

Effects of Tobacco Cessation: A Detailed Review

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Abstract: In India, tobacco use is incredibly linked to poverty and accounts for the high public health costs of treating tobacco-related diseases. Dental public health programs aid in detecting the tobacco related periodontal diseases, oral cancers, etc., where the majority belongs to the submerged portion of iceberg, which otherwise leads to substantial morbidity and mortality. Moreover, Dentists plays a key role in identifying both clinical and subclinical cases and aid in tobacco use cessation through various modes of health education and counseling. Therefore, the community-based measures are deemed to be the most cost-effective tool for tobacco cessation.

Key words: Oral Cancer, Tobacco, Tobacco Cessation

INTRODUCTION

Tobacco use is one among the five greatest risk factors for mortality, and also the single most preventable cause of death.¹⁻⁴ In developing countries like India, the disease burden, health care costs as well as other fiscal losses resulting from premature deaths attributable to tobacco consumption are increasing rapidly. World Health Organization (WHO) estimates in 2004 projected 58.8 million deaths to occur globally, of which 5.4 million are attributed to tobacco use. As of 2002, 70% of the deaths are in developing countries. It is predicted that 1.5–1.9 billion people will be smokers in 2025.^{2,3} India is the second largest consumer of tobacco in the world. The prevalence of all types of tobacco use among men has been reported to be high in most parts of the country (generally exceeding 50%).⁵ Further, a national level survey on tobacco use in India has reported that 16.2% are current smokers and 20.5% are tobacco chewers. This survey also showed that beedi is the most popular form of tobacco smoking, followed by cigarette smoking; similarly, pan with tobacco is the major chewing form of tobacco.⁶ This has attributed to the dramatic increase in tobacco-associated oral problems like Oral Precancerous Lesions And Conditions such as Leukoplakia, Erythroplakia, Oral Submucous Fibrosis, Periodontal Diseases, Tooth Loss And Cancers Of Oropharyngeal Region.^{3,7,8} Studies have shown that India has the highest rate of oral cancer in the world. Annually almost 7% of all cancer deaths in males and 4% in females are due to tobacco-related oral cancers.^{8,9} Moreover, it is estimated that 56,000 new cases of tobacco-related oral cancers occur every year, which would lead to more than 100,000 individuals suffering from the disease in the population in any given year. Nearly 95–100% of tobacco users develop periodontal diseases which have a diminishing effect on oral health. As a result, tobacco-related oral manifestations have a negative impact on oral health and quality of life.^{1,9,10}

Tobacco-Induced Oral Disease

It is firmly established that tobacco use is a primary cause of many oral diseases and adverse oral conditions. Tobacco is a risk factor for oral cancer, oral cancer recurrence, adult periodontal diseases, and congenital defects such as cleft lip and palate in children whose mother smokes during pregnancy. Tobacco use suppresses the immune system's response to oral infection, retards healing following oral surgical and accidental wounding, promotes periodontal degeneration in diabetics and adversely affects the cardiovascular system. These risks increase when tobacco is used in combination with alcohol or areca nut. Most oral consequences of tobacco use impair quality of life be they as simple as halitosis, as complex as oral birth defects, as common as periodontal disease or as troublesome as complications during healing.¹¹

Impact of Smoking Cessation

Guide to Counseling for Tobacco Cessation (Quitting)

A) For those willing to quit The 5 “A” method 1) Ask – about tobacco use at every visit, 2) Advise – non-users to never use tobacco and users to quit, 3) Assess – the patient's readiness to quit and the level of dependence, 4) Assist – with quitting, 5) Arrange – follow-up visits. (Table 1) ^{3,4,8,10,12-15}

B) For those not willing to quit The 5 “R” method Ask and/or advise the patient about: 1) Relevance of quitting, 2) Risks of continuing tobacco use, 3) Rewards of quitting, 4) Roadblocks to quitting, 5) Repeat these at every visit.(Table 2)^{3,4,8,10,12-15}

TABLE I: THE FIVE “A’S” FOR SMOKING CESSATION	
APPROACH	SUGGESTED ACTIONS OR PATIENT DIALOG
ASK	
Tobacco use Include current and former use Include noncigarette products Document in patient chart	Do you ever smoke or use any other type of tobacco, including Smokeless tobacco and cigars? I take the time to ask all of our patients about tobacco use because it is important
ADVISE	
Give clear, strong, nonjudgmental, and personalized advice to quit Connect advice with oral findings	There have been some tissue changes in your mouth and gums since your last visit. Tobacco use is affecting your health The best thing that I can do for your current and future health is to advise you to stop smoking
ASSESS	
How willing is the patient to make a quit attempt? If motivated: Help the patient create a quit plan If not motivated: Enhance the patient’s motivation to quit	Would you like to try to quit tobacco in the next month (or year)? If so, we can help
ASSIST	
Help to create a quit plan, involving Set a quit date within 2 weeks Review past quit attempts Avoid other tobacco users Tell family and friends Remove tobacco from home, work, and car Avoid alcohol Recommend or prescribe pharmacotherapy Enhance motivation to quit using the five R’s approach	For patients who are ready to quit Would you like to create a quit plan with me today? For patients who are not ready to quit: Provide a brief intervention or a motivational interview using the 5 R’s approach
ARRANGE	
For patients not ready to quit Document in chart Follow-up at the next appointment For patients ready to quit Refer to toll-free quit line, tobacco counselor or local community-based tobacco cessation programs Document in chart Coordinate with other providers (e.g., patient’s physician) to reinforce the quit plan Schedule a follow-up appointment to review progress and provide additional counseling	For patients not ready to quit If it is okay with you, I will like to check in with you at your next appointment to see where you are in your decision making For patients who are ready to quit If it is okay with you, I will like to schedule a follow-up appointment or phone call to discuss your progress

TABLE 2: THE FIVE R'S APPROACH TO TOBACCO CESSATION

APPROACH	SUGGESTED ACTIONS OR PATIENT DIALOG
	RELEVANCE
Encourage patient to indicate why quitting is personally relevant	Why is quitting tobacco something that matters to you?
	RISKS
Ask the patient to identify potential negative consequence of tobacco use	What do you think are some of the consequences of using tobacco?
	REWARDS
Ask the patient to identify potential benefits of stopping tobacco use	What do you think are the best things that will come from quitting tobacco?
	ROADBLOCKS
Ask the patient to identify barriers or impediments to quitting	What do you think are some of the things preventing you from quitting tobacco? Can you think of any ways to get around these barriers?
	REPETITION
The motivational intervention should be repeated every time an unmotivated patient has an interaction with a dental practitioner Tobacco users who have failed in previous quit attempts should be encouraged to continue trying to quit and be reminded that repeated attempts are often necessary	Quitting is hard, but it can be done. Most people make multiple quit attempts before they are finally successful

Tailoring Messages to the Patient’s Stage of Change :

It is well known that quitting is a process rather than an event which not only requires individual efforts but also necessities extreme co-ordination from all the sectors to achieve greater success rates. However, the intervention aimed at tailoring messages to the patient’s stage of change can help the tobacco user move forward on the road to permanent abstinence [Table 3].^{4,10,12,13,15,16} Thus, adopting such tailoring message into the field of dentistry and public health dentistry, in particular, can be one of the most effective behavioral interventional therapies.

TABLE 3: TAILOR MESSAGES AND GOALS TO THE PATIENT’S STAGE OF CHANGE

If the patient reports	Goals	Examples of messages
I’m not ready to quit	Get the patient to think about quitting <ul style="list-style-type: none"> • Praise prior attempts • Examine reasons for using tobacco 	“Quitting tobacco use can be difficult.” “What do you like about using tobacco?” “Is there any reason you might think about quitting it in the future?” “It sounds like you’re not thinking about quitting right now. If you want to talk about this any time, please let me know.”
I’m ready to quit now	Develop treatment plan (using the 5 “A” method) <ul style="list-style-type: none"> • Set a quit date • Counsel briefly • Refer for intensive counseling if needed • Follow-up 	“It’s important to set a quit date.” “Getting added help, such as intensive counseling, can really increase your chances of successes.” “What are your plans if get cravings?” “We need to talk or meet again. I want to see how you’re doing.”
I quit recently	Help the patient maintain abstinence <ul style="list-style-type: none"> • Review ways to avoid slips • Identify social supports 	“You should be proud of yourself.” “Are others supporting your efforts?” “Is there anything we can do to help you stay off tobacco?”
I quit long ago	Congratulate the patient	Keep it up. Never take another puff
I relapsed recently	Reassess the patient’s motivation <ul style="list-style-type: none"> • Praise the attempt to quit • Turn feeling of failure into small success 	“You should feel good about trying to quit.” “Any time you’re ready to try again, we are ready to help you.” “What might you do differently next time?”

Nicotine-Replacement Therapies

Success is most likely to be achieved when counseling and pharmacological approaches, such as nicotine-replacement therapies [Table 4], are used in combination.^{17,18}

TABLE 4: FIRST LINE PHARMACOTHERAPIES FOR SMOKING CESSATION

PHARMACOTHERAPY	DOSAGE	DURATION
Bupropion sustained release	150 mg every morning for 3 days, then 150 mg twice daily (begin treatment 1-2 weeks precessation)	7-12 weeks maintenance up to 6 months
Nicotine gum	1-24 cigarettes/day-2 mg gum (up to 24 pieces/day) 25+cigs/day-4 mg gum (up to 24 pieces/day)	Up to 12 weeks
Nicotine inhaler	6-16 cartridges/day	Up to 6 months
Nicotine nasal spray	8-40 doses/day	3-6 months
Nicotine patch	22 mg/24 h	4 weeks then 2 weeks then 2 weeks 8 weeks
	14 mg/24 h	
	7 mg/24 h	
	15 mg/16 h	
Nicotine lozenge	2 mg lozenge (if first cigarette is 30 min or more after awaking)	Weeks 1-6 1 lozenge every 1-2 h
	4 mg lozenge (if first cigarette is 30 min or less after awaking)	Weeks 7-9 1 lozenge every 2-4 h
	No >20 lozenges/day	Weeks 10-12 1 lozenge every 4-8 h

Barriers for Tobacco Cessation

Despite the imperative role of public health dentist in tobacco cessation, there are certain barriers averting their tasks on tobacco cessation. This can be due to the following reasons:

- There is no remarkable internal motivation among the tobacco users due to their deprived socioeconomic conditions, stress, and other allied reasons. This mainly hampers the community participation in tobacco cessation.²²
- The majority of societal members strongly resist tobacco cessation since they believe smoking is a macho habit.
- Most of the dental professionals do not have sufficient skill, time and desire for participation in tobacco cessation activities.^{4,10,19,20,22}

In India where there is a predominant influence of socio-cultural practices on tobacco use, it becomes the most challenging task for the public health dentist to assist in its cessation²¹

- Major difficulty in tobacco cessation is the behavioral aspect of tobacco use. This can be overcome through proper • Further, reinforcement of behavior intervention procedures.
- tobacco is considered to be one of the cash crops for farmers and advising them for an alternative crop is the one of the major confront for all the sectors including the public health dentist.²²

CONCLUSION

With a growing smoking prevalence, the proportion of tobacco-attributed disease will probably contribute comparably more to total periodontal disease in future years. The American Academy of Periodontology Parameters of Care include tobacco cessation as a part of periodontal therapy. Thus, as a part of community-based program, dentist plays an essential role in the control of tobacco epidemic through participation in various tobacco use cessation programs by identifying cases and providing health education and proper referrals. This can help in reducing the morbidity and mortality caused due to tobacco use.

CONFLICT OF INTEREST

Conflict of interest declared none.

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