Tobacco and Oral Health

Dr. Leelavathi. L

Senior Lecturer,
Dept. of Public Health Dentistry,
Tagore Dental College and Hospital

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ABSTRACT

Tobacco use has a personal impact on individuals as well as also has a public health impact. Tobacco use results in various systemic condition including cardiovascular disease, lung disease, and numerous types of cancer. Tobacco use is also associated with an increased risk of oral cancer and other mucosal lesions, periodontal disease, caries and impaired healing. In addition, exposure to environmental smoke (second hand smoke) is associated with oral and systemic diseases that include caries, cardiovascular and lung disease, and periodontal disease. Educating and advising patients on tobacco cessation, and referring them or implementing a program, helps patients stop using tobacco and improve their health.

Key words: tobacco use, tobacco dependence, cessation.

INTRODUCTION

Tobacco was introduced in India by Portuguese barely 400 years ago during the Mughal era. Mainly due to a potpourri of different cultures in the country, tobacco rapidly became a part of socio cultural milieu in various communities, especially in the eastern, north eastern and southern parts of the country. India is the second largest producer of tobacco in the world after China.[1] Tobacco has a long history from its usages by the early Americans. Tobacco as a commercial product first arrived in the Ottoman Empire in the late 16th century. It attracted the attention of doctors and became a commonly prescribed medicine for many ailments in olden days. They used tobacco to relieve toothache, to treat ulcers and skin wounds, diseases of lungs, spleen and womb, insect bites, as an antifatigue agent and as a tooth colouring agent.[2] Tobacco use is influenced by a variety of factors, including individual attitudes and beliefs, social norms and acceptability, availability, and advertising campaigns. There are many misperceptions with regard to tobacco use, for example that it aids concentration, suppresses appetite, reduces anxiety and tension, causes skeletal muscle relaxation, and induces feelings of pleasure. Partly as a result of these perceived benefits tobacco consumption is highest in the labour classes and among those from a low socioeconomic status. Several studies have shown that tobacco use is higher among the less educated or illiterate, and the poor and marginalized groups.[3]

TOBACCO USE IN INDIA

Tobacco gained entry into the royal courts of India as a barter commodity to trade Indian textiles by the Portuguese 400 years ago. Since then tobacco consumption continued to rise in India. India is the fourth-largest consumer of tobacco in the world and the third-largest producer of tobacco after China and Brazil. There are about 250 million tobacco users in India who account for about 19% of the world's total 1.3 billion tobacco users. Tobacco is a traditional item of India's foreign trade. India is one of the leading tobacco exporting countries in the world. India counts for 5.8% of the international trade and ranks 5th after Brazil, U.S.A, Turkey and Zimbabwe.[4] India's faces the greatest challenge with the highest rates of oral cancer in the world due to tobacco, and this problem is made more complex by the fact that tobacco is easily available in various forms in different parts of the country.[5]

Tobacco cessation has well-documented health benefits including increased longevity and decreased morbidity and mortality from coronary artery disease, stroke, chronic obstructive pulmonary disease, peptic ulcer disease, and cancer.[4] The tools available to tobacco control include influencing the social and cultural norms concerning tobacco; legislative and regulatory measures to protect the population and to limit tobacco industry marketing tactics.[6]

In India, early experiences with tobacco cessation occurred in the context of primary community education for cancer control. More recently, tobacco cessation clinics have been set up to develop models of intervention, and train health professionals in service delivery.[7]

IMPACT OF TOBACCO USE ON GENERAL HEALTH

Tobacco use has a great impact on general health. The following systemic diseases and conditions are related with tobacco consumption.

- Heart disease - heart attacks, stroke, high blood pressure
- Lung disease - cancer, COPD, chronic bronchitis, emphysema
- Cancer - lung, oral, nasopharyngeal, esophageal, laryngeal, pancreatic, bladder, cervix, and other
- Pregnancy complications - including low birth weight, miscarriage
- Gastric and duodenal ulcers
- Lower bone mass density
- Increased risk of hip fractures
- Post-operative complications[8]

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TOBACCO-INDUCED ORAL DISEASE

It is firmly established that tobacco use is a primary cause of many oral diseases and adverse oral conditions.[9,10] 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.[10]

Identification and Assessment of Tobacco Use

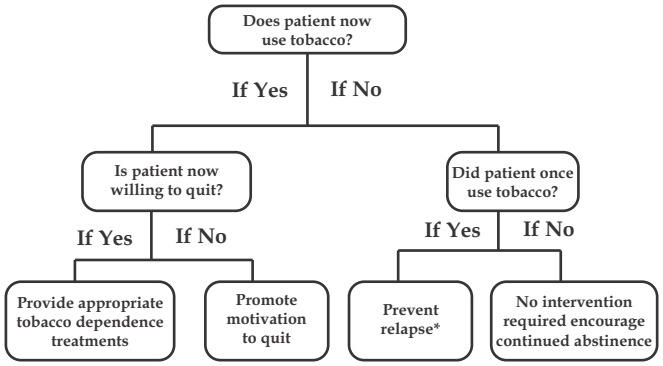
The single most important step in addressing tobacco use and dependence is screening for tobacco use. After the clinician has asked about tobacco use and has assessed the willingness to quit, he or she can then provide the appropriate intervention, either by assisting the patient in quitting (the "5A's") or by providing a motivational intervention, the ("5 R's"). The "5 *A's," Ask, Advise, Assess, Assist, and Arrange,* are designed to be used with the smoker who is willing to quit.

The "5 R's," *Relevance, Risk, Rewards, Roadblocks, and Repetition,* are designed to motivate smokers who are unwilling to quit at this time. Smokers may be unwilling to quit due to misinformation, concern about the effects of quitting, or demoralization because of previous unsuccessful quit attempts. Therefore, after asking about tobacco use, advising the smoker to quit, and assessing the willingness of the smoker to quit, it is important to provide the "5 R's" motivational intervention.

Figure 1 can be used as a guide to identify both current and former tobacco users and to provide the appropriate treatment of all patients. The following three sections address the main three groups of patients:

- Smokers who are willing to make a quit attempt
- Smokers who are unwilling to make a quit attempt at this time and
- Former smokers[11]

Figure 1: Screen for tobacco use status[11]



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

TREATING TOBACCO USE AND DEPENDENCE

Tobacco dependence is a chronic condition that often requires repeated intervention. However, effective treatments exist that can produce long term or even permanent abstinence.

Three types of counseling and behavioral therapies were found to be especially effective and should be used with all patients who are attempting tobacco cessation:

- Provision of practical counseling (problem solving/skills training);
- Provision of social support as part of treatment (intra-treatment social support); and
- Help in securing social support outside of treatment (extra-treatment social support).

Numerous effective pharmacotherapies for smoking cessation now exist. Except in the presence of contraindications, these should be used with all patients who are attempting to quit smoking.

Five first-line pharmacotherapies were identified that reliably increase long-term smoking abstinence rates:

- Bupropion SR
- Nicotine gum
- Nicotine inhaler
- Nicotine nasal spray
- Nicotine patch

Two second-line pharmacotherapies were identified as efficacious and may be considered by clinicians if first-line pharmacotherapies are not effective:

- Clonidine
- Nortriptyline[11]

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Clinical Guidelines for Prescribing Pharmacotherapy for Smoking Cessation[11]

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.
Are there pharmacotherapies that should be especially considered in patients with a history of depression?	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 to 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 pharmaco therapy 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 medications 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. There 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.

TOBACCO CONTROL LEGISLATION IN INDIA

With the growing evidence of harmful and hazardous effects of tobacco, the Government of India enacted various legislations and comprehensive tobacco control measures. The Government enacted the Cigarettes Act (Regulation of Production, Supply and Distribution) in 1975. The statutory warning "cigarette smoking is injurious to health" was mandatorily displayed on all cigarette packages, cartons and advertisements of cigarettes. Under the Prevention of Food Adulteration Act (PFA) (Amendment) 1990, statutory warnings regarding harmful health effects were made mandatory for paan masala and chewing tobacco.

The Government enacted the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act (COTPA), in 2003. The provisions under the act included prohibition of smoking in public places, prohibition of advertisements of tobacco products, prohibition on sale of tobacco products to and by minors (persons below 18 years), ban on sale of tobacco products within 100 yards of all educational institutions and mandatory display of pictorial health warnings on tobacco products packages. The law also mandates testing all tobacco products for their tar and nicotine content. The law pertaining to pictorial warnings on tobacco products packages was implemented with effect from 31st May 2009. In 2004, the government ratified the WHO Framework Convention on Tobacco Control (WHO FCTC), which enlists key strategies for reduction in demand and reduction in supply of tobacco.[1,12]

ROLE OF HEALTH PROFESSIONALS

The major goal for the members of health profession is to use their knowledge and skills to contribute to control what the WHO, has labelled a 'smoking epidemic' in developing countries. Prevention against the diseases that come with tobacco usage is based primarily on public and individual education to drop the habit or preferably not to begin in the first place. Some of the steps to be taken as suggested by WHO include:

- Preventing children from becoming addicted to tobacco
- Providing effective protection from involuntary exposure to tobacco smoke
- Providing effective programme of health promotion and health education
- Effective smoking cessation progamme
- Prominent health warnings on tobacco product packing
- Progressive elimination of tobacco advertising
- Financial measures to discourage tobacco consumption[13]

The scope of preventive dentistry is constantly expanding and can be as far reaching as a professional's imagination, sense of responsibility and efforts. Dentists have been recognized as "ideally positioned to counsel against the use of cigarettes and smokeless tobacco products." They can relay specific information concerning the oral ill effects of tobacco use. The dental encounter probably constitutes a "teachable moment" when the patient is receptive to counselling about life style issues. Because of his expertise in dental and oral matter a dentist makes a unique and important contribution to the smoking withdrawal programme.

Oral health professionals should integrate tobacco use, prevention and cessation services into their routine and daily practice. They should participate in lectures, demonstrations and assist in group discussions.[13]

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. A ban on all tobacco advertising, promotion and sponsorship is a powerful tool we can use to protect the world's youth. The tobacco industry employs predatory marketing strategies to get young people hooked to their addictive drug. Health professionals along with policy makers should strive for achieving a smokeless society and hence protecting the health of the upcoming generation.

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