increasing in developing countries. According to the WHO smoking diseases are set to become a greater problem in these countries than communicable diseases and malnutrition. Tobacco use is one of the chief preventable causes of death in the world. Nearly 50,000 deaths annually are attributed to tobacco and in Islamic Republic of Iran it is estimated that the figure will reach about 200,000 annual deaths due to smoking in 20 years' time.[1] Numerous throughout the world have examined the risk factors for cigarette smoking. Some of these

include genetic and demographic factors, social norms, peer influences and parental attitudes and behavior.

Cigarette smoking is considered a "gateway" drug in as its use often precedes use of alcohol, marijuana or other illicit drugs 9.During the last 20 years the amount of tar and Nicotine content delivered by cigarette made by United States has decreased more than 50%10. WHO estimates that by the decade 2020-2030 tobacco will be responsible for 10 million deaths per year, with 70% occurring in developing countries. In Thailand Prevalence of current smoker has been reported to be greater than 9 million or 19.5% of 49.4 million, in 20051.It generates many toxic and carcinogenic compounds harmful to health, such as nicotine, NO, CO, hydrogen Cyanide and free radicals. Tobacco smoking is modifiable risk factor for many non-communicable diseases.[1] Including lung cancer, chronic respiratory diseases, cardiovascular diseases, diabetes, and hypertension. It is responsible for death in smokers which can be prevented. Estimates show smoking increases the risk for coronary heart disease by 2 to 4 times and stroke by 2 to 4 times. Lung diseases caused by smoking include COPD, which includes emphysema and chronic bronchitis. Smoking can cause cancer almost anywhere in the body bladder, blood (acute myeloid leukemia), cervix, colon and rectum, esophagus. Smoking also increases the risk of dying from cancer and other diseases in cancer patients and survivors. In less developed countries the amount of 10% spent on buying cigarettes can be used as domestic expenditure. Members of below poverty line smoke cigarettes spend 40% of their earnings at the price of the necessities pushing them to further poverty. There is inverse relationship observed between tobacco smoke and the income group. Cigarette smoking is mostly observed in the lower socio-economic status group. Cigarette smoking hampers the socioeconomic development of the country as death in half of cigarette smokers occur in economically productive age group. India is the 2nd largest producer and consumer of tobacco. There are many forms of tobacco use in India. According to NFHS-4 report, 44.5% of men and 6.8% of women used tobacco in any form. 30.6% men and 29.3% women tried to stop usage during the last 12 months.6 Apart from the smoked forms that include cigarettes, bidis and cigars, a plethora of smokeless forms of consumption exist in the country.[4] The prevalence of secondhand smoking is inadequately reported. Every year 3 million people die due to smoking according to WHO estimates. The major health problem is cigarette smoking among children and adolescents. Today an estimated 150 million young people use tobacco. Majority of tobacco users worldwide began when they were adolescents. It is the age of transition of mind, and they tend to be experimenting new things. They are vulnerable to changes happening around them. Their minds are very much influenced by the peer pressure, the affect being greater than the influence from members of the house. According to Global Adult Tobacco Survey (GATS) among minors (15-17), 9.6% consumed tobacco in some form and most of them were able to purchase tobacco products. In Andhra Pradesh prevalence of tobacco smokers among 13-15 years adolescents was 3.5 and 1.4 in males and females respectively and smokeless tobacco was 8.4 and 5.2 in males and females respectively. The study was planned in Nandura area as there were not many studies of this sought in urban and rural high schools. The reason for selection of only students from 8th to 10th standard onwards is that young students might not understand the questionnaire, which could give rise to false responses and low response rates. Students of this age group are more vulnerable to smoking, alcohol and substance abuse. The objective is to study the knowledge and attitude among two high school children of rural and urban areas in the field practice area of Medicate Institute of Medical Sciences. October 2014. The study period included administering the questionnaire, collection of data, analysis, comparison and report writing.[2] A quantitative study was conducted to determine the extent of influence of factors on cigarette smoking among teenagers in City high school and St. Louis high school. Tobacco consumption is a major preventable risk factor for cancer and other non communicable diseases. It is a major cause for morbidity and mortality in India. Around 1 million people die every year in India due to tobacco consumption. According to the Global Adult Tobacco Survey (GATS) 2010, nearly 34.6% of Indian population consume tobacco of which 29.1% cons use tobacco daily. The percentage of tobacco use is higher in males compared to females. Around 60% of the tobacco users are dependent of tobacco. The tobacco consumed in India can be. Broadly classified into two categories: a. Smoked tobacco: Cigarette, beedi, cigar, and hookah b. Smokeless tobacco: Gutka, mawa, and khaini.[3]

**HARMFUL HEALTH EFFECTS DUE TO SMOKING:**

If you've been smoking a while, then there's a whole list of illnesses which will make life more difficult for you. Smoking increases the risk of heart disease and stroke, atherosclerosis, they can cause heart attack, constriction of blood vessels, increased heart rate and increases blood pressure.


***Fig. No. 1*: *a) Smokers Lungs & b) Healthy Lungs.***

**Smoking**

Smoking is the Practice of inhaling smoke from burning plant material. Nicotine work on your brain to create a relaxing, pleasurable feeling that makes it tough to quit. But smoking tobacco puts you at risk for cancer, stroke, heart attack, lung disease, and other health issues. Nicotine replacement lifestyle changes may help you quit.

Cigarettes contain roughly 600 ingredients, creating over 7,000 chemicals when burned, at least 69 of which are known to cause cancer. These toxins including nicotine, DNA, cause chronic inflammation, damaged blood vessels, and lead to cancers, heart disease, and severe respiratory illness. Cigarette smoke contain over 70 knows cancer causing chemicals, including benzene, formaldehyde, and arsenic.[4]

**Toxic chemicals in cigarettes**

- **Nicotine**: A highly addictive substance, it is the primary reason people continue to smoke, though it is relatively less harmful than other component in term of direct organ damage.
- **Tar**: A thick, sticky residue produced during combustion that contain most of the cancer causing chemicals [carcinogen] and coat the lungs, impairing respiratory function.
- **Carbon monoxide**: A colorless, odorless, poisonous gas that enters the bloodstream, Binding to hemoglobin more effectively than oxygen, reducing the blood's ability to carry oxygen and forcing the heart to work harder.
- **Benzene:** An industrial solvent used in gasoline, linked to leukemia.
- **Arsenic:** used in pesticides and rat poison, this accumulates in the body and damaged the heart and DNA.
- **Formaldehyde**: A highly poisonous substance used to embalm due to bodies, causing lung damaged and cancer.
- **Radioactive material's**: Radioactive polonium 210 and lead 210 and found in tobacco accumulating in the lunges.[5]

**Effect of cigarettes chemicals on the body**

- **Respiratory system**: destroy cilia in airway, leading to obstructive pulmonary disease [COPD], bronchitis.
- **Cardiovascular system**: Damaged the lining of blood vessels increase fat accumulation in arteries and blood clot, leading to heart attacks and strokes.
- **Cancer**: chemical cause DNA damaged that stopes cells from repairing themselves, causing cancers of the lungs, throat, and many other organs.
- **Immune system**: cause chronic inflammation and weakened immune system, making smokers more susceptible to disease.
- **Reproductive system:** cause erectile dysfunction in means fertility issues in women due to chemical damaged.
- **Brain:** Nicotine reaches the brain in seconds, creating added altering normal brain function, creating. A cycle of depends.
- **Eyes:** Increase the risk of cataracts and macular danger.
- **Skin**: Accelerates aging and cause premature wrinkling.

## METHODS

A cross-sectional study was conducted in two randomly selected schools from rural and urban areas of Nandura and Sheagon district Buldhana. Two schools, one from rural and one from urban, comprised the total study population. The students were from the high school and included classes from 8th, 9th and 10thmost of them were in the age group 13-15 years. Approximately 367 students have been given the questionnaire. The design used for this study was the quantitative research design. The subjects were 100 students (male and female) studying in Nandura city. The age bracket for subjects was 13-19 years for male sand females. The sample for this quantitative study was constructed by purposive sampling students in Nandra. who were asked to voluntarily answer the questionnaire. The sampling which was used in determining the number of respondents who were included in the study was by convenience sampling. Excluded are those who already

stopped smoking at the time of study. Question naire , in the form of a checklist was the primary tool used in the data gathering relevant to the study.5 Descriptive statistics which included frequency, % distribution, average and weighted mean were used. Average mean was used to determine the extent of influence of factors on smoking among teenagers of Nandura city. Standard deviation and *t test* was used to determine the extent of influence when the teenagers were grouped according to age and gender.[5]

**Chemical Substances in Cigarettes**

Since 1950, there has been an identification of the chemical components in tobacco. Until now, almost 7,000 chemical compounds have been identified in cigarette smoke. Of the 7,000 chemical compounds, 69 of them are known to be carcinogenic. Carcinogenic compounds are present in cigarette smoke such as acetaldehyde, arsenic, benzene, cadmium, ethylene oxide, formaldehyde, polonium nickel. Smoking is enjoying burned nicotine. Nicotine is a specific organic compound contained in tobacco leaves. If we smoke nicotine, it will cause psychological stimulation of addiction. In addition to nicotine, the additives, flavoring, and aroma of cigarettes are also formed to fulfill the tastes of consumers (smokers). Currently, several types of cigarettes have been equipped with filters to reduce tar and nicotine levels.6 Even though you have used a filter, this does not mean that cigarettes will be safe for consumption, as some chemicals can still pass through the filter.

**Smoking and Addiction**

The definition of addiction has continued to evolve over time. Initially it meant simply strong, usually passionate liking for something. More recently it has become understood as liking for something of which society disapproves, and possibly having strong, recurrent desires that the person might at times wish he or she did not have. Anyone who starts using tobacco can become addicted to nicotine. Studies show that smoking is most likely to become a habit during the teen years. The younger you are when you begin to smoke, the more likely you are to become addicted to nicotine. Smoking is considered a form of addiction, as medical research has proven that smoking tobacco is addictive. Like all drugs, only 96% of alcoholic drinkers become addicted by the time you reach puberty. The percentage of people who are addicted to smoking is 85% and the reason for addiction is that the nicotine in the cigarette enters the blood Which feeds the arteries of the brain, and soon the brain and nervous system get used to the presence of nicotine, so it gets used to it He demands it constantly, and the habit turns into an addiction, and smoking is a wide gateway to the world of drugs. Smoking is directly related to the incidence of allergies and infections of the respiratory tissues, which include Nose, sinuses, bronchi, in addition to other harmful effect effects on the respiratory system include Chronic bronchitis, emphysema, enlarged lymph nodes in the chest and infections recurrent viral. Smoking has a direct relationship to atherosclerosis and the formation of blood clots, which may lead to angina pectoris, coronary artery insufficiency, damage to heart tissue, heart attack and stroke. Smoking may lead to harmful effects on the digestive system, including defects in the taste glands Tongue, indigestion, stomach ulcers, which predispose to gastric and duodenal cancer. And pancreatic cancer, and health statistics confirm that smokers have stomach ulcers. The duodenum is 3 times that of nonsmokers, and scientific research confirms that the stomach. The smoker excretes acids more than the normal rate by about twice. Smoking by a pregnant mother severely affects the fetus and pregnancy, as a result of the effect of nicotine and monoxide Carbon, which leads to a lack of oxygenation of the placenta and the fetus's body, medical studies indicate the placenta separates early from the uterine wall, as well as an increase in the secretion of the hormone (oxytocin) which causes uterine contraction. These combined effects lead to premature birth, low birth weights Female smokers (less than 16% of normal weight), spontaneous abortion and weak immunity have a normal newborn. Smoking causes memory disorders and has a devastating effect on human vitality and sexual abilities. Smoking harms the vitality and integrity of the gums, in addition to the deposition of toxic substances on the gums and teeth, causing Tooth loss, gum disease and bad breath characteristic of smokers. Nicotine affects nerve fibers and capillaries in the retina of the eyes, causing damage.[7]

**Effects of smoking on humans**

Tobacco has been around for centuries, but what we know about the health damage from smoking is much newer. For example, smokers tend to die more than 10 years earlier than people who don't smoke. You can improve your health by choosing to quit smoking. It causes the spread of various diseases, such as cirrhosis of the liver, and cancers; as lung cancer because it contains asbestos dust. The appearance of the teeth is distorted by the appearance of yellow spots on them. It gives the smoker an unpleasant breath that repels people from him because smoking helps the growth of many bacteria in the mouth, which produces an unpleasant smell. It causes gum disease and tooth loss. Slows wound healing. Decreases the sense of taste. It causes cancer of the mouth and throat. It causes birth defects in fetuses. It causes inflammation in the joints and bones. Increases the incidence of heart disease, Such as angina pectoris, clots, and blockage of the arteries.[8]

Increases the incidence of eye allergies. It causes headache. It leads to infections of the ear, throat, and larynx.

**Table I: The Extent of Influence of Factors on Cigarette Smoking Among Teenagers in Nandura city.**

| Sr. No. | Items | X | Interpretation |
|---|---|---|---|
| **1.** | Accessibility to vendors. | 2.95 | HI |
| **2.** | Relieves stress. | 2.85 | HI |
| **3.** | Claim for independence. | 2.71 | HI |
| **4.** | Friends forced me to do it. | 2.7 | HI |
| **5.** | Satisfy feeling of belongingness. | 2.69 | HI |
| **6.** | To follow smoke habits of friends | 2.58 | HI |
| **7.** | Substitute for meals \|temporary relief from hunger. | 2.58 | HI |
| **8.** | Responding to advertisements. | 2.25 | LI |
| **9.** | For weight control. | 2.18 | LI |
| **10.** | To establish macho sexy social identity. | 2.18 | LI |
| **11.** | To agonize the will of my parent's others. | 2.16 | LI |
| **12.** | To gain recognition. | 2.15 | LI |
| **13.** | Following the examples of parents. | 2.14 | LI |
| **14.** | Mean | 2.47 | LI |

**Pregnancy and Smoking**

The content of cigarettes can harm the fetus. Smoking habits during pregnancy are associated with the incidence of Low Birth Weight (LBW). This relates to the carbon monoxide (CO) due to the cigarette burning process, which can bind strongly to hemoglobin. A strong bond of CO with hemoglobin will reduce oxygen transport to the fetus, causing hypoxia in the fetus and LBW. Also, smoking during pregnancy is a risk factor for ectopic pregnancy. The content of cotinine (active nicotine metabolite) increases the expression of prokinetic (PROKR1) in the fallopian tubes. This process disrupts fallopian contractility and triggers ectopic pregnancy.

**Smoking and Cancer**

Smoking is the most significant risk factor for cancer triggers due to 30% of deaths in cancer patients. Various carcinogenic substances found in cigarettes. This carcinogenic substance can bind to DNA, causing mutations. If the body cannot repair this mutation, it will become cells that grow out of control and become cancerous. These substances in cigarettes also induce mutations in p53 protein. This p53 protein plays an essential role in regulating cell division and death. Mutations in this protein will cause uncontrolled cell growth that triggers cancer. The nicotine content can influence the occurrence of disease by activating angiogenesis, cell growth, and invasion of cancer cells.[9]

**Epidemiology of Cigarette (Tobacco) Smoking in the United States**

Although cigarette smoking is the most used form of tobacco in the U.S., the prevalence of cigarette smoking amongst adults has been declining in recent years. According to the 2015 National Health Interview Survey (NHIS), the percentage of adults aged ≥18 years who smoked cigarettes was 15.1% in 2015, a decrease from 20.9% in 2005 This general trend of decline in tobacco smoking in the United States has also been observed globally. The World Health Organization (WHO) reports that among adults over 15 years, the global rate of smoking declined from 23.5% in 2007 to 20.7 in 2015, reflecting a 2.8% smoking rate reduction. Although there has been a decline in the prevalence of smoking globally, the number of people smoking worldwide has remained at 1.1 billion from 2007 to 2015 because of population growth. Several factors linked to declines in the prevalence of smoking include population-based interventions such as raising tobacco taxes, tobacco price increases, anti-tobacco mass media campaigns, comprehensive smoke-free laws, enhanced access to help quitting tobacco use, and implementation of governmental regulations of tobacco products. Of all these factors,[10]

Cigarette (tobacco) smoking is not only common among adults but is also common among youth. With the current trends of monetary investment into the tobacco industry, smoking poses a bigger threat to the younger population in American society. According to the Executive Summary of the U.S. Surgeon General Office report in 2012, everyday 3800 youth under the age of 18 start smoking.[8] Most adult smokers, 88%, smoked their first cigarette before the age of 18.[11] According to the National Survey on Drug Use and Health 2012, the mean age of smoking initiation was 15.3 years and less than 1.5% of cigarette smokers began smoking in adulthood (after 26 years of age) [9]. Although cigarette smoking most often begins during youth and young adulthood, the use of cigarettes among this population has been declining in recent years. Among high school students, 9.3% reported current cigarette smoking in 2015, a decrease from 15.8% in 2011. Among middle school students, 2.3% reported current cigarette smoking in 2015, a decrease from 4.3% in 2011.[10] While the use of cigarettes among youth has declined, the use of electronic cigarettes in this population is increasing. Electronic cigarettes are currently the most commonly used form of tobacco among middle and high school students. In 2015, 16% of high school students reported current electronic cigarette use, an increase from 1.5% in 2011. Among middle school students, 5.3% reported current electronic cigarette use, an increase from 0.6% in

2011. These trends in cigarette and electronic cigarette use highlight the importance of targeting smoking prevention efforts at youth and young adults.

**Curbing the Menace of Tobacco**

Raising taxes on all tobacco products to increase prices and generate revenue for tobacco control. The World Bank estimates that a 10% increase in price reduces demand by 8% in low or middleincome countries. [The World Bank, 1999] Since most of India's tobacco is consumed by the poor, with an increasing trend towards use by youth, price increases are likely to be effective with these groups which are the most price sensitive. (The World Bank, 1999) The additional revenue can be spent on social sector initiatives benefiting the poor and on strengthening tobacco control programs.[11] A complete ban on smoking in public places by law. If that is not possible, designated smoking areas should be separated from non-smoking areas through specified engineering guidelines. Strict adherence to engineering criteria should be followed in all public places. Impose a ban on oral tobacco products such as gutka, pan masala and dobra. Strengthen enforcement of existing laws and regulations. Develop and implement specific, practical, innovative strategies and interventions which society and the Government (central, state, and local) can take to ensure consistent, long-term enforcement of the legal provisions. Establish coordinating mechanisms at Central and State levels. Tobacco control committees as suggested by the central government should be formed immediately at the state level and central level. A National Coordinating Mechanism should be immediately established to monitor effective enforcement of tobacco control legislation in India. Mobilize the people through mass education and community empowerment. Manager/owners of the hotel or restaurant or owner/occupier of any public places should be properly sensitized and subsequently held responsible (liable for fine /prosecution) if the customers smoke in the smoke free area. This person should be responsible for taking all reasonable steps to ensure that no person smokes in violation of the provisions of the law. Penalties need to be strict and specific.

**Pharmacological Treatment of Cigarette (Tobacco) Smoking**

All patients who are trying to quit smoking should be offered pharmacologic intervention except when these medications are contraindicated or in certain populations where there is insufficient evidence of effectiveness (e.g., pregnancy, adolescence, light smokers). Pharmacologic therapy should be used in addition to behavioral support for smoking cessation There are seven FDA approved medications for smoking cessation: transdermal nicotine patch, nicotine gum, nicotine lozenge, nicotine inhaler, nicotine nasal spray, bupropion sustained release (SR), and varenicline. These medications should be considered first line therapy according to the U.S. Public Health Service guidelines. First line agents are summarized in Table 6. Patients who do not respond to any first line medications or who have contraindications to first line agents may be prescribed second line agents. Second line agents include clonidine and nortriptyline. Second line agents are not FDA approved for smoking cessation but have demonstrated some effectiveness in treating tobacco use. Combination therapy of pharmacologic agents is often used in patients who have failed to achieve cessation with monotherapy. Combination therapy involves adding short acting nicotine replacement therapy (nicotine gum, lozenge, inhaler, or nasal spray) to longer acting agents, such as the nicotine patch or bupropion SR. Table 7 includes the wholesale acquisition cost of the FDA approved smoking cessation therapy for consideration by providers and patients. Clinicians tasked with selecting appropriate pharmacologic therapy for smoking cessation should consider using the first line agents prior to considering the second line therapy, except when there are contraindications to first line agents or when patients did not respond to first line therapy. Clinicians should also consider other factors such as cost, adverse effect profile, and route of medication delivery. The goal of therapy should be to administer an affordable agent with proven efficacy and good tolerability profile. Selecting a medication formulation that helps patients to achieve medication adherence is also desirable.[12]

**Toxicity**

Research shows that cellulose acetate-based cigarette filters do not biodegrade under most circumstances because of their compressed make up and the presence of acetyl molecules.[13] However, under specific circumstances (with sunlight and moisture), the cigarette filters may break into smaller plastic pieces containing and eventually leaching out some of the 7000 chemicals contained in a cigarette. Many of these chemicals are themselves environmentally toxic, and at least 50 are known human carcinogens. Studies have also shown that harmful chemicals such as nicotine, arsenic, polycyclic aromatic hydrocarbons (PAHs) and heavy metals leach from discarded tobacco product waste and can be acutely toxic to aquatic organisms such as fish. One recent study used the USA's Environmental Protection Agency standard toxicity assessment protocols to show that cigarette butts soaked in either fresh or salt water for 96 hours have a lethal concentration that killed half the exposed test fish. These chemicals come from across the tobacco production process, including pesticides and fertilizers, additives, the cellulose acetate filter.

**Other effects of smoking**

Smoking does cause relevant ill effects on many of the organs of our body, which is seldom understood and given very little importance by the general public due to the lack of knowledge and mere ignorance. These changes that smoking brings to our body may sound less harmful at first, but they may even be permanently irreversible when they progress to an advanced level. Smoking reduces the generalized immune status of an individual, and smokers are more prone to ailments than

those who don't smoke. Smokers get infected by pathogens more readily than nonsmokers. Smoking harms the oral immunity of an individual. Smoking reduces the host's oral immunity against Candida albicans and thus makes the individual susceptible to oral infections involving Candida. The natural oral and nasopharyngeal bacterial flora gets disturbed due to smoking, thereby leading to the colonization of these sites by potentially pathogenic organisms.[14] Smokers have lesser aerobic and anaerobic microorganisms with interfering capacity than non-smokers, threatening the normal oral flora. The disturbed composition of the flora gets reversed on cessation of smoking, highlighting that smoking is the primary factor responsible for disturbed oral flora in cases of chain smoker, it becomes impossible for the normal oral flora to get reestablished. The reduction in smoking is estimated to reduce the probability of the development of Alzheimer's disease, thereby having its say in a condition that has a profound impact on an individual's life. Otoacoustic Emissions (OAE) are generally reduced in smokers compared to non-smokers. Smoking cessation leads to a reduction in the incidence of periodontitis and is also helpful in the better prognosis of those undergoing treatment. Smoking is a massive hurdle in achieving and maintaining desirable oral health. Smoking interferes with the skeletal system of our body and is proven to be a crucial factor in the prognosis of many orthopedic conditions. Smoking causes delayed union of fractures, thereby leading to a more extended recovery period and poorer prognosis. Disorders of the lumbar disc and the metabolism of bones are affected adversely by smoking. Post-operative infection rates steadily increase when the patient who underwent surgery is a smoker. Smoking plays a crucial role in cancers of other organs, too, other than the lungs. Smoking is considered a significant risk factor in the causation of neoplastic changes in most of the malignancies found in human beings in one way or another. In patients with glaucoma, optic nerve vessel density is found to be reduced in association with the intensity of smoking.[15] Smoking leads to dryness of the eyes.

**Tips for Quitting Smoking**

Quitting smoking is not easy to do for smokers because nicotine addiction is one of the obstacles to quitting smoking. Quitting smoking is not impossible. Here are the ways you can stop smoking.

Strong inner determination. Consider first to make a list of reasons to stop smoking to sustain the determination.

a) Think positive and be sure to quit smoking successfully. Give a reward to yourself when the money is usually used for cigarettes and can now be used to buy favorite things.
b) Set a target time. Never immediately stop smoking. Try to reduce smoking habits slowly.
c) Give support to stop smoking, especially from the smoker's family and friends.
d) Look for activities to keep yourself busy. Activities such as worship, exercise, work can reduce the desire to smoke.
e) Visit smoke-free places such as houses of worship, libraries or other places.
f) Look for a substitute for smoking like gum, with the consumption of gum is expected to forget the smoking habit.
g) Busy after eating. Most smokers after eating will start smoking again, so when you finish eating, try to busy yourself to forget about smoking.
h) Consult a doctor. The doctor will prescribe drugs that can replace the effects of opium from nicotine to reduce tobacco frequently. Currently, the medications used to help stop smoking are nicotine. When smoking is stopped, the body will start a toxic disposal response and improve bodily functions.[16]

**METHODS OF SMOKING CESSATION**

Many different methods can be used for smoking cessation which includes quitting without assistance such as cold turkey or cut down then quit, medications such as nicotine replacement therapy (NRT) or varenicline, and behavioral counseling. The majority of smokers who try to quit do so without assistance, though only 3–6% of quit attempts without assistance are successful. The use of medications and behavioral counseling both increase the success rates, and a combination of both medication and behavioral interventions has been shown to be even more effective. Different methods for smoking cessation are show in table.[17]

**Smoking cessation methods**

**Medications**

**Nicotine replacement therapy**

**Transdermal nicotine patches**

- Lozenges
- Sprays Inhalers
- Antidepressants
- Bupropion
- Nortriptyline
- Varenicline
- Clonidine
- Psychedelic mushrooms
- Set a quit plan and quit date Community interventions Psychosocial approaches Self-help Biochemical feedback Competitions and incentives Interventions delivered via health-care providers and health-care systems Substitutes for cigarettes**.**
- Nicotine lozenges
- Nicotine gum
- Nicotine inhalers
- Nicotine patches
- Electronic cigarette
- Chewing cinnamon sticks or gum
- Alternative approaches
- Acupuncture
- Aromatherapy
- Hypnosis
- Herbs

- Smokeless tobacco.[17]

**Lozenges**

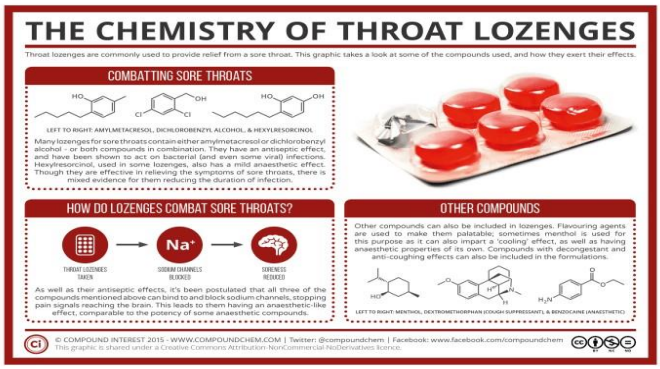


**Fig. 2: Chemistry of Throat Lozenges.**

- **Spray inhaler:** An inhaler is a device that gets medicine directly into a person's lungs. The medicine is a mist or spray that the person breathes.
- **Antiperspirants:** Antidepressants are prescription medications primarily used to treat depression, anxiety, PTSD, and chronic pain by balancing brain chemicals like serotonin and norepinephrine.
- **Bupropion:** Bupropion is an atypical antidepressant used to treat major depressive disorder, seasonal affective disorder (SAD), and aid in smoking cessation
- **Electronic cigarette:** Electronic cigarettes (e-cigarettes or vapes) are battery-operated devices that heat a liquid (e-liquid/e-juice) into an aerosol, which users inhale.
- **Nicotine patches:** Nicotine patches are FDA-approved trans dermal, smoking-cessation aids that
- **Nicotine gum**

deliver a steady, controlled dose of nicotine through the skin into the bloodstream.

- **Chewing cinnamon sticks or gum:** Chewing cinnamon sticks or cinnamon-flavored gum offers a natural, aromatic way to freshen breath and improve oral health.
- **Hypnosis:** Hypnosis is a changed state of awareness and increased relaxation that allows for improved focus and concentration.
- **Herbs:** Herbs are small, soft-stemmed, non-woody plants (or parts of plants) used for flavoring, garnishing, medicine, or fragrance
- **Smokeless tobacco:** Smokeless tobacco (SLT) refers to tobacco products that are consumed without combustion not burned or smoked by chewing, sucking, or sniffing.


**Fig. 3: Benefits of Nicotine Gum.**

**Table No. 2 Cessation of Health symptoms.**

| Sr. No. | Symptoms | Time periods |
|---|---|---|
| 1 | Craving for Tobacco | 3-8 weeks |
| 2 | Dizziness | Few days |
| 3 | Insomnia | 1-2Weeks |
| 4 | Headache | 1-2 weeks |
| 5 | Chest discomfort and constipation | 1-2 weeks |
| 6 | Irritability and fatigue | 2-4 weeks |
| 7 | Cough or Nasal drip | Few Weeks |
| 8 | Lack of concentration | Few weeks |
| 9 | Hunger | UP to several weeks |

**HEALTH BENEFITS FROM SMOKINGCESSATION**

Tobacco's detrimental health effects can be reduced or largely removed through smoking cessation. The health benefits over time of stopping smoking include.

**Tobacco use questions.** Both screening surveys included an initial question that asked, "In the last three months, have you smoked cigarettes at all?" Respondents who answered yes to this question also answered a question to establish the average number of cigarettes smoked per day (answer categories included less than 1, 1–9, 10–19, 20–29, 30, or more) as well as questions based loosely on the CAGE questionnaire (Mayfield, McLeod, & Hall, 1974), including "In the last three months, have you been waking up in the morning wanting to smoke a cigarette?" Only this question was selected for analysis as it has been validated for detecting emerging tobacco dependence among younger populations.[18]

**Limitation**

As the study is a cross‑sectional study, the results can be demonstrated as association and cannot provide evidence for causality. Another limitation is the self‑reported rates of tobacco use, at there could be some underreporting of this addictive behavior. Limitations The study's limitations should be considered. First, the relatively small sample size of participants and recruitment methods limit the generalizability of the findings beyond the study's specific population and context. Second, the findings from the qualitative analyses may be biased by the researchers' backgrounds and experiences, influencing how they are interpreted and categorized. The patterns and relationships identified in the qualitative data do not reflect causality. Moreover, participants' reactions may be shaped by their perceptions of what is socially desirable or acceptable, leading to response bias. Furthermore, self-report data in surveys and interviews may be subject to recall biases or question misinterpretation.[19]

**DISCUSSION AND CONCLUSION**:

On a stick, Cigarettes contain approximately 4,000 types of chemicals, 40 types of which are carcinogenic (can cause cancer), and at least 200 of them are harmful to health. The main toxins in cigarettes are tar, nicotine, and carbon monoxide. Cigarettes are also addictive substances because they can cause addiction (addiction) and dependence (dependence) for people who smoke. Based on the description above, it can be concluded that smokers at the level of addiction, which is a form of dependence on cigarette consumption when it is heavy to smoke more than 20 cigarettes per day. Most drug addicts start their careers by smoking in their early teens. The factors that cause drug addiction include internal and external factors that influence either directly or indirectly against resistance from within. It is believed that 1 in 4 drug addicts start with a smoking addiction. Starting from addiction to cigarettes, continue to become addicted to drugs. The purpose of this paper has been, first, to draw attention to cigarette smoking as a dangerous and highly prevalent form of drug abuse, and second, to banish any complacency which may still exist about the prospective effectiveness of the various control techniques which have recently been employed. The central feature of the problem is the sheer number of individuals who place themselves at risk. It is unlikely that clinical procedures will do any more than scratch the surface of the cigarette smoking epidemic. Even if all smokers who had tried unsuccessfully to stop smoking came forward for clinical assistance and a high success rate was guaranteed, it is most improbable that sufficient resources would be available to help more than a small percentage. Furthermore, this approach ignores the remaining large proportion of smokers who apparently have no desire to curb their consumption, and it makes no direct contribution to tackling the problem at its inception by discouraging the young potential smoker. The first priority is for the development of potent and practical communication procedures which can be used by doctors and health educators on a regular basis to deter young people from acquiring the smoking habit and to persude the complacent adult smoker of the need to make serious attempt to stop on his own.

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