

## CLINICAL DIAGNOSTIC METHODS AND MANAGEMENT OF TOBACCO CHEWING ADDICTION THROUGH AYURVEDA

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Article Received on  
27 Sept. 2017,

Revised on 18 Oct. 2017,  
Accepted on 09 Nov. 2017

DOI: 10.20959/wjpr201715-10097

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### ABSTRACT

Tobacco Addiction is the leading cause of cancer in all over the world including India. In *Ayurveda* the *Tobacco* Addiction and its toxicity has been already mentioned since *Nighantu-kala* along with its properties and therapeutic indication. Tobacco chewing and smoking are the two ways of tobacco addiction in human beings. There are so many smokeless form of Tobacco including *Gutka*, *Jarda* are available in market commercially. At first the person consuming it for psychological pleasure but after prolong and continuous consumptions causes physiological dependency of Tobacco. After dependency the psychosomatic disorder will produce due to sudden stop. Tobacco causes oral and cardiovascular toxicity along with Crohn's disease and

ulcerative colitis. As *Vatta Pitta* predominance should be found in tobacco induced *Mukha Roga* along with *Rakta* and *Mansa Dushti*, while *Vatta Kapha* predominance will be found in cardiovascular disease, *Pitta* predominance found in Crohn's disease and ulcerative colitis. *Trividha Pariksha* will be useful to diagnose the chronic toxicity and withdrawal of *Tobacco*. As per *Ayurveda Gandusha Therapy* by *Irrimedaadi Tail* and *Kawal Therapy* by *Triphla Kwath* will be useful to relieve the Tobacco induced *Mukha Paaka* externally while

*Khadiraadi Gutika* and *Aaragwadaadi Hima* will helpful internally. *Mukta Pishthi*, *Serpgandha Vati*, *Pravala pihsthi*, will be found and useful in tobacco induced cardiovascular disease while *Dandimaashataka churna*, *Bilwa churna*, *Panchaamrita Parpatti* and *Panchkola peya* will be useful in tobacco induced Crohn's disease. The ulcerative colitis will be managed by analyzing the *Aama* and *Pakwa avastha*, along with the chronic toxicity of tobacco chewing, the withdrawal effects due to sudden stoppage of tobacco need to manage. The combination of the *Azmodaa* seeds, *Seasom Seeds* and *Sopha* and black salt should be given along with *Vishtinduka Vati*, *Amaltaasa hima*, *Saraswata Arista*, *Aashwaasana chikitsa*. Thus holistic approach of management of chronic toxicity and its withdrawal management will be possible by using Ayurvedic principal in current scenario.

**KEYWORDS:** *Vishtinduka Vati*, *Amaltaasa hima*, *Saraswata Arista*, *Aashwaasana chikitsa*.

## INTRODUCTION

Tobacco addiction is the world largest leading cause of death, about all of its form is addictive as well as toxic in nature. Whole plant is poisonous except the ripe seed but leaves are more toxic. Tobacco contains an alkaloid of nicotine in abundant amount. This nicotine has a potential for addiction that is similar to alcohol, cocaine and morphine. It is a state characterized by compulsive engagement in rewarding stimuli, despite adverse consequences. Tobacco was introduced in India by the Portuguese 400 years ago. Since then tobacco consumption continued to rise in India. Tobacco is consumed in smoking as well as smokeless form. It will cause many hazardous effect to human body like cancer, cardiovascular disease, respiratory disease (90% of patient suffer from COPD), cerebrovascular disease, several maternal complications of pregnancy.<sup>[1]</sup> Tobacco use kills nearly six million people worldwide each year. According to the World Health Organization (WHO) estimates, globally, there were 100 million premature deaths due to tobacco in the 20th century, and if the current trends of tobacco use continue, this number is expected to rise to 1 billion in the 21st century.<sup>[2]</sup>

In *Ayurveda* the synonyms of *Tobacco* are *Tamraparna*, *Tamrachurna*, *Dhumakhya*, *Dhumavrksha*, *Brhatpatra*, *Dhusara*, *Gucchaphalaka*, *Dhumayantra*, *Dirghaka*.<sup>[3]</sup> *Tobacco* is classified in *Ayurveda* as a *Sthavar Vanaspatic Visha* and in modern it is kept in cardio toxic group.<sup>[4]</sup>

Our *Nighantus* have described the acute and chronic toxicity of *Tobacco* Addiction in very brief. *Tobacco* is a traditional herbal plant having various therapeutic properties described by various *Aacharyas* as in *Ayurveda* but when it is taken in excess amount it produces various hazardous effects like *Mada* (intoxication), giddiness, vomiting, pitta aggravation and purgation, diminishes eye sight. Its smoking particularly is depressant of heart and diminishes *Shukra* as described in *Yogratnakar*.<sup>[5]</sup> Tobacco addiction becomes a very complex problem in India, with large use of variety of smoking as well as smokeless products. According to the National Family Health Survey (NFHS)-3 survey, conducted in 2005–06, tobacco use is more prevalent among men, rural population, illiterates, poor and vulnerable section of the society.<sup>[6]</sup> The estimates of the Global Adult Tobacco Survey (GATS) conducted among persons 15 years of age or older during 2009–10 indicate that 34.6% of the adults are current tobacco users. 14% of the adults smoke and 25.9% use smokeless tobacco.<sup>[7]</sup> According to the Global Youth Tobacco Survey (GYTS) conducted among 24,000 students aged 13–15 years in 2009, 14.6% students were tobacco users.<sup>[8]</sup>

There are lots of projects started by our Indian government to aware the general population and spend a very big amount for treatment of addicted patient. Such kind of patients are also treated by traditional pathy but in *Ayurveda* there is no standard protocol to treat this. So this kind of study is selected to establish a proper guideline for treatment of addicted patients.

#### AIMS AND OBJECTIVE

- To study the role of *Ayurveda* in *Tobacco Chewing Addiction*.
- To established a standard protocol for treatment of *Tobacco Chewing Addiction* in *Ayurveda*

#### MATERIAL AND METHODS

The material for this article is taken from personal clinical experiences and various clinical studies published in index and non-index journal concern with drug like tobacco addiction, withdrawal and its management. *Ayurvedic Samhitas* has been reviewed along with its commentaries. Textbook of *Ayurveda* and Modern medicine has referred to collect the material of relevant to topic.

#### Historical Background

Tobacco has a long history from its usages in the early Americans. Increasingly popular with the arrival of Spain to America, which introduced Tobacco to the Europeans by whom it was

heavily traded. Following the industrial revolution, cigarettes were becoming popularized in the New World as well as Europe, which supports its increase in growth. A scientific study in the mid-1900s demonstrated the negative health effects of tobacco smoking including lung and throat cancer. Tobacco was first discovered by the native people of Mesoamerica and South America and later introduced to Europe and the rest of the world. The French, Spanish, and Portuguese initially referred to the plant as the "sacred herb" because of its valuable medicinal properties.<sup>[9]</sup> In India, tobacco was introduced by Portuguese during 1605 and was used as *hookah* tobacco and cigarette / pipe tobacco since 1616 and 1711 respectively. Indian tobacco was classified by Howards in 1910, who described 20 types in *rustica* and 51 in *tabacum*. Only 2 species are cultivated extensively in India *Nicotiana tabacum* (**Deshi type**), *Nicotiana rustica* (**Vilayati and Calcutia**).<sup>[10]</sup>

### Source of Tobacco

**1. In smoking form-** *Beedis, cigarette, cigar, chuttas, dhumti, pipe, Huklis, chillum, Hookah.*

**2. in smokeless form-** *Paan (betel quid), Pan Masala, Khaini, Tobacco, Mawa, Snus. Other products- Mishri, Gudhaku, Bajjar, Creamy Snuff, Lal Dantmanjana. Mishri-* This practice is common in *Maharashtraian* women, who used it to clean their teeth. *Mishri* is a roasted, powdered preparation made by baking tobacco on a hot metal plate until it is uniformly black. **Gudhaku** - *Gudhaku* is a paste made of *Tobacco* and molasses, it is available commercially in a metal container. It is commonly used in Bihar, Orissa, Uttar Pradesh and Uttaranchal. *Gudhaku* is applied to the teeth and gums, predominantly by women. **Bajjar-** *Bajjar* is dry snuff (also known as *Tapkeer*) applied commonly by women in Gujarat on the teeth and gum. **Creamy snuff-** It is a Commercial preparations of tobacco paste used as toothpaste in Goa for cleaning teeth, the user soon become addicted. **Lal dantmanjana-** It is a red colour tooth powder, traditionally it is used to clean the teeth, very popular in Bihar, Orissa, UP.

### What Is Tobacco Dependency?

This term is refers to a state arising from repeated administration of a drug or substance like Tobacco on periodic or continuous basis. Substance use disorders are characterised by the consumption of certain drugs or substances at those dose levels and under those circumstances and settings that significantly augment the potential for harm, whether it is intended to be therapeutic, pleasurable or physician prescribed. There are two kind of dependency – (a) Psychological dependence- Which is defined as the development of a craving for a drug or substance because its effects are perceived as pleasurable. (b) Physical

dependence –Which implies occurrence of a physiological or biochemical change produced by drugs due to which the body requires the continuous presence of the drug like opiates, sedatives, tobacco etc, if a withdrawal syndrome is to be avoided after discontinuation of drug.<sup>[11]</sup> In *Ayurveda Acharya Chakrapaani* says that any unwholesome or wholesome foods when repeatedly administered for a long period it become *Ooka Saatmaya* (habitual) to the body and does not produce immediate harmful effect to the body. He says that *Aashi Visha* (poison) when repeatedly used does not produce any harmful effect to the body, it become *Ooka Saatmaya* (habitual) to the body (*Ayurveda Deepika*).

### **Pathophysiology of Nicotine Addiction**

Brain is made up of billions of nerve cells. They communicate by releasing chemical messengers called neurotransmitter. The nicotine molecules shape mimic like a neurotransmitter called acetylcholine. Acetylcholine & its receptors involve in many functions, including muscle movement, breathing, heart rate, learning, memory etc. They also cause release of neurotransmitter and hormones that affect your mood, appetite, memory and more. When nicotine enters into brain, it attaches to acetylcholine receptors and mimic the action of acetylcholine. After repeated use of nicotine, there is more activity at acetylcholine receptors than usual because the receptors are being activated by both acetylcholine and nicotine. As a result there is too much acetylcholine in brain so a negative feedback mechanism is start, by reducing the number of receptors and releasing less acetylcholine into the synapse. The brain now needs nicotine to maintain normal function. When a patient doesn't use nicotine, his brain feels abnormal, in order to feel normal, the user has to keep his or her body supplied with nicotine. This is known as addiction. If person stop using nicotine, the number of receptors and their sensitivity to acetylcholine will eventually be re-established but only after some time. Nicotine also cause an increase in the release of dopamine from neurons located in the limbic system. Dopamine is a neurotransmitter responsible for carrying message about pleasurable feelings. Nicotine use also causes a decrease in an enzyme that is responsible for breaking down dopamine. The decrease in this enzyme result in higher dopamine level smokers may continue to smoke to maintain these high dopamine level and good feeling associated with the drug.<sup>[12]</sup> In *Ayurveda Tobacco Addiction* is not direct mention, but *Mada Avastha*, mentioned by *Acharya Charak*. In the cases of individuals with habitual intake of unwholesome food and with their mind covered with *Rajasa* and *Tamsa Doshas* get vitiated jointly or severally and they obstruct the channels like *Rakta Vaahi*, *Rasa Vaahi*, and *Sangyaa Vaahi* resulting the manifestation of disease like *Mada* (intoxication),

*Murchha* (fainting) and *Sanyaasa* (syncope). In the above cause and pathogenesis of various mental disease are described as usual, the root cause of mental disease is the pacify of the three *Doshas* jointly or separately, mental disease like *Mada* (intoxication), *Murchha* (fainting), and *Sanyaas* (Syncope) occur when these vitiated *Doshas* affect the nerves which are in fact the carries of consciousness. The degree of unconsciousness progressively increases *Mada* (intoxication), *Murchha* (fainting) and *Sanyaas* (syncope).

### Sign and Symptoms of *Mada*

*Vataja*: - Making incoherent, excessive and fast speeches, instability and incoordination in action, dryness, blackishness and redness in complexion. *Pittaja Mada*- Angry and harsh speech, liking of assaults and quarrels and redness, yellowish and blackness in complexion. *Kaphaja*- Feeble incoherent speeches, drowsiness, laziness, paleness and wandering. *Sanipaataja*- In this type share all the above mentioned sign and symptoms.<sup>[13]</sup>

### Tobacco Toxicity

Tobacco toxicity is classified into two groups 1. Acute Toxicity. 2. Chronic Toxicity. 1. Acute Toxicity- By accidental ingestion of nicotine containing insecticide sprays or in children from ingestion of tobacco products .The onset of symptoms of acute, severe nicotine poisoning is rapid. They include nausea, vomiting, salivation, abdominal pain, cold sweat, headache, dizziness, disturbed hearing vision, mental confusion and marked weakness the blood pressure falls. Breathing is difficult, pulse is weak, rapid, irregular and collapse by convulsion, Death may be result from respiratory failure. 2. Chronic Toxicity –2.1 Disease of Mouth, 2.2 Cardiovascular Toxicity, 2.3 Crohn’s Diseases, 2.4 Ulcerative Colitis.

**2.1 Disease Of Mouth- (CDC report)** – Bad breath, Cavities, mouth ulcer, stained teeth, gingivitis, mouth sore, stomatitis, delayed wound healing, precancerous lesions including leukoplakia, erythroplakia, dysplasia, hyperkeratosis, periodontal disease, oral cancer etc.<sup>[14]</sup>

**2.2. Cardiovascular Toxicity**- Prolonged use of smokeless tobacco caused increased blood Pressure or hypertension rate in smokeless tobacco users was reported.<sup>[15,16]</sup>

**3.3. Crohn’s Disease** - Inflammation in any part of GIT specially ileum- colon (50%), ileum (30%), colon (20%). 4.4. Ulcerative Colitis-Inflammation and ulcers of the colon and rectum.<sup>[17]</sup>

## Clinical Manifestation

### 2.1 Mukha Roga (Disease Of Mouth)

There are eight *adhishthana* of *Mukha Roga*. During chronic toxicity of chewing tobacco there may be involvement of one or multiple *adhishthana*. The common symptoms are Painful Sore inside Mouth with Burning Sensation, Difficulty in Swallowing, Tooth Sensitivity, Loose Teeth, Discolouration of Teeth, Bleeding Gum, Pus Discharge from Gum, Ulcer in Mouth, Painless Cystic Growth in Throat.<sup>[18]</sup>

**Table. 1: Show Mukha Roga, Its Clinical Features and Its effects On Dosha, Dushya and Srotasa.**

Clinical feature	Dosha Vikruti			Dhatu Dushiti	Srotasa
	Vatta	Pitta	Kapha		
Painful sore inside mouth, burning sensation inside mouth	.+	++		Rakta	Rakta vaha
Difficulty in swallowing	+	+			
Tooth sensitivity	+				
Loose teeth	+		+		
Discolouration of teeth	+				
Bleeding gum with pus discharge		+	+	Rakta	
Mouth ulcer if painful	+			Rakta, Mansa	Rakta vaha, Mansa vaha
Mouth ulcer with burning sensation		+		Rakta, Mansa	Rakta vaha, Mansa vaha
Mouth ulcer with itching and less pain			+	Rakta, Mansa	Rakta vaha, Mansa vaha
Painless cystic growth in throat which is not fix in nature	+	+	++	Rakta, Mansa	Rakta vaha, Mansa vaha

**Table. 2: Show Cardiovascular Disease, Its Clinical Features and Its effect on Dosha, Dushya and Srotasa.**

Clinical Feature	Dosha Vikruti			Dhatu Dushiti	Srotasa
	Vatta	Pitta	Kapha		
High BP	++	+	+	Rakta, Meda	Rakta vaha, Rasa vaha, Manovaha
Swasha (Dyspnoea)	+		++	Rasa	Pranwah srotasa
Hruda pidaa (chest pain or discomfort which may travel into the shoulder, arm, back, neck, or jaw. Often it is in the centre or left side of the chest and lasts for more than a few minutes).	++		+	Rasa, Meda	Rasa vaha srotasa, Pranwaha srotasa

**Table. 3: Show *Grahani* (Crohn's disease), its Clinical Features and its effect on *Dosha*, *Dushya* and *Srotasa*.**

Clinical Feature	Dosha Vikruti			Dhatu Dushti	Srotasa
Abdominal pain, Moderate diarrhoea (which may be bloody if inflammation is severe), Fever and weight loss. <b>Symptoms other than GIT</b> Anaemia, skin rashes arthritis, Inflammation of the eye, and feeling tired. Erythema nodosum. Aphthous ulcers Bowel obstruction, bowel cancer. (In advance condition)	+	++	+	Rasa	Anavhasrotasa, Purishavhaa srotasa

**Table. 3: Show *Pittaj Atisaara*, *Raktaja Atisara*(Ulcerative colitis) its clinical features and its effect on *Dosha*, *Dushya* and *Srotasa*.**

Clinical feature	Dosha Vikruti			Dhatu Dushti	Srotasa
	Vatta	Pitta	Kapha		
Abdominal pain Diarrhoea mixed with blood and mucous. Weight loss, fever, anaemia	+	++	+	Rasa	Anavhasrotasa, Purishavhaa srotasa

### Diagnostic Method of Chronic Toxicity of Tobacco

*Ayurveda* broadly classifies the disease diagnosis process into two methods as follows- (1) *Rogi Pariksha* (Examination of patient) (2) *Roga Pariksha* (Examination of the disease).<sup>[19]</sup>

#### 1. *Rogi Pariksha* (Examination of patient)

The patient should be examined by *Trividha Pariksha like Darshana* (Inspection), *Sparshana* (Palpation), and *Prashana* (interrogation).

#### 2. *Prashana Pariksha* (Interrogation)

This is an art of history taking and interrogation of the patient. It depends on the doctor-patient relationship and their faith on the doctor. According to *Acharya Sushruta* following things should be noted through interrogation: ***Desham*** (Address), ***Kalam*** (Age and Season), ***Jatim*** (Caste and Gender), ***Satmaya*** (Compatibility of habits, and addictions), ***Atanksamutpattim*** (History of present illness), ***Vedana Samuchhayam*** (Presenting complains), ***Balam*** (Strength/ Power), ***Antaragnim***(Appetite), ***Vat Pravrutti va Apravrutti***



(Passage of flatus- Present/Absent), *Mutra Pravrutti va Apravrutti* (Urination- Present/Absent), *Purisha Pravrutti va Apravrutti* (Defecation- Present/Absent), *Kal Prrsakaha* (Duration and aggravation of illness), *Aadi* (Family history, Personal history whether he / she is addicted to any drugs like alcohol, cocaine, smoking etc. occupational history, Drug history) *cha*.<sup>[20]</sup>

***Desham*** - The country of residence play important role in development of diseases. The dietary habits, lifestyle, mental set up and suitability of diet varies as per the country of residence. In Ayurveda the geographical place of residence is classified into three groups. It plays an important role in the development of diseases. (a) *Jangama Desha* (Warm climate region –There is less number of disease), (b) *Aanoop Desha* (cold climate region- More number of disease). (c) *Saadharana Desha* (Mixed climate region- Moderate number of disease).<sup>[21]</sup>

***Kalam*** (Age and Season) - It is refer as the seasonal timing, stage of age as well as time of onset of disease. It is further divided into *Nityag Kala* (Continuous time), *Awasthik Kala* (stage wise time). *Nityag Kala* (Continuous time)- Timing of day, night, morning, *Awasthik Kala* (stage of life like young, middle, old, as well as stages of disease).<sup>[22]</sup>

***Jatim*** (Caste and Gender)- In ancient India *Jati* refer to a caste system like *Brahmin*, *Kshatriya*, *Vaishya* and *Shudra* as per their business. The frame work of caste system is breaking rapidly throughout the world hence its importance in clinical evaluation is limiting.

***Satmaya*** (Compatibility of habits, and addictions) - *Satmya* (Compatible) are those things which on constant use gets adapted in the body. *Satmya* refers to the habitual adaptations made by the body to the administered potentially antigenic material. It is the condition in which the body adapt certain things which are not well tolerated by the body by practicing it daily. Allergic response may occur if one is not compatible to certain things.<sup>[23,24]</sup> A question should be asked regarding their bad and good habits.

***Vedana Samuchhayam*** (Presenting complains) - It is refer to the clinical syndrome of various complaints like pain, anorexia, vomiting, mouth sore etc. The main complain with duration should be noted. The symptoms should be analysed like the site, nature, severity, timing and duration, aggravating factors and relieving factors.

**Atanksamutpattim** (History of present illness) - **Atanksamutpattim** it's literally means the cause of the disease. **Balwat Vighraha** stated here major aetiological factors and other factors responsible for disease.

**Balam** (Strength / Power) - It refers to muscular strength to carry out work or exercise. It is of two types. (a) **Deha Balam** (Body strength –it should be assessed by observing the capacity to exercise), (b) **Rog Balam** (Disease strength). (a) **Deham Balam**- is further three types- **Sahaj** (Natural Strength), **Kalaj** (Seasonal strength), **Yukti** (strength developed through exercise, nutrients).<sup>[25]</sup>

**Antaragnim**(Appetite) – It is of four type (a) **Tishna** (High)- found in persons having **Pitta Prakruti**, (b)**Manda** (Low)- found in persons having **Kapha Prakruti** (c) **Sama** (Even)- found in persons having **sama prakruti**, (d)**Visham** (Odd)- Individuals having **vata prakruti**. **Agni** should be examined by assessing **Abhyvaran shakti** (one's ability to eat food when one feel hungry) and **jaran shakti** (It is a ability to digest a food in a given specific period of time).<sup>[26]</sup>

**Vat Pravrutti va Apravrutti** (Passage of flatus- Present/ Absent) – Flatus is passed or not should be inquired.<sup>[27]</sup>

**Mutra Pravrutti va Apravrutti** (Urination- Present/Absent) - Whenever urine is passed or not should be inquired.<sup>[28]</sup>

**Purisha Pravrutti va Apravrutti** (Defecation- Present/Absent) – Whether faeces are passed or not should be inquired. Whether the patient passes the faeces easily (**Mrudu koshta**), with difficulty (**Kroor koshta**), should be examined.<sup>[29]</sup>

**Kal Prrsakaha**- It is refer to the timing of onset of disease as well as duration of illness and timing of exacerbation and remission.<sup>[30]</sup>

Tobacco users are divided into three groups, those who are willing to quit, those who are unwilling to quit now, those who recently quit. The physician can use the "5 A's" model for treating tobacco use and dependence. **Ask** about tobacco use, Identify and document tobacco use status of every patient at every visit. **Advice** strongly urges all tobacco users to quit. **Assess** For current tobacco user, is the tobacco user willing to make a quit attempt at this time? For the ex-tobacco user, how recent did you quit and are there any challenges to remaining abstinent? **Assist** For the patient willing to make a quit attempt, offer medication

and provide or refer for counselling or additional behavioural treatment to help the patient quit. For patients unwilling to quit at this time, provide motivational interventions designed to increase future quit attempts. For the recent quitter and any with remaining challenges, provide relapse prevention. **Arrange** All those receiving the previous A's should receive followup.<sup>[31]</sup>

### ***Darshana Pariksha (Inspection)***

Inspection is an active process it is done with eye and intellect. It is start when the patient comes to OPD and continues till entire data collection process. Even when the doctor interrogating him, the inspection begins throughout the process. Once must note the facial expression of patient while the doctor take history. The color, shape, size, luster normal and pathological state of body and other non mentioned factors which are relevant one should be inspect from eye.<sup>[32]</sup>

### ***Sparshana Pariksha (Palpation)***

It should be accessed through hands.<sup>[33]</sup> especially with the help of palmer surface of hand; one should feel the temperature, tumour, abscess, swelling, and also the coldness, hotness, rigidity, pulsation, soft or rough surface.<sup>[34]</sup>

### **Pathological Investigations in Chronic Toxicity of Tobacco**

Complete blood cell count, ESR, Platelet count, Lipid profile, ECG, endoscopy of GIT in case of duodenal ulcer or Crohn's disease, stool test, colonoscopy, sigmoidoscopy. CT scan, Barium enema X- ray.

### **Dependency of Tobacco Chewing**

It should be assed by asking the following questions before and after treatment like, How soon after you walk up do you have your first dip, How often do you intentionally, swallow tobacco juice, Which chew would you hate most to give up, How many pouches do you use per week, Do you chew more frequently during the first hours after walking than during the rest of the day. This scale (Fagerstrom Test) is used to determine the level of dependency of Nicotine. Score of dependency under 5 indicate very low dependency, score of 5 indicate moderate dependency, and score over 7 indicate very high dependency.<sup>[35]</sup>

**Diagnostic Method of Tobacco Withdrawal of Chewing:** It should be assed by following sign and symptoms before and after treatment like, .Craving, Constipation, Restlessness /

Impatience, Increase appetite, Depression / Sadness, Tension, Dreams, Frustration, Psychological need, Difficulty falling Asleep, Difficulty remaining Asleep, Irritability, Pimples, Headache, Anger, Anxiety, Difficulty in concentration, Mouth sore, other All these clinical features of Tobacco withdrawal should be scored from 0 to 4 according to the severity (0- None, 1- mildly severe, 2- Moderate severe, 3- severe, 4- extremely severe).<sup>[36]</sup>

## Management

### 1. Management of Chronic Toxicity of Tobacco Chewing

#### 1.1 Ayurvedic Management of Tobacco Induced *Mukha Roga*

##### For local application

*Gandusha* Therapy by *Irimedaadi Tail*- 50 ml once a day. Keep the oil into the mouth till tear are come from the eyes and water from the nose. We should keep in mind that there should not be movement of mouth.<sup>[37]</sup>

*Kawala* Therapy by *Triphala Kwatha* and honey.- Take 250 to 300ml of *Triphala Kwatha*, add 1 teaspoon of honey, then gargle by this *Triphala Kwatha* into 3 to 5 times in one sitting, at least gives 3 sitting in a day for 1 month.<sup>[38]</sup>

##### For Internal application

*Khadiraadi Gutika* 500mg twice a day with plain water.<sup>[39]</sup>

*Aaragwadha Hima* (cassia fistula)- Take 20 gm of fruit pulp of *Aaragwadha* in morning time, then add 1 glass of water, keep it for whole day. Then filter this liquid and take it at night.

If any painless cystic growth in mouth, then patient should be refer to the higher centre for further diagnosis and management.

#### 1.2 Ayurvedic Management of Tobacco Induced *Hrudya Roga*

*Muktaa Pishti* 125 mg twice daily with honey.<sup>[40]</sup>

*Sarpa Gandha Vati* 500mg mg twice a day with normal water and according to the severity of the disease patient should be referring to the higher centre.<sup>[41]</sup>

*Pravala Pishti* 500mg twice daily with water.<sup>[42]</sup>

#### 1.3 Ayurvedic Management of Tobacco Induced *Pitaja Grahani, Shataja Grahani* (Crohn's disease)

*Panchamrita Parpatti* – 125 mg with water twice a day after meal.<sup>[44]</sup>

*Panchakole peya* – 20ml thrice in a day<sup>[45]</sup>

In case of nirama avastha- Bhunimbaada churna – Chirayataa (Swertia chirayita), Kutaki (Picrorhiza kurroa), Pippali (Piper longum), Maricha (Piper nigrum), Sotha (Zingiber officinalis), Mustaka (Cyperus rotundus) 3- 6 gm twice in a day.<sup>[46]</sup>

Takra kalpana<sup>[47]</sup>

*Dandimaashtaka churna*- 3gm with water twice a day after meal.<sup>[48]</sup>

*Bilwa Churna* - 3gm with water twice a day after meal.<sup>[49]</sup>

#### 1.4 Pittaj Atisaara, Raktaja Atisara(Ulcerative colitis)

Ulcerative colitis is due to imbalance of *Vata* and *Pitta Dosha*. Main place of *Vata* is colon. First decide whether this is *Amaatisara* or *Pakwaatisaara* if *Aama Atisaara* then *Sangraahi Dravya* is contraindicated.

##### *Aamatisara*

*Pipalyaadi Pramathya* – Pippali (Piper longum), Sotha(Zingiber officinalis)

*Dhaanyka* (Coriandrum sativum), *Bhutika* (Nordostoichus jatamansi), *Abhya* (Terminalia chebula), *Vacha* (Acorus calamus)- 20 ml twice daily.<sup>[50]</sup>

*Takra* (Butter Milk) With *Chitraka Churna* -100 ml thrice a day after meal.<sup>[51]</sup>

*Nagaraadi kwatha*- 20ml twice a day after meal.<sup>[52]</sup>

*Shankhavati*- 500mg twice a day with water after meal.<sup>[53]</sup>

##### *Pakwaatisara*- (Stambhaka and Graahi Drugs)

*Gangadhara Churna*- 3 gm twice a day with water after meal.<sup>[54]</sup>

*Kutaja Ghana Vati*- 500mg twice a day with water after meal.<sup>[55]</sup>

*Kamdugdha Rasa* or *Sutshakhar Rasa* - 500mg twice a day with water after meal.<sup>[56]</sup>

*iraat Tiktaadi Churna* (Chkradat)- 3gm twice a day with water after meal.<sup>[57]</sup>

##### *Raktaatisara*

*Shataavree Gruta*- 30ml with luke warm water.<sup>[58]</sup>

*Pichha Basti*<sup>[59]</sup>

**In case of Gudaapaka (proctitis)** – Wash the anus by decoction of *Patol leaves* (Trichosanthes dioica) and *Mulethi* (Glycyrrhiza glabra). Then Sprinkle the powder of *Dhatki* (Woodfordia fruticosa) and *Lodhra* (Symplocos racemosa).<sup>[60]</sup>

## 2. Management of Tobacco Withdrawal of Chewing

Fried *Yawaani* seeds (*Trachyspermum ammi*), black salt, fried tila seed (*Sesamum indicum*), *Mishi* (*Foeniculum vulgare*) give this combination to the patient whenever he will have a desire then he can take this combination.

*Vishatinduka vati*- 250 mg twice a day with luke warm water after meal<sup>[61]</sup>

*Amaltaasa hima*- 20 ml once at night.

*Bhraami Vati*-500 once at night.<sup>[62]</sup>

*Saaraswata Arishtha*- 20ml twice a day with equal amount of water after meal.<sup>[63]</sup>

*Aashvaasana chikitsa* (Psychological Counselling) – Tobacco addiction causes psychosomatic disorder. The psychological counselling should be given to the patient of tobacco withdrawal along with drugs.<sup>[64]</sup>

## DISCUSSION

In *Ayurveda* Addiction word is not mention but we somewhat correlate the dependency with *Oka Saatmya*, in which when someone use regularly unwholesome or wholesome products for a long period and it does not produce any harmful effect to the body. In modern medicine any substance when use regularly without knowing its side effect for rewarding stimuli is known as addiction. It is of two types one is psychological dependency and other is physical dependency. In psychological dependency patient wants such substance for their pleasure and when there is some biological or physical changes is noticed then this is known as physical dependency. When these *Madakaari* substances like Tobacco use for a longer period in oral route. It produces some chronic toxicity to the gastrointestinal tract like oral diseases, gingivitis and periodontitis. Leukoplakia (precancerous stage), in advance condition oral cancer. An animal study has also proved that use of oral snuff of tobacco cause inflammatory bowel disease like Crohn's disease and ulcerative colitis. Chronic use of tobacco in chewing form also cause high BP. Whenever the person not use this addictive substance it will reduce the level of dopamine hormone in brain so the body demands such substance for pleasure, at that time some withdrawal symptoms are produced in absence of such substance like Increased appetite, craving, Craving, Constipation, Restlessness/ Impatience, Increase appetite, Depression/ Sadness, Tension, Dreams, Frustration, Psychological need, Difficulty falling Asleep, Difficulty remaining Asleep, Irritability, Pimples, Headache, Anger, Anxiety, Difficulty in concentration, Mouth sore. Since these symptoms are similar to smoking withdrawal so we can use smoking assessment criteria for tobacco chewing withdrawal assessment. Chronic toxicity and withdrawal symptoms are assessed by *Prashana*

(Interrogation) *Pariksha*, *Darshana Pariksha* (Inspection), *Sparshana Pariksha* (Palpation). Tobacco users are divided into three groups, those who are willing to quit, and those who are unwilling to quit now, those who recently quit. The physician can use the "5 A's" model for treating tobacco use and dependence (Ask, Advice, Assess, Assist and Arrange). **Ask**- Every patient in OPD should ask history of tobacco addiction. **Advice**- strongly urge to patient not to take it. **Asses**- two things should be assess one is the will power of tobacco user and in case of ex tobacco user it should be ask which problems did he or she faced after left it. **Assist** – Help the patient by giving them some psychological counselling. *Ayurveda* also mention *Aashwaasana Chikitsa* in *Unmaada*. In *Aashwaasana Chikitsa* (Psychological counselling) he or she should be tell about the harmful effect of tobacco to the body by some picture or videos and the benefits when not take it.

All *Madkaari* drugs like tobacco are having *Aagnya* and *Vaayviya* property, due to *Aagnaya guna* they first show stimulating action and after that they show depressive action due to *Vata Guna* mentioned in *Rasa Vasheshika*. That's why all drugs having *Vata* and *Pitta Shamaka* property can be given. As the properties of Tobacco are similar to that of *Visha* like *Laghu* (light), *Ushna*, *Vikaasi* that is opposite property of *Ojja*.<sup>[65]</sup> So it can destruct the *Ojja Dhatu* which is situated in *Hrudya*.<sup>[66]</sup> We can use the *Ojovardhaka Rasayan* like *Amalki Avaleha* described by *Acharya Charka*, as *Amalki* has cold property in nature and pacify all three *Doshas*, specially *Pitta Dosha*. The action is similar to that of *Visha* like *Laghu guna* (light), *Ushna*. The action of all *Madkaari dravya* is depends on individual *Prakriti*. The individual having *Saatvika Prakriti* has mild effect of *Madkaari* drug. In *Rajasika Prakriti* moderate effect has noticed and in *Taamsika Prakriti* severe effect is noticed.<sup>[67]</sup> In other word we can say that *Madakaari dravya* shows immediate action on individual having *Vataja Prakriti*, slight slow action having *Pittaja Prakriti*, very slow action having *Kaphaja Prakriti*.<sup>[68]</sup> The whole of the management of Tobacco addiction has classified into two groups. 1. Management of chronic toxicity of tobacco. 2. Management of Tobacco Withdrawal of Chewing. Management of chronic toxicity of tobacco- There are eight *adhishthana* (site) of *Mukha Roga*. During chronic toxicity of chewing tobacco there may be involvement of one or multiple *adhishthana* (site). The common symptoms are painful sore inside mouth with burning sensation, difficulty in swallowing, tooth sensitivity, loose teeth, discoloration of teeth, Bleeding gum, Pus discharge from gum, ulcer in mouth, painless cystic growth in throat. Here *Gandhusa* therapy by *Irrimedaadi Tail* twice in day. In *Irrimedaadi Tail* most of the contents (*acacia farnisiana*, *Acacia catechu*, *symplocos racemosa*) are having *Tikta* and

*kshaaya Rasa* and cold property in nature. So it will cause pacify of *Pitta Dosha*. Reduce burning sensation in mouth. It will also stop bleeding tendency of gums and teeth because of its *Kshaya Rasa*. It has also worm killing property, decrease inflammation of gums, correct the taste and odor of mouth. *Kawal Therapy* (gargle) by *Triphla kwath* (*Terminelia chebula*, *amblica officinalis*,) and honey 3 to 5 times in one sitting and thrice in a day. *Triphla* having a *Kshaya Rasa* property and not too much hot or cold. It pacify all the three *Doshas* specially *Kapha* and *Pitta*. It will also stop bleeding tendency of gums and teeth reduce the burning sensation in mouth. Crohn's disease- Crohn's disease may affect any part of the GI tract from the mouth to the anus, although the most common sites are the end of the small intestine (small bowel) and the beginning of the colon (large bowel). **According to Ayurveda, Crohn's disease** can be compared to '**Grahani**' disease. Any vitiation or inflammation to this particular part by imbalanced *Doshas* (*Vata*, *Pitta*, *Kapha*). It can cause a wide variety of symptom similar to that of Crohn's disease, anywhere across the digestive system. Degree and nature of symptoms may vary as per the *Dosha* predominance & involvement. As per *Ayurveda*, primary causes of *Grahini* disease are *Mandaagani* (poor appetite and poor digestion), irregular, improper, irrelevant or incompatible diet habits and junk food. Non-following of the healthy diet habits (*Pathya*) in certain digestive disorders, especially the conditions of post diarrhea and irritable bowels, are also one of the important causes of this disease. Excessive use of *Pitta*-aggravating regimens like roaming in sun, anger is main **causative factors of the disease**. It increases *Pitta* in body to unlimited extent which in turn vitiates both *Rakta Dhatu* and *Mamsa Dhatu*. *Vata Dosha* (imbalance caused by fear, anxiety, dry, stale food, packaged food) in the lower colon is also aggravated and in the early stages blocks the *Pitta* and *Kapha* channels causing further inflammation and mucous accumulation. The diarrhea may or may not be bloody. The nature of the diarrhea in Crohn's disease depends on the part of the small intestine or colon involved like Ileitis typically results in large-volume, watery feces. Colitis may result in a smaller volume of feces of higher frequency. Fecal consistency may range from solid to watery. In severe cases, an individual may have more than 20 bowel movements per day. Visible bleeding in the feces is less common in Crohn's disease than in ulcerative colitis. It can be treated by *Grahini Chikitsa*. Since the main causative factor of this disease is *Mandagani* so before start treatment we first decide whether this is a *Saamaavastha* of *Grahini* or *Nirama Avastha*. The symptoms of *Samaavastha* are undigested food, constipation, pain in abdomen, burning sensation in abdomen, anorexia, salivation, heaviness in body.<sup>[69]</sup> In case of *Samaavastha of Grahini*–*Sadha Vamana* by Luke water. If *Aama Dosha* is situated in abdomen then give some *Dipana*



medicine like *Panchakole Peyaa* which aggravates the *Agni* and *Virachaka* drugs (purgative drugs) like *Amaltaasa* fruit pulp *Hima* at night. *Amaltaasa* (*Cassia fistula*) also has cold property so pacify *Pitta Dosha*. If this *Aama Dosha* is spread to the whole body then do *Langhana Therapy* (nil per orally) and give some *Pachaka* drug like *Mustaka churna*. In case of *Nirama Awastha* then give *Shanshamana Chikitsa* like *Bhunimbaada churna – Chirayataa* (*Swertia chirayita*), *Kutaki* (*Picrorhiza kurroa*), *Pippali* (*Piper longum*), *Maricha* (*Piper nigrum*), *Sotha* (*Zyngiber officinalis*), *Mustaka* (*Cyperus rotendus*) 3gm twice in a day. All are having cold property in nature and also pacify *Pitta Dosha*. In *Takra kalpna* (*Butter Milk*) add powder of *Kali Marich* (*Piper nigrum*), root of *chitraka* (*Plumbago zylanica*), black pepper salt for one month. The properties of *Takra (Butter Milk)* are *Deepana, Graahi, light, easy to digest, pacify Pitta Dosha* by their *Madhur Vipaka*. It pacifies all three *Doshas (Vata, Pitta, Kapha)*. *Kutaja Ghanavati* because of its *Kshaya Rasa* it is *Stambhaka* in nature. *Pittaj Atisaara, Raktaja Atisara* can be correlated with ulcerative colitis. Ulcerative colitis is due to imbalance of *Vata* and *Pitta Dosha*. Main place of *Vata* is colon. Stresses, Anxiety, Irregular eating habits, irregular sleeping habits, fear, anger, hatred, jealousy are other feelings which cause imbalance of *Vata* and *Pitta*. Consuming Sour, Salty and Pungent foods can cause imbalance of *Pitta*. According to modern medicine ulcerative colitis and Crohn's disease are the inflammatory bowel disease of auto-immune disorder. In Ayurveda first decide whether this is *Aamaatisara* or *Pakwaatisaara* if *Aama Atisara* then *Sangraahi Dravya* is contraindicated. If *Pakwaatisara* then give *Stambhaka* drugs having *Kshaya Rasa, light, Madhura Vipaka* and cold potency in nature. If a patient of *Pittaja Atisaara* not follows the *pathya* then this *Pittaja Atisara* can vitiate the *Rakta Dhaatu* and it will convert into *Raktaja Atisara*. In *Rakataja Atisaara Pichha Basti* should be given to the patient. Tobacco induced Hypertension is managed by *Mukta Pishti, Pravaal Pishti* and *Sarpagandha Vati*. *Mukta Pishti* and *Pravaala Pishti* having cold property in nature so pacify pitta dosha. *Sarpagandha vati* induce sleeping. 2. Management of Tobacco Withdrawal of Chewing- In *Vishatinduka Vati- Kuchla* (*Strychnos nuxvomica*) having *Vata Shamaka* and *Naadibalya* Property (nerve tonic), reduce tremor, induce sleep, *Amaltasa Hima* for *Virachana* (Purgation), *Brahmi Vati, Saraswata Arishtha* for *Chitoavsadakahar* (Antidepressant) property and *Medhya* (Brain tonic), counseling, meditation and *Praanaayaama* for relaxation of mind.

## CONCLUSION

Tobacco chewing addiction, its chronic toxicity like bleeding gums, gingivitis, loose teeth, ulcer in mouth, odor in mouth, hypertension, inflammatory bowel disease like Crohn's

disease and ulcerative colitis and tobacco chewing withdrawal effect like Craving, Insomnia, Increase appetite, Depression, Frustration, Poor memory and Constipation can be successfully managed by *Ayurveda* without any side effect.

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