CLINICAL PRACTICE GUIDELINES FOR MANAGEMENT OF NICOTINE DEPENDENCE

Dr. Shiv Gautam[1], Lalit Batra[2], Aarti Gawri[3]

INTRODUCTION

Tobacco use is the world's leading cause of death, accounting for 4 million deaths per year. On the basis of current use patterns by the year 2030, it may kill more than 10 million people annually. Tobacco is addictive in all forms and it increases the risk of many cancers, heart attack, stroke, peripheral vascular disease, osteoporosis, chronic obstructive pulmonary disease, diabetes and adverse reproductive outcomes. Even second hand smoke adversely affects pregnancy outcomes, causes lung cancer and heart disease.

Tobacco was introduced in India by the Portuguese 400 years ago. Since then tobacco consumption continued to rise in India. Tobacco is used for smoking as well as in smokeless forms in India.

INDIAN SMOKING PRODUCTS

- **Bidi and cigarette smoking**: Bidi smoking stick is specific to India although it is being exported and raising alarm bells in other countries as well. It is about 6 times more common than cigarette smoking (Taylor et al 2001). Although bidi contains about ¼th the amount of tobacco compared to a cigarette. It delivers a comparable amount of tar and nicotine. A bidi is thus no less dangerous than a cigarette.
- **Smokeless Tobacco**: In India, tobacco is used in smokeless manners in a wide variety of ways with multitude products such as betel quid, mixture of tobacco, lime areca nut, tobacco with lime, mishri, gutkha and many others.
- **Cigars**: Cigars smoking is limited to certain social groups.

EPIDEMIOLOGICAL STUDIES:

- It has been estimated that there are 1.1 billion smokers worldwide and 182 million (16.6%) of them live in India (Gajalakshmi CK et al 2000). The prevalence of tobacco use in 1993-1994 was 23.2% in male (any age) and 4% in female (any age) in urban areas, 33.6% in males and 8.8% in rural areas. Tobacco is used for smoking as well as in smokeless forms in India. Among the tobacco users bidi smokers constitute 40%, cigarette smoker 20% & smokeless forms 40% (V.K. Vijayan and Rajkumar 2005).

ETIOLOGICAL FACTORS

BIOLOGICAL FACTORS

- Nicotine and acetylcholine bind to nicotine – cholinergic receptors originally, these receptors were thought to be confined to the ganglia and neuromuscular junction but have now been found in several areas of central nervous system. The two types of these ion-gated receptors that appear to be involved in nicotine dependence are the a 4/b2 and a7 subtypes.

1-Professor & HOD, 2-Asstt. Professor, 3-Resident Doctor
Psychiatric Centre, SMS Medical College, Jaipur

- The dependence producing effects of nicotine appear to be modulated by dopamine and glutamate release due to nicotine receptors on dopamine cells in the ventral tegmental area and the shell of the nucleus accumbens. Nicotine also increases nonepinephrine, epinephrine, and serotonin and these increases may modulate some of the reinforcing effects from cigarette.

PSYCHOLOGICAL FACTORS:

Smoking, like other behaviors, is maintained because it provides a way of minimizing negative affects (e.g. distress, anger, fear, shame, contempt) and evokes the positive affects of excitement, enjoyment and surprise.

Other factors influencing Nicotine use include peer group pressure, status symbol, role modeling, fun and adventure, curiosity & experimentation.

SOCIAL FACTORS:

Social factors influencing Nicotine Consumption include sociocultural thrill, Social recognition & acceptance of tobacco in rituals and customs, effect of advertisement & media and tobacco use by parents and elders in social gatherings.

DIAGNOSTIC CRITERIA

DSM- IV-TR

	Nicotine related disorder
305.1.0	Nicotine dependence
	Nicotine induced disorder
292.0	Nicotine Withdrawal
292.9	Nicotine related disorder not otherwise specified

ICD-10 CRITERIA

F-17	Mental and behavioral disorders due to use of tobacco, character code may be used to specify the clinical conditions
F IX.0	Acute Intoxication
F IX.1	Harmful use
F IX.2	Dependence Syndrome
.20	Currently abstinent
.21	Currently abstinent but in a protected environment.
.22	Current on a clinically supervised maintenance or replacement regime (Controlled dependence).
.23	Current abstinent but receiving treatment with aversive or blocking drugs.
.24	Currently using the substance (active dependence)
.25	Continuous use
.26	Episodic use (dipsomania)
F IX.3	Withdrawal state
.30	Uncomplicated

DSM-IV-TR Syndromal description

Nicotine dependence	
A pattern of nicotine use, leading to clinically significant impairment or distress as manifested by at least three of seven criteria occurring at sometime during a 12 month period.	
(1)	**Tolerance**
	(a) Absence of nausea, dizziness and other characteristic symptoms despite using substantial amounts.
	(b) A diminished effect with continued use of the same amount of nicotine.
(2)	**Withdrawal**
	(a) Presence of characteristic withdrawal syndrome or
	(b) The use of substance or related substances to relieve or avoid withdrawal symptoms.
(3)	Use of nicotine in large amounts or over a longer period than was intended.
(4)	Persistent desire or unsuccessful efforts to cut down or control nicotine use.
(5)	A great deal of time spent in activities necessary to obtain the substance, in use of the substance or in recovery from its effects.
(6)	Important social, occupational or recreational activities given up or reduced because of substance use.
(7)	Continued use despite having a persistent or recurrent physical or psychosocial problem that it is likely to have been caused or exacerbated by nicotine use.

Nicotine withdrawal	
(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 with in 24 hours by 4 or mere following signs
1)	Dysphoric or depressed mood
2)	Insomnia
3)	Anxiety
4)	Difficulty in concentrating.
5)	Irritability, frustration or anger
6)	Restlessness
7)	Decreased heart rate
8)	Increased appetite or weight gain
C)	The symptoms in criteria **B** causes clinically significant distress or impairment in social, occupational or other important areas of functioning
D)	The symptoms are not due to a general medical condition and are not better accounted by any other mental disorder.

COMORBIDITY

Co-occurring Psychiatric or Substance use disorder

- Nicotine dependence and smoking are 2-3 times more common in individuals with psychiatric and other substance use disorder than in general population (Hughes et al 1986, Dierker et al 2002).
- Smoking related illnesses are the primary cause of death among those in recovery from other substances. It is estimated that 55-90% of individuals with psychiatric disorders verses the 23% of general population.
- The prevalence of smoking is especially high in patients with:
  - Schizophrenia 70-90%
  - Affective disorder 42-70%
  - Alcohol dependence 60-90%
  - Other substance use disorders 70-95%
- There is evidence to suggest that in one study up to 75% of smokers with history of Major depressive disorder developed depressed mood during the first week of withdrawal versus only 30% of those with no depressive history and with the withdrawal syndrome may be more severe in smokers with a history of Depression (Covey et al 1990).
- Several studies suggest a genetic a predisposition to both nicotine dependence and co-occurring depression (Dierker et al 2002).
- ***Review of available guidelines***

  The Guidelines for the treatment of smoking published in 2000 by US Public Health Services (US PHS) and in 1996 by American Psychiatric Association (APA) are the excellent primers.
- Guidelines reviewed of Organizations involved in smoking cessation treatment
  1) U.S. Public Health Service Guideline
  2) WHO guidelines
  3) American Psychiatric Association.
  4) Centers for disease control.
  5) American Cancer Society
  6) Society for research on nicotine and tobacco
  7) National Cancer Institute

General issues in treatment of nicotine dependence

a) Identification and assessment of tobacco use. It includes two important diagnostic questions.

(a) Are to what extent nicotine addiction is present (b) whether other addictive or psychiatric problem coexists. Often, a medical diagnosis has led to the urgency of treatment.

- The assessment covers three areas -

a) Physiological component of addiction

b) Psychological component of addiction

c) Social factors.

2) Interventions

2a) Commitment to Change and goal setting

Four steps that use the information gathered during the assessment process are suggested to help the provider work with the smoker in the processes of developing a commitment to change.

1. Examine the risks of smoking and benefits of quitting in relation to the patient's, medical, psychological and social status. Smokers who already have experienced the onset of disease have a greater likelihood of quitting (Ockene et al 1991, Pederson 1982).
2. Review past efforts at behavior change and current smoking patterns.
3. Determine the patient's strength's and weaknesses that can facilitate change or interfere with change.
4. Establish specific goals that are important to patient and with in the patient's current abilities. The three main alternatives for the patient are:-
    - To make no immediate change in smoking
    - To reduce the amount smoked
    - or to quit.

2(b) Action Stage

- Pharmacotherapy
- Psychosocial therapy

Pharmacotherapy

- **Nicotine replacement treatment**

  The nicotine gum: is usually used during the first few months of a quit attempt. Nicotine gum is available in 2 and 4mg. doses. Patients using 2 mg gum should not chew more than 24 pieces/day and the user of the 4mg strength should not exceed 24 pieces /day. (Fiore et al 1996) Most patients can start reducing use of gum after 3-4 weeks. Each week the daily amount of gum can be reduced by 1-2 pieces, or the patient may elect to switch from 4 mg. to 2-mg. gums as part of weaning process (Orleans 1997).

- **Transdermal nicotine patch**: The transdermal nicotine system provides a more passive delivery system than gum, thereby allowing for a more continuous administration. Peaks and trough in nicotine delivery and the gastrointestinal and oral side effects associated with the gum are avoided. Peak nicotine blood levels are achieved with in 4-9 hours after first use of transdermal patches, which deliver between 15-22 mg/day of nicotine (Hughes 1996). Adherence to this regimen in usually better than with the gum, because a patch is easier to use.

- **Nicotine nasal spray**: The main feature of nicotine nasal spray is the reduction of nicotine craving with in several minutes of dosing. A clinical trial reported peak plasma concentration of nicotine occurring a speed comparable to that occurring when patients are smoking (Hjalmarson et al 1994). Nicotine nasal spray has greater dependence potential than nicotine gum or patch.

- **Nicotine inhaler**: The inhaler is unique in that the device provides some oral and handling reinforcement along with nicotine replacement. It consists of mouthpiece and a porous nicotine cartridge. The smoker inhales through the mouthpiece and the air becomes saturated with nicotine, which is absorbed through the lining of the mouth. (Schneider et al 1996).

Nonnicotine therapy

- **Bupropion**: The mechanism of action is unknown, However bupropion is believed to work on the neurochemistry of nicotine addiction by

a) Enhancing dopamine levels in the mesolimbic system

b) affecting noradrenergic neurons in the locus cerulus (Ascer et al 1995).

Nicotine maintenance:-

Nicotine maintenance, sometimes known as harm reduction, is a approach considered for some addicted smokers by providing them with less toxic nicotine delivery devices. This approach is encouraged by several smoking researchers (Russel 1991, Slade et al 1992).

Other Pharmacotherapies

Includes agents that make smoking aversive (e.g. silver acetate) clonidine, blocking agents (e.g. mecamyline, naltrexone) and medications to decrease withdrawal problems or replace the positive effects of nicotine (e.g. anxiolytics, antidepressants, stimulants, anorectics).

PSYCHOSOCIAL TREATMENTS

- Behavior therapy
- Self help material
- Educational, supportive groups, religious and spiritual influences.
- Hypnosis

Individual who have been most successful in cigarette smoking cessation are those who are more educated, have good personal resources to help them mediate and implement change and receive support for the change from individuals in their environment; among ill individuals, those with more severe diseases are likely to stop smoking (The American Psychiatric Press Text book of Substance abuse treatment: 2nd edition1999).

Behavior therapy is based on the theory that learning processes operates in the development, maintenance and cessation of smoking specific techniques.

a) **Skill training and relapse prevention**: Skill training and relapse prevention and their variants (Problem solving, coping skills and training in stress management) have patients anticipate a large number of situations or processes that are likely to lead urges to smoke or to prompt a slip. Early on in cessation it is often best to avoid high-risk situations. Later patient plan strategies to cope with this situations (Mermelstein R J et al 1992)

b) **Stimulus control:** usually includes self monitoring prior to a quit attempt of facilitate identification of stimuli associated with smoking.

c) **Aversive therapy**: The rationale of aversive therapy is to make smoking more aversive and less reinforcing by inducing mild nicotine intoxication symptoms of nausea, dizziness etc. when the patient smokes, e.g. by rapid smoking and smoke holding (Schwartz JR 1992).

d) **Social support:** Smoker can be helped and encouraged to build up social support systems of individuals in their natural environment. Supportive behavior from a spouse facilitate quitting (Roski et al 1996), where as presence of other smokers in the household predicts less success (Gourley et al 1994).

e) **Contingency management**: in this procedure, smokers are either reinforced for not smoking with the presentation of some reward or punished for smoking by the loss of some reward.

f) **Cue exposure**: The exposure involves repeatedly exposing patients to real or imagined situations that evoke potent urges to smoke in an attempt to extinguish the ability of these situations to evoke urges to smoke. Meta-analysis does not support efficacy of cue exposure. (US Dep't. of Health & Human Service 1996).

g) **Nicotine fading**: In this procedure patient gradually reduces the nicotine yield of their cigarette. This technique should not be confused with reducing the number of cigarette.

h) **Relaxation**: Relaxation is often thought to manage relapse situations associated with anxiety, although relaxation itself usually has not been shown to increase smoking cessation (Schwartz JC 1992, Glosgow Re et al 1987).

SELF HELP MATERIAL

The major goal of self help material are to increase motivation and impart cessation skills written manuals are the most common form of Self help material, although recently computer and video versions have been developed. (Curry SJ 1993, Gould RA).

Educational, supportive groups, religious and spiritual influences.

The goals of educational and supportive groups are to teach patients about harms of smoking and benefits of cessation and to provide group reinforcement for not smoking.

Religious and spiritual influences may by used therapeutically depending upon the traditions & customs of a given society. Important days, dates and rituals play an important role in deciding to quit smoking.

Hypnosis: The usual goal of hypnotherapy for smoking cessation is to implant nonconscious suggestion that will deter smoking e.g. smoking will be unpleasant. Three meta-analyses reported hypnosis was efficacious (Baillie A et al 1994, Viswesvaran C et al 1992). However the most recent meta-analysis did not (US PHS Guidelines 1996).

(3) Monitoring the progress

A changing smoking pattern takes time and a focus on relapse prevention is necessary during the behavior change phase and the maintenance phase. Preparation for coping with withdrawal symptoms may begin with initial interview & then become more focused and personalized after the actual quit date. (Shiftman et al 1997).

PROPOSED INDIAN GUIDELINE

The single most step in addressing tobacco use and dependence is screening for tobacco use and assessing the willingness to quit. Then appropriate intervention, is provided either by assisting the patient by quitting or by providing a motivational intervention.

The following three sections address the three groups of patients:

(1) Smokers who are willing to make a quit attempt.

(2) Smokers who are unwilling to make a quit attempt at this time or Indicisive.

(3) Former smokers.

TOBACCO USERS WILLING TO QUIT

The "5 A's," Ask, Advise, Assess, Assist , and Arrange, are designed to be used with the smoker who is willing to quit.

Table 1. Ask-systematically identify all tobacco users at every visit

Action	Strategies for implementation
Implement an officewide system that ensures that, for EVERY patient at EVERY clinic visit, tobacco-use status is queried and documented.[a]	Expand the vital sings to include tobacco use
VITAL SIGNS Blood Pressure : ..... Pulse :.....Weight : ..... Temperature : ..... Respiratory Rate : ..... Tobacco Use : Current Former Never (circle one)	

[a]Repeated assessment is not necessary in the case of the adult who has never used tobacco or has not use tobacco for many years, and for whom this information is clearly documented in the medical record.

Table 2. Advise-strongly urge all tobacco users to quit

Action	Strategies for implementation
In a clear, strong, and personalized manner, urge every tobacco user to quit.	Advice should be: • Clear- "I think it is important for you to quit smoking now and I can help you." "Cutting down while you are ill is not enough." • Strong-"As your clinician, I need you to know that quitting smoking is the most important thing you con do to protect your healthy now and in the future. The clinic staff and I will help you." • Personalized- Tie tobacco use to current health/illness, and/or its social and economic costs, motivation level/readiness to quit, and/or the impact of tobacco use on children and others in the household.

Table 3. Assess-determine willingness to make a quit attempt

Action	Strategies for implementation
Ask every tobacco user if he or she is willing to make a quit attempt at this time (e.g., within the next 30 days).	Assess patient's willingness to quit: • If the patient is willing to make a quit attempt at this time, provide assistance. • If the patient will participate in an intensive treatment, deliver such a treatment or refer to an intensive intervention. • If the patient clearly states he or she is unwilling to make a quit attempt at this time, provide a motivational intervention. • If the patient is a member of a special population (e.g., adolescent, pregnant smoker, racial/ethnic minority), consider providing additional information.

Table 4. Assist-aid the patient in quitting

Action	Strategies for implementation
Help the patient with a quit plan.	A patient's preparations for quitting:
	• Set a quit date-ideally, the quit date should be with in 2 weeks.
	• Tell family, friends, and coworkers about quitting and request understanding and support.
	• Anticipate challenges to planned quit attempt, particularly during to critical first few weeks. These include nicotine withdrawal symptoms.
	• Remove tobacco products from your environment. Prior to quitting, avoid smoking in places where you spend a lot of time (e.g. work, home car).
Provide Practical counseling (Problem solving/ training).	• Abstinence - Total abstinences is essential. • Not even a single puff after the quit date." • Past quit experience - Review past quit attempts including identification of what helped during the quit attempt and what factors contributed to relapse.

	• Anticipate triggers or challenges in upcoming attempt - discuss challenges/ triggers and how patient will successfully overcome them. • Alcohol - Because alcohol can cause relapse, the patient should consider limiting/ abstaining from alcohol while quitting.
	• Other smokers in the household - Quitting is more difficult when there is another smoker in the household. Patients should encourage housemates to quit with them or not smoke in their presence
Provide intra - treatment social support.	• Provide a supportive clinical environment while encouraging the patient in his or her quit attempt. "My office staff and I are available to assist you"
Help patient obtain extra treatment social support.	• Help patient develop social support for his or her quit attempt in his or her environments outside of treatment. "Ask your spouse/ partner, friends, and coworkers to support you in your quit attempt."
Recommend the use of approved pharmacotherapy, except in special circumstances.	• Recommend the use of pharmacotherapies found to be effective. Explain how these medications increases smoking cessation success and reduce withdrawal symptoms. The first-line pharmacotherapy, medications include: bupropion SR, nicotine gum nicotine inhaler, nicotine nasal spray, and nicotine patch.
Provide supplementary materials	• Provide health education material available with treating centre.

The strategies of Quit :

Abrupt or gradual, those who wish to quit abruptly may be helped in above manner however those who wish to quit gradually may be asked to adopt behavioral change like -

a) Smoking once perday, then one or twice per week and to quit on specified date.

b) Restricting tobacco use at specified areas.

c) Fixing a vender situated at a distance to procure tobacco products.

d) Imposing penalty.

e) Positive reinforcement.

Table No. 5 : Assist component- pharmacotherapy-
Clinical guidelines for prescribing pharmacotherapy for smoking cessation

Who should receive pharmacotherapy for smoking cessation?	All smokers trying to quit, except in the presence of special circumstances. Special consideration should be given before using pharmacotherapy with selected populations: those with medical contraindications, those smoking fewer than 10 cigarettes/day, pregnant/ breastfeeding women, and adolescent smokers.
What are the first-line pharmac other *apies recommended?*	All five of the FDA approved pharmacotherapies for *smoking cessation are recommended, including* bupropion SR, nicotine gum, nicotine inhaler, nicotine nasal spray, and the nicotine patch.
What factors should a clinician consider when choosing among the five first-line pharmacotherapies?	Because of the lack of sufficient data to rank-order these five medications, choice of a specific first-line pharmacotherapy must be guided by factors such as clinician familiarity with the medications, contraindications for selected patients, patient *preference, previous patient experience with a specific* pharmacotherapy (positive or negative), and patient characteristics (e.g., history of depression, concerns about weight gain).
Are pharmacotherapeutic treatments appropriate for lighter smokers (e.g., 10-15 cigarettes/day)?	If pharmacotherapy is used with lighter smokers, clinicians should consider reducing the dose of first-line NRT* pharmacotherapies. No adjustments are necessary when using bupropion SR.
What second-line pharmacotherapies are recommended?	Clonidine and nortriptyline.

When should second-line agents be used for treating tobacco dependence?	Consider prescribing second-line agents for patients unable to use first-line medications because of contraindications or for patients for whom first-line medications are not helpful. Monitor patients for the known side effects of second-line agents.
Which pharmacotherapies should be considered with patients particularly concerned about weight gain? Are there pharmacotherapies that should be especially considered in patients with a history of depression?	Bupropion SR and nicotine replacement therapies, in particular nicotine gum, have been shown to delay, but not prevent, weight gain. Bupropion SR and nortriptyline appear to be effective with this population.
Should nicotine replacement therapies be avoided in patients with a history of cardiovascular disease?	No. The nicotine patch in particular is safe and has been shown not be cause adverse cardiovascular effects.
May tobacco dependence pharmacotherapies be used long-term (e.g., 6 months or more)/	Yes. This approach may be helpful with smokers who report persistent withdrawal symptoms during the course of pharmacotherapy or who desire long-term therapy. A minority of individuals who successfully quit smoking use ad libitum NRt medications (gum, nasal spray, inhaler) long term. The use of these mediations long term does not present a known health risk. Additionally, the FDA has approved the use of bupropion SR for a long-term maintenance indication.
May pharmacotherapies ever be combined?	Yes. The is evidence that combining the nicotine patch with either nicotine gum or nicotine nasal spray increases long-term abstinence rates over those produced by a single form of NRT.

Table No. 6: Comparison of current pharmacotherapy for smoking cessation

	Transdermal nicotine (patch)			Nicotine polacrilex (gum)	Nicotine nasal spray	Nicotine inhaler	Bupropion hydrochloride
Brand name	NA	NA	NA	Rx/OTC gum *Nulife *Goodkha	Rx spray	Nicotrol Inhaler (Rx inhaler)	Nonnicotine sustained release tablet
Product strengths	15 mg	22, 11 mg	21, 14, 7 mg	2, 4 mg	10 mg/mL	10 mg/cartridge (4 mg delivered)	150 mg
Initial dose	1 patch/16 hours	1 patch / 24 hours	1 patch / 24 or 16 hours	1 piece every 1-2 hours	1-2 doses/hour	6-16 cartridges/ day	150 mg/day for 3 days, followed by increase to 300 mg/day
Maximum dose	Same	Same	Same	(2 mg 24/day) (4 mg: 24/day)	(5 doses/hour or 40 doses/day) (1 dose is 2 sprays, 1 in each nostril)	16 cartridges/day	300mg/day, given as 150 mg twice daily
Time to peak plasma level	5-10 hours	5-10 hours	5-10 hours	20-30 minutes	5-7 minutes	15 minutes	N/A
Manufacturer's recommended treatment duration	6 weeks	4 weeks	10 weeks	12 weeks	3 months	12 weeks initial treatment 6-12 weeks gradual reduction	7-12 weeks

Adverse reactions	50% of users experience mild skin reactions Treat by rotating patch sites and applying steroid creams. Fewer than 5% of patients have to stop using the patch because of skin reactinos. Some patients report vivid dreams and sleep disturbances while using the 24 hour patch Treat by removing patch at night.	Mouth soreness, hiccups, dyspepsia, and jaw ache Reactions are generally mild and transient. Reactions are often alleviated by correcting the patient's chewing technique.	Local transient irritation in the nose and throat, watering eyes, sneezing, and cough Usually become less severe and more tolerable over time.	40% experience mouth and throat irritation Symptoms diminish with regular use. Upset stomach may also occur.	Most common dry mouth and insomnia (sleep disturbances can be minimized by avoiding bedtime doses) Shakiness and skin rash also reported.
Contraindications	Server eczema, allergy to adhesive tape, or other skin disease that may be exacerbated by the patch.	Severe temporo mandibular joint disease or other jaw problems may be exacerbated by gum chewing. Presence of dentures, dental appliances, or problems, that would be affected adversely by gum chewing.	Patients with asthma, rhinitis, nasal polyps, or sinusitis should not use the nasal spray.		Seizure disorder Currnet use of Welbutrin, Welbutrin SR, or other medications containing bupropion Patients with current or prior diagnosis of bulimia or anorexia nervosa Concurrent administration of bupropion and MAOIs Patients with allergic response to bupropion

Note N/A = not available, MAOIs = monoamine oxidase inhibitors.
*Available in India.

Table No. 7. Arrange schedule followup contact

Action	Strategies for implementation
Schedule followup contact	• Timing- Followup contact should occur soon after the quit date, preferably during the first week. A second followup contact is recommended within the first month. Schedule further followup contacts as indicated.
	• Actions during followup contact – Congratulate success. If tobacco use has occurred, review circumstances and elicit recommitment to total abstinence. Remind patient that a lapse can be used as a learning experience. Identify problems already encountered and anticipate challenges in the immediate future. Assess pharmacotherapy use and problems. Consider use or referral to more intensive treatment.

Tobacco Users Unwilling to Quit

Patient not ready to make a quit attempt may respond to a motivational intervention. The clinician can motivate patients to consider a quit attempt with 5R's, Relevance, Risks, Rewards, Roadblocks, and Repetition.

Relevance : Encourage the patient to indicate why quitting is personally relevant.

Risks : Ask to patient to identify potential negative consequences of tobacco use.

Examples : Acute risks: shortness of breath, harm to pregnancy, and exacerbation of asthma.
Long term risks: Heart attacks, lung and other cancer COPD & strokes
Environmental risk: Increased risk of lung cancer and heart disease in spouses, higher risk of smoking in children of tobacco users, LBW babies.

Rewards : Ask the patient to identify potential benefits of stopping tobacco use.

Examples
- Improved health.
- Food will taste better
- Save money etc.

Roadblocks : Ask the patient to identify barriers or impediments to quitting
- Withdrawal symptoms
- Fear of failure
- Weight gain

- Lack of support
- Depression

Repetition : The motivational intervention should be repeated every time an unmotivated patient has interaction with clinician. Tobacco users who have failed in previous quit attempts should be told that most people make repeated quit attempts before they are successful.

FORMER SMOKERS – PREVENTING RELAPSE

Most relapses occur soon after a person quits smoking yet some people relapse months or even years after the quit date. All clinicians should work to prevent relapse. Relapse prevention programs can take the form of either brief or intensive interventions

Components of brief interventions; These interventions should be part of every encounter with a patient who has quit recently. Every ex-tobacco user undergoing relapse prevention should receive congratulations on any success and strong encouragement to remain abstinent. When encountering a recent quitter, use open-ended questions designed to initiate patient probelmsolving (e.g., How has stopping tobacco use helped you?). The clinician should encourage the patient's active discussion of the topics below:

- The benefits, including potential health benefits that the patient may derive from cessation.
- Any success the patient has had in quitting (duration of abstinence, reduction in withdrawal, etc.)
- The problems encountered or anticipated threats to maintaining abstinence (e.g., depression, weight gain, alcohol, other tobacco users in the household)

Components of intensive interventions

During prescriptive relapse prevention, a patient might identify a problem that threatens his or her abstinence. Specific problems likely to be reported by patients and potential responses follow:

Lack of support cessation

- Schedule follow-up visits with the patient.
- Help the patient identify sources of support within his or her environment.

Negative mood or depression

- If significant, provide counseling, prescribe appropriate medications.

Strong or prolonged withdrawal symptoms

- If the patient reports prolonged craving or other withdrawal symptoms, consider extending the use of an approved pharmacotherapy or adding/combining pharmacologic medication to reduce strong withdrawal symptoms.

Weight gain

- Recommend starting of increasing physical activity; discourage strict dieting.
- Reassure the patient that some weight gain after quitting is common and appears to be self-limiting.
- Emphasize the importance of a healthy diet.

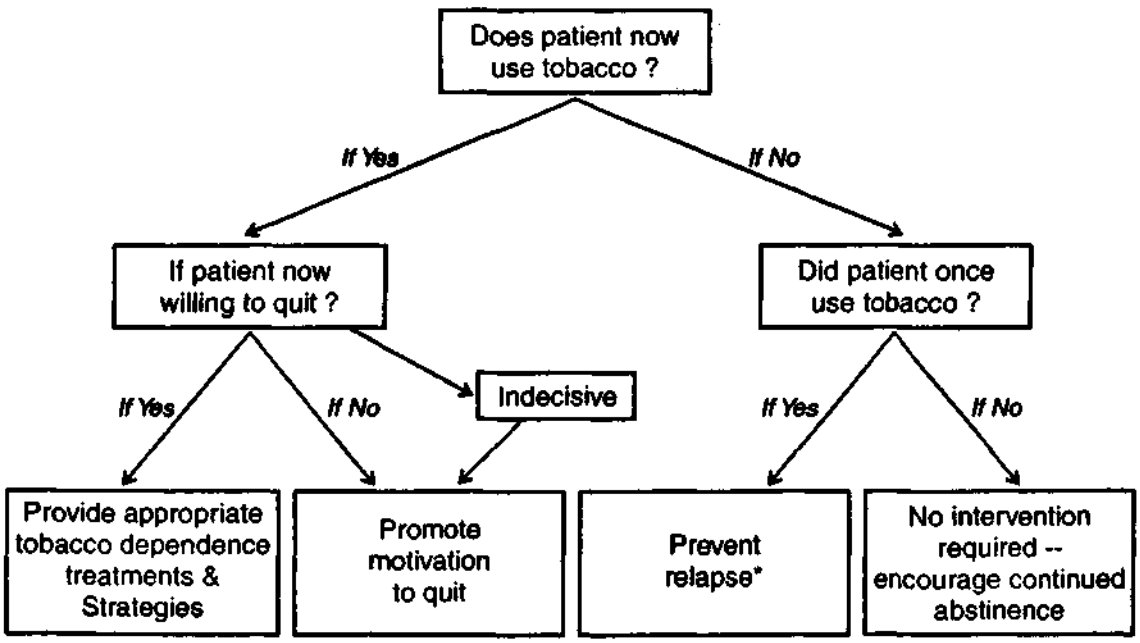
- Maintain the patient on pharmacotherapy known to delay weight gain (e.g., bupropion SR, nicotine-replacement pharmacotherapies, particularly nicotine gum).
- Refer the patient to a specialist or program.

Flagging motivation / feeling deprived

- Reassure the patient that these feelings are common.
- Recommend rewarding activities.
- Probe to ensure that the patient is not engaged in periodic tobacco use.
- Emphasize that beginning to smoke (even a puff) will increase urges and make quitting more difficult.

CONCLUSION

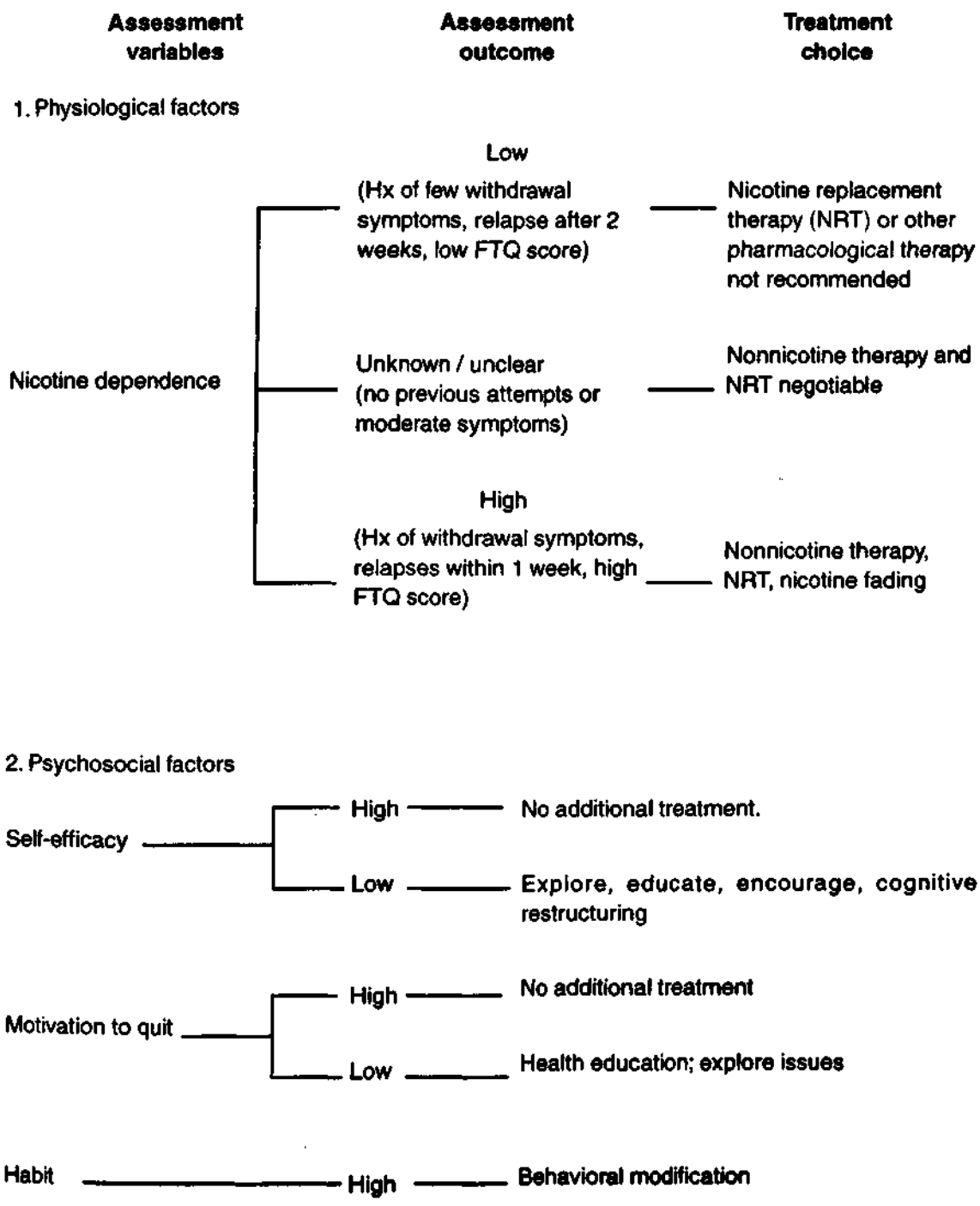
Tobacco dependence is a chronic disease that deserves treatment. Effective treatments have now been identified and should be used with every current and former smoker. There is not clinical intervention available today that can reduce illness, prevent death, and increase quality of life more than effective tobacco treatment interventions.

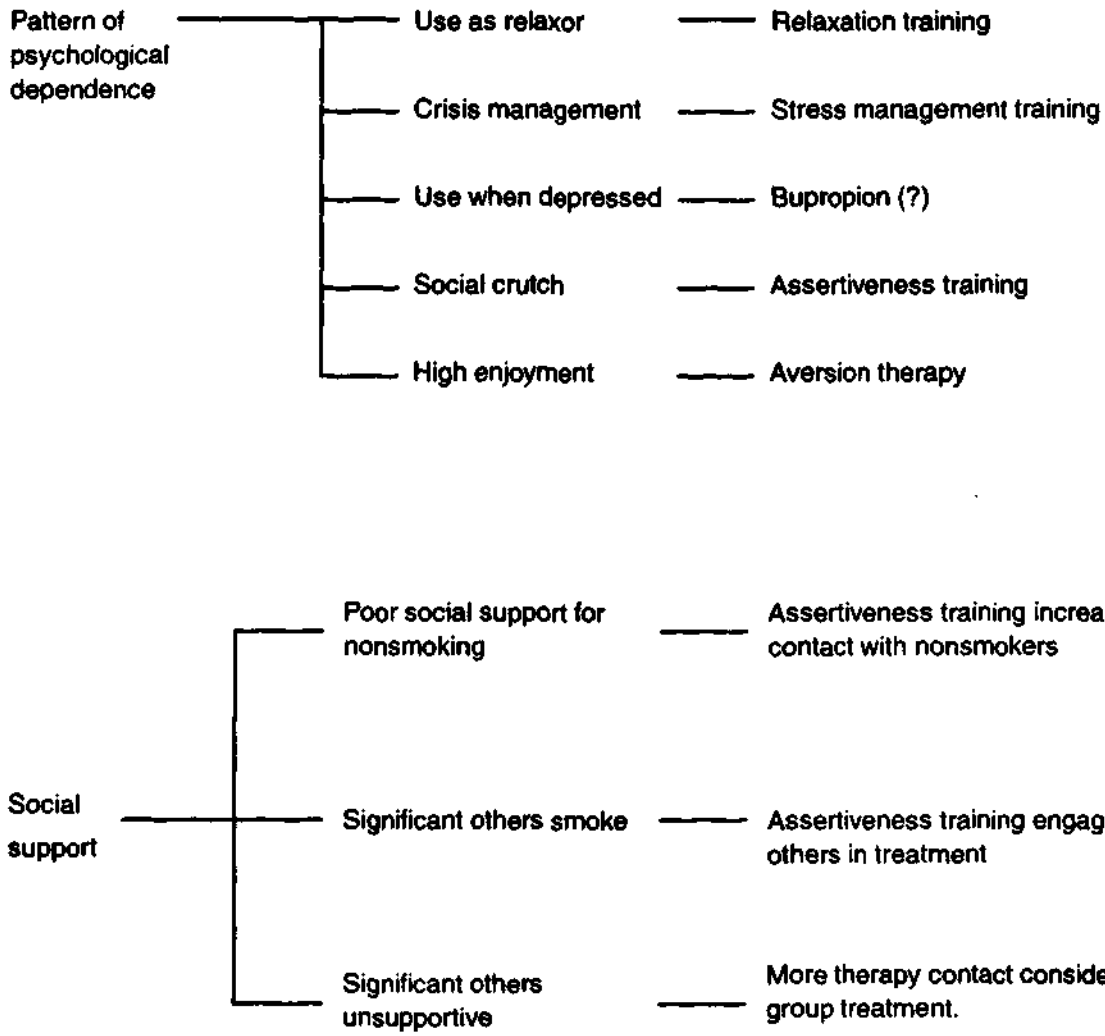


* Relapse prevention interventions are not necessary in the case of the adult who has not used tobacco for many years.

(Adapted from US PHS Guidelines 2000)

Flowchart of assessment outcome and treatment decisions.





Hx = history, FTQ = Fagerstrom Tolerance Questionnaire.

(Adapted from American Psychiatric Press Textbook of Substance Abuse Treatment : 2nd edition)

References:

- American Psychiatric Association: Practice guidelines for the treatment of Psychiatric Disorders; Compendium 2000.
- Ascher JA, Cole JO, Colin JN, et al : Bupropion: a review of its mechanism of antidepresent activity. J. Clin Psychiatry 56: 395-401, 1995.
- Baillie A, Mattick RP, Hall W, Webster P: Metanalytic review of the efficacy of smoking cessation interventions. Drug and Alcohol Rev. 1994: 13: 157-170.
- Barabarz A, Baer L, Sheehan D. et al: A three year clinical following of hypnosis and REST for smoking: hypnotizability, absorption and depression, Int. J Clin Exp. Hypn 34: 169-181, 1986.
- Cepeda – Benita A : A meta-analytic review of the efficacy of nicotine chewing gum in smoking treatment programme. J Consult Clin Psychol 61: 822-830, 1933.
- Covey LS, Glassman AH and Stetner F (1990) Depression and depressive symptoms in smoking cessation. Compr. Psychiatre 31, 350-354.
- Curry SJ; Self help interventions for smoking cessation. J consult clin psychol 1993; 61: 790-803.
- Dierker L, Avenevoli S, Stolar M et al (2002) Smoking and depression: An examination of mechanism of Co morbidity, Am J Psychiatre 159, 947-953.
- Fagerstrom KO, Schneider NG, Lunell E: Effectiveness of nicotine patch and nicotine gum as individual versus combined treatments for tobacco withdrawal symptoms. Psychopharmacology 111; 271-277, 1993.
- Fiore MC, Bailey WC, Cohen SJ, et. al. Treating Tobacco Use and Dependence. Quick Reference Guide for clinicians. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, October 2000.
- Fiore MC, Bailey WC, Cohen SJ, et al : smoking cessation clinical practice guideline No. 18 (AHCPR Publ. No. 96-0 692) Rockwille, MD, U.S. Department of Health and Human Service, Agency for Health Care Policy and Research, April 1996.
- Gajalakshmi CK, Jha P, Ranson MK, Ngyen SN, Global patterns of smoking and smoking attibutable mortality. In: Jha P, Chaloupka E. editors. Tobacco control in Developing countries Oxford: Oxford University Press; 2000 p 11-39.
- Glasgow RE, Lichtenstein E: Long Term effects of behavioral smoking cessation interventions. Behavior therapy 1987; 18: 297-324.
- Gould RA, Clum GA; A meta analysis of Self help treatment approaches. Clin Psychol Rev. 1993; 13: 169-186.
- Gourlay S: The Pros and Cons of Transdermal nicotine therapy Med. J Aust. 160; 152-159, 1994.
- Hjalmarson A, Franzon M, Westin A et al: Effect of nicotine nasal spray on smoking cessation Arch intern Med. 154:2567 – 2572, 1994.
- Holroyd I: Hypnosis treatment for smoking: an evaluative review. Int. J Clin Exp. Hypn 23: 341-357, 1980.

- Hughes J, Hatsukani D: The nicotine withdrawal syndrome, a brief review and update. International Journal of Smoking Cessation 1:21-26, 1992.
- Hughes J, Higgins S, Hatsukami D: Effects of abstinence from tobacco: a Critical review, a research advances in Alcohol and Drug Problems, Vol. 10 Edited by Kozlowski L, Annes H, Cappel HD, et al New York, Plenum 1990 pp. 317-398.
- Hughes JR : Pharmacology Nicotine dependence, a pharmacological aspects of Drug Dependence: Toward an integrative Neurobehavioral Approach. (Handbook of experimental pharmacology services). Edited by Schuster CR, Kuhar MJ, New York, Springer – Verlab 1996, pp 599-626.
- Hughes JR, Hatkurami DK, Mitchell JE et al (1986) Prevalence of smoking among Psychiatric outpatients. Am J Psychiatre 143, 993-997.
- Jha P, Ranson M K, Nguyen SN, Yach D. Estimates of global and regional smoking prevalence in 1995 by age and sex. Am J Public Health 2002, 92: 1002-6.
- Kaplan and Sadock's, Comprehensive text book of Psychiatry; Eight edition, Vol. I.
- Kornitzer M, Boutsen M, Dramaix M et al : Combined use of nicotine patch and gun in smoking cessation: a placebo –controlled clinical trial. Prev Med 24: 41-47, 1995.
- Lan W, Sxe P, Sacks H, et al : Meta – analysis of randomized controlled trials of nicotine chewing gum Lancet 2: 27-29, 1987
- Memelstein RJ, Karnatz T, Reichman S : Smoking in Principles and Practice of Relapse prevention Edited by Wilson PH. Newyork, Guilford Press, 1992, pp 43-68.
- Ockene J, Kristeller J, Goldberg R, et al: Increasing the efficacy of Physician delivered smoking intervention a randomized clinical trial, J Gen intern med. 6:1-8, 1991.
- Orlean T: Clear horizons: Philadelphia PA, Fox Chase Cancer Centre 1997, p. 44
- Pederson L: Compliance with Physician advice to quit smoking : review of literature. Prev Med 11: 71-84, 1982.
- Perkins KA, Levine MD, Marcus MD et al: Adressing women's concern about weight gain due to smoking cessation. J subit Abuse Treat 14: 173-182, 1997.
- Perkins KA: Weight gain following smoking cessation. J consult clin psychol 61: 768-777, 1993
- Puska P, Vartianen E, Korphene H, et al : combining Patch and gum in nicotine replacement therapy: results of a double blind study in North Karlia Paper presented at the annual meeting of the Society of Behavioral Medicine, Boston, MA, April 1994.
- Roski J, Schmid LA, Lando HA: Long Term associations of helpful and harmful spousal behaviours with smoking cessation. Addict Behav 21: 173-185, 1996.
- Russell MAH: The future of Nicotine replacement. British Journal of Addiction 86: 653-658, 1991.
- Schneider NG, Olmstead R, Nisson F et al: Efficacy of a nicotine inhaler in smoking cessation: a placebo, controlled double blind trial Addiction 91: 1293-1306, 1996.
- Schwartz JL: Methods of smoking cessation Med Clin North Am 1992; 76: 451-476.

- Shiftman S, Hickcox M, Paty JA et al individual differences in the context of smoking lapse episodes. Addict Behav 20: 797-811, 1997.
- Silagy C, Mart D, Fowler G, et al : Meta analysis on efficacy of nicotine replacement therapies in smoking cessation. Lancet 343: 139-142, 1994.
- Slade J, Connolly GN, David RM, et al; Report of the Tobacco policy research study group on adjunctive medications for managing nicotine dependence. Tob. control 1 (Suppl.): S10-S13, 1992.
- Strecher VJ, Kreuter M, Den Boer DJ, Kobrin S, Hosper HJ, Skinner S: The effects of computer tailored smoking cessation messages in family practice settings. J Fan Pract 1994 39: 262-270.
- Tang JL, Law M, Wald N: How effective is nicotine replacement therapy in helping people stop smoking? BMJ 308 : 21-26, 1994.
- Taylor T.M. and Biener,L, Prev. Med. 2001, 32, 1, 89-92.
- The American Psychiatric Press Text Book of Substance Abuse Treatment, 2nd edition : 1999.
- Tonneson P, Norregaard J, Mikkelson K, et al: A double blind trial of nicotine inhaler for smoking cessation, JAMA 269: 1268-1271, 1993.
- U.S. Department of Health and Human Services: The Health benefits of Smoking Cessation: A report of Surgeon General (CDC Report 90-8416) Washington DC, US Government Printing Office 1990.
- US Department of Health and Human services clinical practice guidelines # 18; Smoking cessation Washington, DC, US Government Printing Office, 1996.
- V.K Vijayan and Rajkumar: Tabocco Cessation in India: Indian J Chest Dis Allied Sci. 2005, 47: 5-8).
- Viswesvaran C, Schmidt FL: A metaanalytic comparison of the effectiveness of smoking cessation methods. J Appl Psychol 192; 77: 554-561.
- Warner KE, Slade JE, Sweanor DT: The emerging market for long term nicotine maintenance. JAMA 278: 1087-1092, 1997[* I In-line.WMF *]