

# Role of Homoeopathy in Tobacco Addiction- A Narrative Review

**Renu Bala, Amit Srivastava**

Research Officer (H)/ Scientist-1, Regional Research Institute for Homoeopathy, New Checkon, Opposite Tribal Colony, Imphal, Manipur, India.

Corresponding Author: Renu Bala

## ABSTRACT

Use of alcohol, tobacco and drugs is referred to as 'substance use'. There are wide variations in extent and prevalence of use across different states and between various substances. In adult populations around the world, alcohol, tobacco and cannabis are the most commonly used psychoactive substances. They are associated with a wide range of negative health consequences.

Chewing betel nuts with leaves of betel plant and lime paste and smoking tobacco constitute the two most common traditional forms of substance use in almost all NE states of India. Non-communicable diseases (NCDs) like ischemic heart diseases, cancers, diabetes, chronic respiratory diseases are the leading causes of death globally and associated with tobacco use. This narrative review presents an overview of the magnitude of tobacco use, its health consequences and role Homoeopathy can play in addressing disorders related to tobacco use to help people to avoid or delay its addiction and to avert the development of the withdrawal symptoms in case of quitting.

**Keywords:** Tobacco, Nicotine, Addiction, Homoeopathy

## INTRODUCTION

Tobacco use is a pervasive public health problem and the leading cause of preventable morbidity and mortality. "Tobacco use" is defined to include use of cigarettes, smokeless tobacco, cigars, and electronic nicotine delivery systems (ENDS), or "e-cigarettes". Tobacco dependence is 'Cluster of behavioural,

cognitive and physiological phenomena that develop after repeated tobacco use and include a strong desire to use tobacco, difficulties in controlling its use, persistence in its use despite harmful consequences' whereas addiction is characterized by compulsive drug-seeking and use, even in the face of negative health consequences.<sup>[1]</sup>

Non Communicable Diseases (NCD) contributes to about 5.87 million deaths and account for 60% of all deaths in India. India contributes to more than two-third of the total deaths due to NCDs in the South-East Asia Region (SEAR). Tobacco use is identified as the single largest risk factor attributable to NCDs.<sup>[2]</sup>

Homeopathic medicines can strengthen a person's overall constitution so that they are not only less physically addicted to tobacco but that they feel stronger emotionally and thus feel less addicted to tobacco smoking and chewing.

### Nicotina tabacum

Nicotina tabacum or cultivated tobacco is a yearly grown plant. Pharmacognosy: Class- N. tabacum, Kingdom: plantae, Clade: Angiosperms, eudicots and asteroids, Order: solanaels, Family: solanaceae, Genus: nicotiana, Species: N Tabacum, Binomial Name: Nicotiana tabacum L.

The species of hybrid nicotina is ancestry of nicotiana sylvestris, nicotiana tomentosiformis and may be nicotiana otophora. The tobacco documented as a murder poison by Belgian chemist Jean S in 1851. It is commercially cultivated

worldwide. The *N. tabacum* growth is perceptive to temperature ( $T^{\circ}$ ), humidity, nitrogenised soil and requires  $T^{\circ}$  20–30 °C (68–86 °F), humidity needs in the range of 80-85%, and necessitates nitrogen rich soil.<sup>[3]</sup>

#### Historical Aspects of Tobacco<sup>[4]</sup>

The history of tobacco is entrenched into the human civilization almost since its origin. Tobacco was introduced to the world by Christopher Columbus in 1492. Within 150 yrs, tobacco was being used around the globe. In 18<sup>th</sup> century, snuff held sway, the 19<sup>th</sup> century was the age of the cigar, the 20<sup>th</sup> century was the rise of the manufactured cigarette and at the beginning of the 21<sup>st</sup> century 1/3<sup>rd</sup> of the adults in the world including increasing number of women used tobacco.

At the beginning, tobacco was used for medicinal use. Native Americans discovered the medicinal properties of tobacco in 1500. In France, scientist prescribed it to treat the migraine headaches of the Queen of France. At the beginning of the 17<sup>th</sup> century, some adverse impacts of this product were observed. King of England, described tobacco as harmful for mind and lungs. In this century they take the first legislative measures against tobacco. Tobacco gained entry into the royal courts of India as a barter commodity to trade Indian textiles in the 17<sup>th</sup> century. In 1830, the first industrial cigarettes appeared which changed the trade of tobacco products. In 1950, Doll & Hill found the link between smoking and rising cancer. This event marked the beginning of modern tobacco control efforts. Smoking prevalence started to decrease in many western countries. But the tobacco industry concentrated efforts to conquest new markets in many high-income countries (in Africa/Asia). This increasing popularity of tobacco continued to grow until the mid-1990s when it was condemned as a health hazard, following scientific revelations.

#### Forms of tobacco intake<sup>[5,6]</sup>

1. Cigarette - Most common and most harmful worldwide

2. Bidi – most commonly used form in Bangladesh and India
3. Cigar , Pipes- worldwide
4. Hookah (Hubble bubble)- Mediterranean region, Asia
5. Tobacco chewing- America, Africa, South East Asia, Western Pacific
6. Kreteks (clove cigarettes)- prevalent in Indonesia
7. Snuff – South-East Asia, Saudi Arabia, South Africa, America
8. E-cigarette – Europe, America
9. Dissolvables- America

#### Creation of Addiction<sup>[7]</sup>

The active ingredient for addiction is nicotine, a naturally occurring drug found in all the different forms of tobacco. Nicotine is highly addictive, as addictive as heroin and cocaine and acting as both a stimulant and a depressant where it increase attention, memory, learning and also alleviate anxiety, depression, and pain.

Nicotine stimulates the dopaminergic pathways of the mesolimbic system in the brain, an area that is involved in reinforcement for other drugs of abuse. Nicotine binds to the nicotinic acetylcholine receptors (nAChRs) in the brain, causing the release of dopamine and the subsequent release of neurotransmitters, resulting in behavioural arousal and neural activation. Release of dopamine, nor-epinephrine, and serotonin is associated with pleasurable feelings and also with appetite suppression. The excess release of acetylcholine associated with nicotine consumption is related to improved attention, increased vigilance in the performance of repetitive tasks, and memory improvements. These pharmacological effects play a large role in maintaining smoking behaviour in the addicted smoker. Nicotine also affects metabolism by decreasing appetite and increasing metabolic rate.

#### How Addiction develops

Addiction to nicotine does not happen quickly, after using tobacco once or twice; it develops over time. Evidence shows that around 50% of those who start smoking in the adolescent years continue to

smoke for 15 to 20 years. *Transtheoretical Model of Intentional Behaviour Change (TTM)* describes the process as one in which individuals move through the following five stages on the road to developing a well-maintained pattern of behaviour:

1. **Precontemplation**- It is the stage in which individuals who have never smoked cigarettes but are beginning to form or have already formed attitudes and beliefs about smoking. Beliefs at this stage are often negative.

2. **Contemplation**- Individual becomes more aware of smoking, is open to considering smoking, and/or experiences some desire to experiment with smoking.

3. **Preparation**- Individuals not only are interested in smoking but also have some intention to smoke in the near future, typically within the next 30 days. A youth in this stage of smoking initiation might seek out individuals who smoke and may begin to experiment with cigarette smoking. The person experimenting with smoking may begin to find more pros than cons with regard to the practice.

4. **Action**- The action stage typically consists of up to six months of a regular pattern of smoking in certain situations, such as at parties. If smoking behaviour is not viewed as sufficiently reinforcing, individuals may move back into one of the earlier stages of smoking initiation.

5. **Maintenance**- The fifth stage, *maintenance*, firmly establishes the addiction in many different contexts, such as before and after school, while driving a car, or while alone, in a regular pattern of use. Individuals in this stage have an established pattern of regular smoking that has lasted for more than six months.

### **Nicotine Content**

A typical cigarette contains approximately 0.5 to 1.0 g of tobacco and, on average, 10 mg of nicotine. Nicotine from a smoked cigarette will reach the brain in as little as seven seconds after inhalation. A typical smoker will absorb 1 to 2 mg of nicotine. Nicotine concentration in the tobacco of bidis (21.2 mg/g) is significantly

higher than in manufactured filtered (16.3 mg/g) and unfiltered cigarettes (13.5 mg/g).

Smokeless tobacco products vary considerably in nicotine content, pH, and levels of various carcinogens. Since nicotine from smokeless tobacco is absorbed through the buccal mucosa, the rate of absorption and action for nicotine from smokeless tobacco is thus slower than from the smokers. The delayed effect may make smokeless products less addictive than cigarettes.

The highest concentrations of nicotine are in dry snuff, which has an average of 16.8 mg/g, followed by moist snuff (12.6 mg/g) and chewing tobacco (9.9 mg/g).

### **High-risk populations<sup>[8,9]</sup>**

People with mental disorders-including substance use disorders- smoke at higher rates than the general population. Additionally, people living below the poverty line and those with low educational attainment are more likely to smoke than those in the general population. Nicotine exposure during adolescence causes addiction, sustained tobacco use into adulthood, and may have lasting adverse consequences for brain development.

### **Risk factors for tobacco initiation<sup>[7]</sup>**

Following factors influence the tobacco use:

1. **Psychosocial Risk Factors**- Belonging to lower socioeconomic group, peer smoking prevalence; the adolescent's environment, attitudes and behaviours of friends, siblings and parents, lack of parental monitoring, low levels of academic achievement, and previous experimentation with tobacco products.

2. **Behavioural and Psychological Factors**- The repeated dosing of tobacco coupled with the fact that withdrawal symptoms are often averted with each cigarette, makes nicotine one of the most addictive drugs. In addition to this, certain behaviours as smoking after a meal, while on the phone, or driving a car, also become associated with smoking and reinforce continued use.

3. **Social and Environmental Influences and Marketing**- Social and environmental

influences can both discourage and encourage tobacco use. For instance, enforcement of smoke-free policies, taxes, and social sanctions can discourage use and being surrounded by peer group or family members who smoke can encourage smoking. Prevalence of tobacco use: worldwide<sup>[5,10]</sup>

Globally, 942 million men and 175 million women aged 15 or older are current smokers. Tobacco smoking among males is highest in the Western Pacific region, followed by the European, Eastern Mediterranean, and South-East Asia. Among females, its prevalence is high in Europe followed by the Americas and the Western- Pacific region but low in Egypt, Sri-Lanka, Ghana, Bangladesh, Iran, Congo, China, and India, due to cultural and religious implications.

Exposure to secondhand smoke is common in many countries, notably in Asia. In Indonesia and Pakistan, more than 80% of people are exposed to secondhand smoke in restaurants. In 2016, an estimated one-fifth of males and one-third of females globally were exposed to secondhand smoke and it caused an estimated 884,000 deaths.

Smokeless tobacco products are consumed with highest prevalence in countries of South-East Asia (90%) extensively in Myanmar, India, Nepal, Bangladesh and Sri Lanka, the Eastern Mediterranean (mainly in Pakistan) and Western Pacific (China, Cambodia, Malaysia) to express solidarity and commensality amid individuals of different classes and social groups.

### **Prevalence of Tobacco in India**

India is the second largest consumer of tobacco products, with more than 200 million users of smokeless forms of tobacco and 276 million consumers of tobacco overall. Of the estimated 28.6% tobacco use in India, only 10.7% of the total tobacco consumption is in the form of smokers whereas 21.4% is used in the form of smokeless tobacco products. India accounts for 12% of the tobacco smokers in the world and of the estimated 1 million tobacco-

attributable deaths annually, smoking and exposure to second-hand smoke kill about 0.93 million people each year, while smokeless tobacco use kills an additional 0.02 million individuals in India annually, accounting for 74% of the global burden of smokeless tobacco.<sup>[11]</sup>

### **Factors affecting tobacco consumption in India**

1. Age: Tobacco usage is highest among individuals aged 45 and above and least among individuals below 24. The most susceptible age for the initiation of tobacco use is late adolescence and early adulthood, i.e. 15– 24 years of age.<sup>[11,12,13]</sup>

2. Gender: Global Adult Tobacco Survey (GATS) signified that larger population of males consumed smoking/smokeless tobacco products as compared to females as 19% of all men and 2% of all women smoke, while 29.6% of all men and 12.8% of all women use smokeless tobacco products.<sup>[11,14]</sup>

3. Socioeconomic: The prevalence of both chewing and smoking forms of tobacco (mostly bidi) was significantly higher in rural, poor, and uneducated population, while cigarettes were commonly preferred among people living in urban regions.<sup>[11,13,15,16]</sup>

4. Social, cultural, and demographic correlates of tobacco consumption: Tobacco usage in India is related to the social-status and socio-cultural codes of behaviour. GATS surveys showed that there is a high prevalence of tobacco use in north-eastern states of India, Odisha, West Bengal and Chhattisgarh. However, it is less prevalent in Goa, Puducherry and Kerala.<sup>[11,17]</sup>

5. Tobacco control and taxation: Tobacco taxation passed on to consumers as higher cigarette prices have been considered as one of the most influential population-based strategies for decreasing smoking.<sup>[18,19]</sup>

### **Quitting smoking<sup>[20]</sup>**

According to GATS, over 60% of smokers indicated that they intend to quit and 38.5% of adult smokers and 33.2% of adult SLT users in India had attempted to quit.

## **Tobacco use and its associated health risks**

Smoking tobacco causes exposure to a lethal mixture of more than 7000 toxic chemicals, including at least 70 known carcinogens that can damage nearly every organ system in the human body. A regular life-long smoker loses at least 10–11 years of life to tobacco on average.<sup>[5]</sup> Worldwide, tobacco causes about 8.8% of deaths and 4.1% of Disability Adjusted Life Years (DALY) killing more than 7 million individuals annually among whom more than 6 million due to direct tobacco use, while around 0.89 million are by second-hand smoke. The figure is expected to rise to 10 million deaths per year by the 2020s or early 2030s.<sup>[21]</sup>

### **Cardiovascular diseases**<sup>[22, 23]</sup>

Death from heart disease and stroke, the two leading causes of death in the world, are heavily tied to tobacco use. Smoking acts synergistically with other risk factors like high cholesterol and blood pressure to increase the risk of Coronary Heart Diseases.

### **Respiratory Diseases**<sup>[5]</sup>

World Health Organization (WHO) highlights that over 40% of all tobacco-related deaths are from lung diseases like cancer, chronic respiratory diseases and tuberculosis.

- Lung cancer: Tobacco smoking is the primary cause for lung cancer which is now the leading cause of cancer death in the world among men accounting for over two thirds of lung cancer deaths globally.
- COPD: Tobacco smoking is the leading cause of Chronic Obstructive Pulmonary Disease (COPD) and 45% of all deaths from COPD are attributed to tobacco use. The risk is particularly high among individuals who start smoking at a young age, and those exposed to second-hand smoke. Tobacco also exacerbates asthma, which restricts activity and contributes to disability.

### **Cancers associated with tobacco**

Tobacco is also associated with cancer of respiratory tract, lung, upper gastrointestinal tract, liver, pancreas, kidney, urinary bladder, oral cavity, nasal cavity, cervix, etc.<sup>[22]</sup> Smokeless tobacco is a major cause of cancer of the oral cavity. Studies have shown that more than 90% of the oral cancers are due to tobacco abuse.<sup>[24, 25]</sup> Risk of developing cancer increases with duration of use of tobacco, number of tobacco product use per day and degree of inhalation.<sup>[26]</sup>

### **Smoking and reproductive health of women**<sup>[11, 25]</sup>

Nicotine causes hormonal imbalance through its stimulation of growth hormone, cortisol, vasopressin, and oxytocin release, which in turn inhibits luteinizing hormone and prolactin leading to reduced fertility, decreased chances of conception, increased menstrual abnormalities, and early menopause in women. It is estimated that more than 0.4 million infants are exposed each year to maternal smoking in utero. It increases complications as ectopic pregnancies, premature rupture of the membranes, placenta previa, placental abruption, preterm delivery, shortened gestation.

Newborns experience unfavourable health consequences as low birth weight, congenital malformations, specifically orofacial clefts, lower respiratory illnesses, otitis media, middle-ear effusion, decreased lung function, congenital heart defects, limb abnormalities, central nervous malformations and sudden infant death syndrome (SIDS).

### **Secondhand smoke and its effect on health**<sup>[11]</sup>

Secondhand smoke may be invisible and odorless, it can linger in the air for up to five hours. It then gradually settles over furniture, carpets, toys which children may absorb. More than 60,000 children under 5yr die of lower respiratory infections caused by secondhand smoke. Those who live are more likely to develop COPD later in life. Infants exposed are at an alarming risk of sudden infant death syndrome, ear

infections, cold, pneumonia, bronchitis, severe asthma, and slow lung growth. It causes serious cardiovascular and respiratory diseases in adults. Noxious chemicals present in tobacco smoke can increase the risk of breast cancer in women. Comorbidities<sup>[5,27]</sup>

Researches in last several yrs have shown that the negative impacts of smoking have gone far beyond lung cancer, COPD, heart disease and stroke.

- Tuberculosis- Tuberculosis (TB) damages the lungs and reduces lung function, which is further exacerbated by tobacco smoking. People who smoke are twice as likely to fall ill with TB and it makes treatment for TB less effective.
- Mental Illness- Persons with mental illness are more likely to smoke than people without such disorders. Smoking seems to exacerbate symptoms in anxiety disorders, schizophrenia and bipolar illness and makes psychiatric medications less effective.
- HIV- When Human Immunodeficiency Virus (HIV) patients use tobacco, they develop lung cancer and airway diseases at higher rates and at younger ages than HIV-infected non-smokers.
- Substance use disorders- Use of illicit drugs or alcohol greatly increase the likelihood of tobacco use and dependence among adolescents.

### Effects of Quitting over time

People start to reap the health benefits within hours or even minutes of quitting tobacco use. In just a day of quitting tobacco, heart rate, blood pressure and blood carbon monoxide levels can be expected to return to normal. Within 3 months of quitting smoking, the circulation and lung function improves. Coughing and shortness of breath will generally decrease within 1–9 months of quitting smoking. The risk of death due to ischemic heart disease is halved within 5 years of quitting, the risk of stroke returns to that of a never smoker within 5–15 years and the risk of death due to lung cancer is reduced by 30–50% within 10 years of quitting smoking.<sup>[28]</sup>

In 2015, a collaboration between WHO and the International Telecommunication Union’s “Be Healthy, Be Mobile” initiative, the Indian Ministry of Health and Family Welfare, and the Ministry of Communication and Information Technology led to the development of a short text message based “mCessation” programme called Quit Now that supports and encourages tobacco users to quit.<sup>[29]</sup>

### The WHO Framework Convention on Tobacco Control<sup>[6, 28]</sup>

To address the global burden of tobacco, WHO in 2003 adopted the WHO Framework Convention on Tobacco Control (WHO FCTC) and in 2008 it introduced a package of six evidence-based measures that are proven to reduce tobacco use. These measures known as MPOWER refers to M: Monitoring tobacco use and prevention policies; P: Protecting people from tobacco smoke; O: Offering help to quit tobacco use; W: Warning about the dangers of tobacco; E: Enforcing bans on tobacco advertising, promotion and sponsorship, and R: Raising taxes on tobacco.

### Diagnostic Criteria for Nicotine Dependence<sup>[7]</sup>

Both WHO in its *International Classification of Diseases (ICD)* and the American Psychiatric Association (APA) in its *Diagnostic and Statistical Manual (DSM-IV & DSM-IV-TR)* have issued diagnostic criteria to assess dependence and withdrawal.

Dependence is a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in 12-month period:

- Tolerance, as defined by either
- a need for markedly increased amounts of the substance to achieve the desired effect, or
- markedly diminished effect with continued use of the same amount of substance.
- Withdrawal, as manifested by either

- the characteristic withdrawal syndrome for the substance, or
- the substance being taken to relieve or avoid withdrawal symptoms.
- Taking larger amounts of the substance or over a longer period than was intended.
- A persistent desire for or unsuccessful efforts to cut down on substance use.
- A great deal of time being spent in activities necessary to obtain or use a substance.
- Abandonment or reduction of important social, occupational, or recreational activities because of substance abuse.

#### **Diagnostic Criteria for Nicotine withdrawal**<sup>[28]</sup>

A. Daily use of nicotine for at least several weeks.

B. Abrupt cessation of nicotine use or reduction in the amount of nicotine used, followed by four (or more) of the following signs within 24 hours:

- Dysphoric or depressed mood
- Insomnia
- Irritability, frustration, or anger
- Anxiety
- Difficulty concentrating
- Restlessness
- Decreased heart rate, Increased appetite or weight gain.

C. Clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. Symptoms not due to a general medical condition and not better accounted for by a mental disorder.

Withdrawal symptoms vary but include a craving for nicotine, irritability, frustration or anger, anxiety, depression, difficulty concentrating, restlessness, and increased appetite. Withdrawal can begin within hours of smoking the last cigarette, and symptoms typically peak within one to three weeks after stopping use, reaching maximal intensity during the first week and then gradually diminish over a period of a few weeks. Some withdrawal symptoms, such as dysphoria, mild depression,

anhedonia, and increased appetite may persist for months. Withdrawal and dependence can be associated. Persons who show signs of dependence are more likely to experience withdrawal symptoms if they discontinue smoking.

Assessment of Nicotine dependence<sup>[8, 30]</sup>

Clinicians may choose to assess the severity of cigarette smoking dependence through use of the Hooked on Nicotine Checklist or the modified Fagerstrom Test for Nicotine Dependence. Breath carbon monoxide can be used to assess the presence of smoking in the last 24 hours, however in practice is rarely used. Cotinine, a metabolite of nicotine, can be found in urine, saliva and blood for up to 7 days after tobacco use, but is rarely used in clinical practice to guide treatment.

#### **Tobacco questionnaire for Survey**<sup>[6, 31]</sup>

For surveys that want to include questions on tobacco, a subset of key questions from GATS was created. The questions are grouped according to the MPOWER classification theme.

#### **Conventional method of Treatment**

Conventional management consists of behavioral and pharmacologic interventions, which can be used in combination. Behavioral is beneficial for adolescents with mild degrees of dependence whereas pharmacologic is considered for moderate to severely tobacco-dependent adolescents who want to stop smoking.<sup>[8]</sup>

#### **Role of Homoeopathy in Tobacco addiction**

Like all principles, those of homoeopathy have been discovered and evolved through the crucibles of time, experimentation, and increasing enlightenment. To principles, there is no time element. Time offers only the greater opportunity for examination of the results of applied principles, the action of the natural laws.<sup>[32]</sup>

The use of tobacco needs to be carefully considered. Smoking should always be restricted if mental activity and intellectual functions are affected, when

person does not sleep well, digestion or evacuation are defective. If evacuation occurs only after taking smoke, the use of this palliative must be circumscribed and an antipsoric must be allowed to do the work. Similarly snuff is a great hindrance in the cure of chronic diseases which should be diminished every day and at last stopped.<sup>[33,34]</sup> However, a slight increase of stimulants, such as wine, tobacco and snuff, is said to be a powerful prophylactic against infectious disorders.<sup>[35]</sup>

Homoeopathy can play a big role in prevention, as well as in treatment of Tobacco related sickness. Before discussing about the treatment of Tobacco sickness it is worthy to mention that the *habit of tobacco chewing fall under the category of Maintaining Cause*<sup>[36]</sup> which should be removed at first and the complaints may disappear spontaneously then. But if after quitting tobacco the complaints still remain for a considerable time it is the time when patient needs a suitable homoeopathic medicine. Homoeopathy is also helpful during the phase of Tobacco quitting when the quitter suffers from withdrawal symptoms.

### Role of Homoeopathic Repertory

Repertories have performed a long journey from simple indexing of the symptoms of materia medica to the formation of separate large voluminous books and mechanical aids. Repertory is a connecting link between the materia medica and disease. It helps to find out the required symptoms together with the group of medicines having different grades.

As Dr Kent said, “True, some men do some good work without a repertory, but they also do poor work, more than they would do with it”.

Dr. P. Schmidt, “No one can know everything and that is why no conscientious homoeopathic doctor can practice homoeopathy in a serious and really scientific way without a repertory.”<sup>[37]</sup>

“*Repertory of Hering's Guiding Symptoms of our Materia Medica*”<sup>[38]</sup> contains Rubric Tobacco in the Chapter 15 (Eating and Drinking) with many subrubrics of mental as well as physical sphere. Many rubrics indicating single remedy which could be of great importance are tabulated in Table 1.

**Table 1: Rubrics related to Tobacco in Repertory of Hering's Guiding Symptoms of our Materia Medica**

Rubric	Medicine
Intoxication (drunkenness) , Smoking a little, after	Asc-T
Restlessness, Tobacco, after smoking	Calad.
Trembling, Tobacco, caused by smoking	Nat
Weakness, Tobacco, after smoking, particularly in legs	Asc
Weakness, Trembling with, Smoking, after tobacco	Hep
Desire, Tobacco, for Dysmenorrhœa, in	TARENT.
Cannot smoke much	Phos.
Snuff, for, in mania	Bell.
Wants to do nothing but smoke all day	Eug.
Smoking unpleasant 1st day, but after 1st week a crazy, insatiable desire to smoke, does not allow pipe to cool	Lyss.
Dizziness, Weakness, and, on remaining up late in evening, as after smoking	Zinc.
Headache ,From smelling tobacco smoke	Ign.
Better smoking and going into open air	Aran.
Better while smoking after tea	Carb
From abuse of snuff	Ign.
Nausea, With aversion to smoking	Carb
Nausea, Sudden, after smoking	Agar.
Nausea, Goes off by smoking	Eug.
Throat, Burning and acidity from cardia	Chel.
Smoking makes dry, and he does not enjoy it	Verat.
Chronic inflammation in smoker	Nat
Diarrhoea, As if it would set in after smoking	Bor.
Diarrhoea, After, worse	Cham.
Stool, smoking causes urging to	Calad.
Hunger, excessive, Smoking, from habitual	Ign.
Breathing, aggravation, after smoking	Op
Asthma, after smoking	Asc
Heart, symptoms of circulation worse after smoking	Spong
Slow soft pulse	Apoc.
Angina pectoris, Coffee, from, tobacco or alcoholic stimulants	Nux



In *Synthesis Repertory*,<sup>[39]</sup> rubrics related to Tobacco from Chapter Generalities are given in Table 2.

**Table 2: Rubrics related to Tobacco in chapter Generalities of Synthesis Repertory**

Tobacco-agg.	<i>Abies-n, Alum, Alumn, ambr, Ant, Ars, Bry, Calad, Clem, Coff, Cyc, Dros, Euphr, Gels, Hell, Ign, Ip, Lach, Lyc, M-amb, Mag-c, Meny, Nat-ar, Nat-m, Nux-v, Par, Phos, Plan, Puls, Ruta, Sel, Spig, Spong, Staph, Tama, Tarax, Thuj</i>
-boys; in	arg n, ars, verat
-Nicotinism	Ign, Nux v, tab
-accompanied by, Tongue; cracked	nux v
-smell of	<i>Asc t, gink</i>
-smoke of tobacco; by	acon, alum, aran, brom, cic, cocc, ferr i, ign, staph
-smoking when breaking of	Calad, led
Tobacco amel.	Arn, borx, coloc, <i>Hep, merc, naja, nat-c, Nat-s, plat, Sep, spig, tarent</i>
-smell of	lycps v
Tobacco aversion to	Calc, <i>Camph, Canth, Carb an, Ign, Lach, Lob, Lyc, Nat-c, Nat-m Nux-v, Op, Phos, Puls, Sulph</i>
-Morning	Meph, positr
-cigarettes	v-a-b
-smell of tobacco; sensitive to	<i>Asc t, Bell, ign, lac-ac, lob, lyc, nux-v, puls</i>
-smoking his accustomed cigar	Arn, Brom, Calc, <i>Camph, Case, Ign, Lyc, Nux v, Puls, Sulph</i>
- Morning	ox ac
-forenoon	kali bi
-afternoon	ign
-Evening	<i>Arg-n</i>
-breakfast; after	Psor
in spite of his distaste for tobacco; smokes much	Thiop
-snuff;	Spig
chewing tobacco; from	<i>Ars, Nux-v, plan</i>
desire for tobacco	<i>Ars, Calc p, Camph, Chin, Coca, Olib-sac, Phos, Spig, Staph, Tab</i>
-Evening	ox-ac
-accompanied by, impotence	Calad, lyc
-dinner; after	nat-c, tritic-vg
-smoking; desire for	<i>Glou, Kola, Positr</i>
-Snuff	<i>Bell, Sil</i>
disgust for tobacco; remedies to increase	arg-n, ars, calad, calc, camph, Carb-an, <i>Caust, con, Daph, ign, lach, nux- v, petr, plan, Staph, sulph, tab</i>
Anxiety, tobacco, from smoking	Petr, sep, symph
Sadness, tobacco, after abuse of	Plan
Palpitation of heart, tobacco from	<i>Agarin, Gels, Kalm, Nux-v, Spig, Stroph</i>
-Young men, in neurotic	agn

*Homoeopathic Medical Repertory*,<sup>[40]</sup> a modern alphabetical repertory, represents enormous number of rubrics related to tobacco addiction and its withdrawal in a separate chapter ‘Toxicity’ which are given in Table 3.

**Table 3: Rubrics of Tobacco in Toxicity chapter of Homoeopathic Medical Repertory**

Rubrics	Medicines
abdomen, colicky pains after smoking	bufo
heat in abdomen rises into chest, rest of body chilly, after smoking	spong.
pain in bowels, better after smoking	coloc.
abuse	abies., ars., CALAD., gels., ign., ip., kalm., lob., lyc., mur-ac., nicot., nux-v., phos., plan, plb., scut., sep., spig.
addiction, nicotine	aven., calad., ign., nicot., nux
ailments, from .	abies n., arg, ars, CALAD., chin-a, coca, con., ip., lach, lob., lyc, nicot, NUX-V., phos., plan, spig., staph, stroph., thuj., verat.
Angina pectoris, from	Nux-v
breathing, agg. after smoking	op.
chewing, agg.	ARS., carb v., ign., lyc., nux v., plan., sel., tab., verat.
bad effects from	ars., carb-v., lyc., nux-v., plan, sep., tab., verat.
desire, for smoking	ars., asar., bell., CALAD., calc p., camph., carb-ac., carb-an., carb-v., card-m., cast-eq., chin, chlor., coca, coff., con., daph., eug., glon, ham, hydrog., kreos., led., lyc., manc., med., nat-c., nicot, nux-v., ox-ac., phos., plan, plat., plb., rhus-t., spig., staph, TAB, ther., thuj.
smoking unpleasant first day but after first week a crazy, insatiable desire to smoke. does not allow pipe to cool	lyss.
Snuff	bell.
disgust for, remedies to stimulate	arg n., ars., CALAD., calc., cal cal-p., camph., caust, con., ign., lach., LOB., nep., nicot., nux-V., petr., plan., STAPH., stry., sulph., tab.

eyes, weak sighted, after smoking	Asc t
headache, from smoking	acet ac., acon., alum, ant-t., bell, brom., calad., calc., caust, clem, cocc., coc-c., ferr, ferr-i., gels., glon, IGN., lob., mag-c., NAT-A., nat-m., nux-v., op., par. Petr., plan., puls., sil., spig., thuj., zinc.
smoking tobacco. amel.	am-c., aran., calc-p., carb-ac., naja.
heart, symptoms of circulation, worse after smoking	calad., spong.
Palpitations	acon., NUX-V., phos.
nauseous taste from smoking	PULS.
nervous depression	ars, coca, gels., nux-v., sep
neuralgia	plan.
paralysis, from abuse of nicotine	Nux-v.
restless after smoking cannot control himself	calad.
sleep, insomnia	Nux-v.
stomach, gastro intestinal symptoms worse after chewing	Ars
sweat, and trembling after smoking	Nat-m

Repertory of Homoeopathic Materia Medica<sup>[41]</sup> with rubrics related to Tobacco, scattered in different chapters, are listed in Table 4.

**Table 4: Rubrics of Tobacco in Repertory of Homoeopathic Materia Medica**

Rubrics	Medicines
Anxiety, tobacco, from smoking	Petr., sep.
Anxiety, tobacco, from smoking of many people	Petr.
Head, pain tobacco, smoking, from	Acet-ac, acon., ant-c., calad., calc, caust., clem., coc-c, ferr-i., gels., glon., ign., nat-a., nat-m., nux-v., op., par., puls., spig., thuj.
Head, pain tobacco, smoking, from. amel.	Am-c, aran., calc-p., carb-ac., naja.
Ear pain, tobacco, from	Raph.
Face pain, tobacco, from	Sep.
Taste, nauseous, smoking tobacco from	Puls.
Teeth pain, tobacco smoking agg.	Bry., caust., cham., chin., clem., ign., merc., nux-v., sabin., sars., Spig., thuj.
Teeth pain, tobacco smoking amel.	Aran., bor., merc., nat-c, nat-s ,selen., spig.
Teeth pain, tobacco chewing agg.	Bry
Aversion tobacco	Acon., ant-t., arn., bov., brom., bry., calc, camph., canth., carb-an., chlor., cimic, cocc, con., ign., lach., lyc, mag-s., meph., nat-m., Nux-V., op., phos., psor. puls., spig., sulph., tarax., thuj., til., valer., zing.
Aversion tobacco, morning	Meph.
Aversion smoking (his accustomed cigar)	Alum., arg-m., arn., asar., bor., brom., bry., calc, calc-p., camph., carb-an.,clem., coff., euphr., grat., Ign., kali-bi., lach., lyc, mag-s., nat-s., olnd., op., ox-ac, phos., psor., puls., sep., spig., sulph., tarax., tell.
Aversion smoking morning	Ox-ac.
Aversion smoking forenoon	Kali-bi.
Desires, tobacco	Bell., carb-ac , con., daph., eug., kreos., mane, nat-c, nux-v., ox-ac, plat., plb., staph., Tabac, ther, thuj.
Desires, smoking	Calad., carb-an., card-m., glon., ham., led., lyc.
Heartburn tobacco, from	Chel., staph., tarax.
Nausea, odors from tobacco	Phos.
Abdomen, pain tobacco, after	Bor., ign.
Diarrhoea, tobacco, from	Brom., cham., ign., puls.

New manual of Homoeopathic Materia Medica with Repertory<sup>[42]</sup> also presents with rubrics pertaining to Tobacco abuse and are demonstrated in Table 5.

**Table 5: Rubrics of Tobacco in Boericke's Repertory**

Rubrics	Medicines
ABUSE of Tobacco	Abies n., Ars., Calad., Calc. p., Camph., Chin. ars., Cinch., Coca, Gels., Ign., Ipec., Kal., Lyc., Mur. ac., Nux v., Phos., Plant., Plumb., Sep., Spig., Staph., Tab., Ver. a.
Tobacco, in boys	Arg. n., Ars., Ver. a.
Tobacco Chewing	Ars., Ign., Lyc., Selen., Ver. a.
Smoke	Acon., Cic., Cocc., Ign., Staph
Smoking	Abies n., Bor., Can. ind., Chin. ars., Cic., Cocc., Gels., Ign., Kal., Lact. ac., Lob. infl., Nux v., Puls., Sec., Spig., Spong., Staph., Stellar.
Headache, Tobacco	Ant. c., Calad., Carb. ac., Gels., Ign., Lob. infl., Nux v.
Headache, Drugging, after, aggravation	Nux v.
Headache, Tobacco , Amel	Carb. act., Gels., Hep., Ign., Lob. infl., Nat. ars.
Headache, Smoking	Aran.

Aversion Tobacco	Arn., Calc. c., Canth., Cocc., Lob. infl., Nat. m., Nux v., Plant.
Craving, Tobacco	Asar., Carb. ac., Carbo v., Coca, Daphne, Staph.
Tobacco disagree	Ign., Kali bich., Lob. infl., Lyc., Phos., Selen., Tab.
Dyspepsia, Tobacco	Abies n., Nux v., Sep.
Nausea Smoking [from]	Euphras., Ign., Ipec., Nux v., Phos., Tab.
Angina Pectoris Tobacco [From]	Kal., Lil. t., Nux v., Spig., Staph., Tab.
Palpitation, Tobacco	Agar., Ars., Cact., Gels., Nux v., Stroph.
Restlessness, Tobacco	Gels.
Tremors, Twitchings, trembling From smoking	Kali c., Nit. ac., Sep.

Boger Boenninghausen’s Characteristics and Repertory <sup>[43]</sup> also reflects few rubrics pertaining to tobacco.

### Role of Homoeopathic Materia Medica

Dr. E. A. Farrington in his book “Clinical Materia Medica”<sup>[44]</sup> under the drug Tabacum discussed three group of symptoms which may follow the use of tobacco:

The *Primary Symptoms* are well known Gastric symptoms deathly nausea and vomiting. The patient is deathly pale, does not care whether he lives or dies. Sometimes cold sweat breaks out in the body.

The *Secondary Effects* comes months or even years after tobacco use, and these are dyspepsia, amblyopia, neuralgia of face and also some symptoms of the heart.

The *Tertiary Effects* of tobacco include apoplexy.

The primary effects of tobacco are generally relieved by Ipecac. Nux vomica is indicated for the bad taste in the mouth and the headache worse in the morning from excessive smoking. It is said that Plantago Major produces distaste for tobacco.

Homoeopathic therapeutic books are enriched with medicines effective for tobacco smoking and chewing. Key notes from Guiding Symptoms of our Materia Medica by C. Hering, <sup>[45]</sup> Lectures on Homoeopathic Materia Medica by J. T. Kent, <sup>[46]</sup> New Manual of Homoeopathic Materia Medica with Repertory by W. Boericke, <sup>[42]</sup> A Dictionary of Practical Materia Medica by J. H. Clarke, <sup>[47]</sup> and Allen’s keynotes by H. C. Allen <sup>[48]</sup> have been elaborated in Table 6.

**Table 6: Key notes of medicines indicating tobacco addiction from Homoeopathic Materia Medica of C. Hering, J.T. Kent, W. Boericke, J. H. Clarke and H.C. Allen**

Author	Medicine
	ASCLEPIAS TUBEROSA
C. Hering	Feeling of drunkenness with weakness of sight, after smoking a very little. Sensitive to tobacco.
J.H. Clarke	Feeling of drunkenness with weakness of sight after smoking a very little. Symptoms aggravate by tobacco.
W. Boericke	Sensitive to tobacco.
	ARSENICUM ALBUM
W. Boericke	Ars should be thought of in ailments from chewing tobacco.
H.C. Allen	Ailments from: chewing tobacco
J.T. Kent	Tobacco-habit
	CALADIUM SEGUINUM
W. Boericke	Modifies craving for tobacco. Tobacco heart. Asthmatic complaints.
J.T. Kent	Forgetfulness in persons who are mentally and physically prostrated from tobacco poisoning. Tobacco heart. The nervous symptoms of tobacco are similar to those of Caladium, and Caladium is useful in all sorts of nervous conditions, the effect of tobacco and cigarette smoking. It has a number of times turned the patient entirely away from his cigar, and removes the overwhelming craving that prevents smokers breaking off their habit. Headaches and mental states in smokers.
C. Hering	After and while smoking his accustomed tobacco, nausea and inclination to vomit. While smoking a cigar, sudden inclination to vomit, he must stop smoking; at same time urgency to stool.
	IGNATIA AMARA
W. Boericke	Cannot bear tobacco. Congestive headaches <i>worse, smoking or smelling tobacco</i> , inclines head forward.
J.T. Kent	"Headaches from abuse of coffee, from smoking, from inhaling smoke, from tobacco or alcohol."
J.H. Clarke	There is great aversion to tobacco, which < many symptoms. The headaches are < by coffee, brandy, tobacco-smoke. Coffee, tobacco, brandy, and noise aggravate the pains.
	LOBELIA INFLATA
J.H. Clarke	Headache following intoxication; < from tobacco. Faintness, weakness, and an indescribable feeling at epigastrium, from excessive use of tea or tobacco.
W. Boericke	Gastric headache, with nausea, vomiting, and great prostration; worse, tobacco. <i>Extreme nausea and vomiting. Faintness and weakness at epigastrium.</i> Cannot bear smell or taste of tobacco.
	NUX VOMICA
J.H. Clarke	Effects of Tobacco habit. Tobacco-smoke < many of the sufferings.

W. Boericke	This indoor life and mental strain seeks stimulants, coffee, wine, possibly in excess; or, again, he hopes to quiet his excitement, by indulging in the sedative effects of tobacco, if not really a victim, to the seductive drugs, like opium, etc. . Intoxicated feeling; worse, morning, mental exertion, tobacco, alcohol, coffee, open air. . Paresis of ocular muscles; worse, tobacco and stimulants.
	PLANTAGO MAJOR
J.H. Clarke	Tobacco habit. It produces disgust for it in chewers; and it cures neuralgia resulting from tobacco. Causes disgust for tobacco in chewers.
W. Boericke	Depression and insomnia of chronic Nicotinism. Causes an aversion to tobacco.
	STROPHANTHUS HISPIDUS
J.H. Clarke	Cured "functional disturbance of the heart from alcohol, tobacco, and tea." This agrees with the relation of Strop. to alcoholism.
W. Boericke	After the long use of stimulants; <i>irritable heart</i> of tobacco
	STAPHYSAGRIA
J.H. Clarke	Effects of tobacco smoking (excoriated tongue; gastralgia); and cured the habit of "swallowing the tobacco smoke." craving for tobacco; and a cough excited by tobacco smoke is an indication for it.
W. Boericke	<i>Craving for tobacco.</i>
	TABACUM
W. Boericke	Incessant nausea; worse, smell of tobacco smoke.
J.H. Clarke	Sufferings from abuse of tobacco. Tobacco-blindness commences in one eye, generally r.; sight < evening.

### Research on Tobacco in Homoeopathy

Relevant research publications concerning tobacco use and homoeopathy were searched in the electronic databases such as Researchgate, [49] PubMed, [50] Core-Hom, [51] and AYUSH Research Portal. [52] The keywords used for the search were 'Tobacco', 'Homoeopathy' and 'Addiction'. There is not much documented research evidence about the usefulness of homoeopathic system of therapeutics in tobacco use. Only five such research papers were found. One study confirmed the therapeutic effect of Plantago Major in Reducing craving for Tobacco. [1]

Another research study showing the efficacy of symptomatic homeopathic medicine and biochemic medicine for removing the habit of tobacco smoking and alcoholism has been done in which aversion for tobacco and alcohol is noticed along with return of appetite. [53]

An interventional study was conducted before and after application of homeopathic method in a group of smokers in which good results were achieved with the use of homeopathy which provoked a huge social interest and that is included in the non-behavioural procedures to treat the smoking. [54]

A clinical trial conducted at Essex Testing Clinic in Verona, New Jersey also found that oral administration of Plantago major extract caused an aversion to tobacco in human subjects who were heavy smokers. [55]

Another study confirmed the effect of Avena Sativa in reducing smoking significantly. [56] Tobacco challenges

In spite of all the efforts at winning the war against tobacco, its use is still widespread among individuals in India which can be due to lack of awareness, poor implementation of anti-tobacco norms and the exalted practice of tobacco use as a part of the culture in certain social groups. Healthcare and awareness campaigns should be organized to make people aware of the health hazards of tobacco use. Counseling sessions must be organized especially in rural areas to make women aware of the ill effects of tobacco use on their reproductive health. Students in schools and colleges must be forewarned about the health hazards associated with tobacco use, and encouraged to keep their schools and campuses tobacco-free. [11]

India being the second largest consumer of tobacco in the world, there is an urgent need to reverse this entirely preventable epidemic. Hence, tobacco cessation should be a priority area of research in India.

### CONCLUSION

It is critical to remember that all tobacco products can be deadly and addictive, regardless of their form or disguise. Nicotine is a powerful drug, as addictive as heroin and cocaine, that meets all established criteria for addiction specifically, dependence and withdrawal. [7]

The Food and Drug Administration has approved five products for smoking cessation all of which relies on nicotine to control its craving.<sup>[1]</sup> Their use as an aid in controlling nicotine addiction can again cause addiction to them. Therefore, there is a need that homoeopathic medicines should be incorporated in the treatment of tobacco cessation, which are quite effective and will have no such side effects.

It is revealed that 55% of smokers and 50% of smokeless tobacco users were planning or thinking of quitting smoking.<sup>[20]</sup> Tobacco users are in the need of support while quitting tobacco and homoeopathic therapeutics can help in reducing craving for tobacco. It is essential that effort should be devoted to develop research strategies in homoeopathy on the addiction process in all types of tobacco use. Therefore, a multifaceted homoeopathic approach and research strategies is the imperative need of the hour.

## REFERENCES

1. Shukla I. A Prospective Observational Study on the Therapeutic Effect of Plantago Major in Reducing Craving for Tobacco. *Homoeopathic Links*.2019;32(3):145-51.
2. World Health Organization (Internet). Geneva: Country Office India. Burden of NCDs and their risk factors in India. Available from: [http://www.searo.who.int/india/topics/noncommunicable\\_diseases/ncd\\_situation\\_global\\_report\\_ncds\\_2014.pdf](http://www.searo.who.int/india/topics/noncommunicable_diseases/ncd_situation_global_report_ncds_2014.pdf)
3. Kumaresan C. Tobacco intake status-a review. *Int J Curr Pharm Res*. 2019;11(6): 126-27.
4. Gledira Z. Historical Aspects of Tobacco. October 2019. [cited 25 January 2020] Available from: <https://www.researchgate.net/publication/336239095>
5. Drope J, Schluger N, Cahn Z, Drope J, Hamill S, Islami F, Liber A, Nargis N, Stoklosa M. *The Tobacco Atlas*. Atlanta: American Cancer Society and Vital Strategies;2018.
6. Asma S, Mackay J, Song SY, Zhao L, Morton J, Palipudi KM, et al. *The GATS Atlas*. Atlanta: CDC Foundation, GA;2015.
7. WHO, Gender, Women, and the Tobacco Epidemic. [cited 5 February 2020]. Available from:[https://www.who.int/tobacco/publications/gender/en\\_tfi\\_gender\\_women\\_addiction\\_nicotine.pdf](https://www.who.int/tobacco/publications/gender/en_tfi_gender_women_addiction_nicotine.pdf)
8. CR Deepa, DK Jonathan. Tobacco Use Disorders. *Child Adolesc Psychiatr Clin N Am*. 2016. 25(3): 445–460.
9. Morris, C. et al. (2009). Smoking Cessation for Persons with Mental Illnesses: A Toolkit for Mental Health Providers. Colorado Department of Public Health and Environment. Retrieved from [http://www.integration.samhsa.gov/Smoking\\_Cessation\\_for\\_Persons\\_with\\_MI.pdf](http://www.integration.samhsa.gov/Smoking_Cessation_for_Persons_with_MI.pdf)
10. Siddiqi K, Mishu MP. Smokeless tobacco: Why does it need special attention? *Respirology*. 2019;24(8):720–1. doi: 10.1111/resp.13612. [PubMed: 31195425].
11. Chhabra, A., Hussain, S. & Rashid, S. Recent trends of tobacco use in India. *J Public Health (Berl.)* (2019). <https://doi.org/10.1007/s10389-019-01091-3>
12. Mishra GA, Pimple SA, Shastri SS. An overview of the tobacco problem in India. *Indian J Med Paediatr Oncol* 2012; 33 : 139-45.
13. Gupta PC, Ray CS, Narake SS, Palipudi KM, Sinha DN, Asma S, et al. Profile of dual tobacco users in India: An analysis from global adult tobacco survey, 2009-10. *Indian J Cancer* 2012; 49 : 393-400.
14. Thakur JS, Prinja S, Bhatnagar N, Rana SK, Sinha DN, Singh PK. Widespread inequalities in smoking & smokeless tobacco consumption across wealth quintiles in states of India: Need for targeted interventions. *Indian J Med Res* 2015; 141 : 789-98.
15. Singh A, Ladusingh L. Prevalence and determinants of tobacco use in India: Evidence from recent global adult tobacco survey data. *PLoS One* 2014; 9 : e114073.
16. Fryer CS, Seaman EL, Clark RS, Plano Clark VL. Mixed methods research in tobacco control with youth and young adults: A methodological review of current strategies. *PLoS One* 2017; 12 : e0183471.
17. Ministry of Health and Family Welfare, Government of India. *Smokeless tobacco and public health in India*. New Delhi: Ministry of Health and Family Welfare, Government of India;2017.

18. John RM. Price elasticity estimates for tobacco products in India. *Health Policy Plan* 2008; 23 : 200-9.
19. Rout SK, Arora M. Taxation of smokeless tobacco in India. *Indian J Cancer* 2014;51(Suppl 1):S8-12.
20. GATS2 (Global Adult Tobacco Survey) Fact Sheet, India, 2016 -17. [cited 11 February 2020] Available from: [www.who.int/tobacco/surveillance/survey/gats/GATS\\_India](http://www.who.int/tobacco/surveillance/survey/gats/GATS_India)
21. World Health Organization. Tobacco factsheet. [cited 22 January 2020] Available from: <https://www.who.int/news-room/factsheets/detail/tobacco>.
22. National health portal. Effect of tobacco on health. [cited 3 February 2020] Available from [https://www.nhp.gov.in/effects-of-tobacco-on-health\\_pg](https://www.nhp.gov.in/effects-of-tobacco-on-health_pg)
23. Boffetta P, Straif K. Use of smokeless tobacco and risk of myocardial infarction and stroke: Systematic review with meta-analysis. *BMJ* 2009;339:b3060.
24. Boffetta P, Hecht S, Gray N, Gupta P, Straif K (2008) Smokeless tobacco and cancer. *The Lancet Oncology* 9: 667-675.
25. IARC monographs on the evaluation of the carcinogenic risk of chemicals to humans. Vol. 89. Smokeless Tobacco and Some Tobacco-specific N-Nitrosamines. Lyon: International Agency for Research on Cancer; 2007.
26. National health portal. Effect of tobacco on health. [cited 3 February 2020] Available from [https://www.nhp.gov.in/effects-of-tobacco-on-health\\_pg](https://www.nhp.gov.in/effects-of-tobacco-on-health_pg)
27. Weir, K. (2013). Smoking and Mental Illness. American Psychological Association. Retrieved from <http://www.apa.org/monitor/2013/06/smoking.aspx>
28. World Health Organization Report on the Global Tobacco Epidemic. Geneva. 2019.
29. Be Healthy, Be Mobile Annual Report 2018. Geneva: World Health Organization and International Telecommunication Union, 2019:18
30. Fagerstrom KO, Heatherton TF, Kozlowski LT: Nicotine addiction and its assessment. *Ear Nose Throat J.* 1990, 69 (11): 763-5.
31. Global Adult Tobacco Survey Collaborative Group. Tobacco Questions for Surveys: A Subset of key Questions from the Global Adult Tobacco Survey (GATS), 2<sup>nd</sup> Edition. Atlanta, GA: Centres for Disease Control & Prevention, 2011.
32. Roberts, H.A. *The Principles and Art of Cure by Homoeopathy*, A Modern Text Book. Reprint Edition. New Delhi: B. Jain Publishers (P) Ltd.; 2001: 174.
33. Hahnemann, Samuel. *The Chronic Diseases, Their Peculiar Nature & Their Homoeopathic Cure*. Translated from the second enlarged German edition of 1835 by Prof. Louis H. Tafel, with annotation by Richard Hughes, Edited By Pemberton Dudley. 12<sup>th</sup> Impression. New Delhi: B. Jain Publishers (P) Ltd.; 2009.
34. Boericke W M. *A Compend of the principles of Homoeopathy*. San Francisco: Boericke & Runyon; 1896: 147.
35. Hahnemann, Samuel. *The Lesser writings*. Collected and Translated by R.E. Dudgeon. Reprint Edition. New Delhi: B. Jain Publishers (P) Ltd.; 2002:216
36. Hahnemann S. *Organon of Medicine*. Reprint ed. Translated from 6th edition by William Boericke. New Delhi, India: B. Jain Publishers(P) Ltd.; 1996:46
37. Tiwari, S.K. *Essentials of Repertorization*. 4<sup>th</sup> edition. New Delhi, India: B. Jain Publishers(P) Ltd.; 2010:6
38. Knerr C. *Repertory of Hering's Guiding Symptoms of the Materia Medica*. Reprint edition. New Delhi: B. Jain Publishers (P) Ltd.; 1980
39. Schroyens, F. *Repertorium Homeopathicum Syntheticum*. Edition 9.1. New Delhi, India: B. Jain Publishers(P) Ltd. ;2009.
40. Murphy, R. *Homoeopathic Medical Repertory*. 3<sup>rd</sup> revised Edition. New Delhi, India: B. Jain Publishers(P) Ltd.
41. Kent, J.T. *Repertory of the Homoeopathic Materia Medica and a Word Index*; Edited and Revised by Clara Louise Kent; Enriched Indian Edition; Reprinted from sixth American edition. New Delhi: B. Jain Publishers (P) Ltd.: 2000.
42. Boericke W. *New Manual of Homoeopathic Materia Medica with Repertory*. Third revised & augmented edition; 26th impression. New Delhi: B. Jain Publishers (P) Ltd.; 2010:1101–1117
43. Boger C M. *Boger Boenninhausen's Characteristics & Repertory*. Reprint edition. New Delhi: B. Jain Publishers (P) Ltd.; 2008.
44. Farrington, E.A.; *Clinical Materia Medica*; 4<sup>th</sup> edition revised and enlarged by Harvey

- Farrington. New Delhi. B. Jain Publishers (P) Ltd.; 2004.
45. Hering, C. The Guiding symptoms of our Materia medica. Philadelphia: American Homoeopathic Publishing Society; J.M. Stoddart & Co.;1879.
46. Kent J.T. Lectures on Homoeopathic Materia medica. Second Rearranged Edition. New Delhi: B. Jain Publishers (P) Ltd.; 2009:17-1023
47. Clarke J.H. A Dictionary of Practical Materia Medica. New Delhi. B. Jain Publishers (P) Ltd.; 2003.
48. Allen, H. C. Key Notes Rearranged and Classified with Leading Remedies of the Materia Medica and Bowel Nosodes. Reprint of 9th Edition. New Delhi: B Jain publishers (P) Ltd.; 2006
49. ResearchGate [Internet]. Berlin: 2008- [cited 12 February2020] Available from: <https://www.researchgate.net/>
50. PubMed [Internet]. US: US National Library of Medicine; 1996 [cited 15 January 2020]. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/>
51. CORE-Hom database [Internet]. Germany: CARSTENS-STIFTUNG Homeopathy Research Institute [cited 15 January 2020]. <http://archiv.carstens-stiftung.de/suche>
52. AYUSHRESEARCHPORTAL [Internet]. India: Ministry of AYUSH, Govt. Of India; 2011 [cited 15 January 2020]. <http://ayushportal.nic.in/>
53. Available from. <https://www.homeobook.com/a-study-onhomoeopathy-in-tobacco-smoking-and-alcoholism/>
54. Available from. <https://www.researchgate.net/publication/294816667> Application of homeopathy in smoker patients from the Enrique Varona place
55. Constance J, DiFigliaMD. Clinical Study, An Open Label Evaluation of the Tobacco Aversion Caused by Plantago Major Tincture in Subjects Who Are Heavy Smokers. Verona,NJ: Essex Testing Clinic Inc.; 1992:1–22
56. C L Anand . Effect of Avena Sativa on Smoking. Nature. 1971.233:496

How to cite this article: Bala R, Srivastava A. Role of homoeopathy in tobacco addiction- a narrative review. International Journal of Research and Review. 2020; 7(3): 296-310.

\*\*\*\*\*