Indian Journal of Dental Education
Volume 5 Number 2, April - June 2012

Review article

Tobacco Initiation to Intervention in Youth: Implication for Oral Health Professionals

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Abstract

Tobacco use is one of the leading preventable causes of morbidity and mortality. The most powerful predictor of adult tobacco use is its initiation during adolescence, the most susceptible time for onset of this habit. Initiation of tobacco use is associated with peer pressure, parental use, school factors, cultural norms, lower self esteem, accessibility, moderate pricing, desire for experimentation and aggressive marketing by tobacco companies.

While dentists have a positive attitude regarding their role in tobacco cessation, the same is not extrapolated into practice. Several barriers to counseling in the dental clinic have been identified. Oral health professionals can render tobacco cessation services to the youth. Brief interventions, self-help materials, and pharmacotherapy for established nicotine dependence form the mainstay of therapy. The purpose of this paper is to identify the several factors leading to tobacco initiation in youth and discuss the role of oral health professionals in future dependence.

Key words: Tobacco; Youth; Initiation; Cessation; Oral health professionals.

Introduction

Tobacco is considered to be the leading cause of preventable deaths in the world. Preventing and treating diseases caused by tobacco is one of the major challenges of public health today. Despite the current knowledge of the harm caused by tobacco, its consumption continues to increase. The "tobacco epidemic" is shifting from industrialized to developing countries, due to steady population growth coupled with tobacco industry ensuring that millions of people become fatally addicted each year. Nearly 5 million tobacco users die every year and this figure will increase to 10 million by 2020. Of these, 7 million deaths will occur in the developing countries, mainly China and India. (1)

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(Received on 09.03.2011, accepted on 08.07.2011)

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Tobacco and youth

There is a need to identify high-risk segments of the population such as youth as an entry point to tobacco use as targeted by industry promotion. Most tobacco users start using it before the age of 18 years, while some start as young as 10 years (2), the time for discovery, challenge and experimentation, when they are far too young to understand or resist social expectations. The early age of initiation underscores the urgent need to intervene and protect this vulnerable group from falling prey to this addiction. The risks of tobacco use are highest among those who start early and continue its use for a long period. In order to reduce the long-term burden of tobacco related diseases, adoption of successful prevention and cessation strategies is the only feasible solution in less-resourceful countries.

It is important for Oral health professionals to understand the factors which lead to tobacco abuse in youth, to counter this public health threat by their intervention.

Determinants of tobacco use in youth

Tobacco use in adults is primarily due to nicotine dependence whereas in adolescents there are unique social and behavioral factors associated with its use. (3) Children may start using tobacco for psychosocial reasons like peer influences, curiosity, desire for experimentation or as a remedy for stress. Personal characteristics of adolescent tobacco users include low self-esteem, low aspirations, depression/anxiety and risk taking. These personal traits are associated with certain behavior patterns such as poor school performance, violence, gang membership, and alcohol and drug abuse. Nicotine gives these users excitement and relief from the all pervasive gloom of life.

Socio-environmental factors such as advertisements by tobacco companies and effect of role models in movies who are smokers and portrayed as smart, successful and courageous; considerably increase the chances of smoking initiation among teens.(4) Enhancement of athletic ability, concentration powers and being 'cool' have been wrongly associated with tobacco use. Moderate pricing and easy availability of tobacco products to even the small kids despite the ban by the governments has led to sharp rise in its use.

Development of dependence

For the past two decades, the onset of dependence has been conceptualized by the Stage theory as a slow and sequential process, with the daily use of tobacco over an extended period of time as a prerequisite for nicotine dependence. Contradicting this theory, preliminary results from the DANDY (Development and Assessment of Nicotine Dependence in Youth) study suggested that the first symptoms of nicotine dependence can appear within a matter of days or weeks of the onset of intermittent tobacco use. (5) Once adolescents have experimented with tobacco, approximately 50% continue its use and become addicted. Preventing this use requires intervention in the early adolescence prior to the time when these behaviors have already become ingrained. (6)

Ill effects of tobacco on general health

Tobacco is a common risk factor to several systemic and oral diseases. Second hand smoke from parents puts the children at an increased risk of developing lung cancer, respiratory and cardiovascular diseases, middle-ear infections and delayed development of permanent teeth by as many as 4 months.(7) Smoking during pregnancy increases the chance of a low-birth-weight baby, premature birth, stillbirth, sudden infant death syndrome and six times greater chance of cleft palate formation. (8) Although the most serious health outcomes associated with smoking typically emerge later in life, adolescent smokers show evidence of airway obstruction, slowed growth in lung function and other respiratory symptoms, compared with non-smokers. In addition, earlier the individuals begin to smoke, higher the risk for heart disease, stroke, chronic obstructive lung disease, risk of developing anxiety disorders and nicotine addiction. (9)

Ill effects of tobacco on oral health

Tobacco contributes significantly to the global oral disease burden (10, 11). A clear association between tobacco use and the prevalence and severity of periodontal diseases exists. (12). It is responsible for up to half of all periodontitis cases among adults and delayed wound healing. (11) Smoking has been shown to affect both taste and smell acuity. Tobacco, whether chewed or smoked, causes staining of teeth and halitosis (13). Smoking a pack of cigarettes a day or using smokeless tobacco quadruples the risk of developing oral cancer, which kills about 50% of its victims within 5 years of diagnosis. Majority of oral cancers are preceded by precancerous lesions and conditions caused by the use of tobacco in some form. (8) Such lesions can be easily seen due to their peculiar oral location, making oral cancers particularly amenable to prevention.

The clear link between oral diseases and tobacco use provides an ideal opportunity for oral health professionals to take part in tobacco prevention and cessation programs.

Role of Oral Health Professionals in Tobacco Control

Dentists can play a major role to control tobacco menace by Public Health Education at community level and brief interventions in the clinics.

Health education and information

Prevention against the diseases that come with tobacco use is based primarily on public and individual education to drop the habit or preferably not to begin in the first place.

Pediatric dentist can take initiative to conduct school-based tobacco prevention programs to educate the adolescents about the health risk of tobacco consumption, risk of addiction and benefits of tobacco cessation. Such programs identify the social influences which promote its initiation among the youth and teach skills to resist such influences which can produce a long term relative improvement in quit rates, (2) or delay adolescent tobacco use, especially if strengthened by booster session and community programs involving parents.

Public health Dentist can write articles about benefits of tobacco control, participate in talk shows, demonstrations, discussions and link with government and Non-government organizations to involve youth in anti-tobacco advocacy. The focus should not be only on primary prevention, that is not only on discouraging young people from taking up the habit but also on providing help and support for those who wish to quit tobacco usage.

Tobacco Cessation for Youth in Dental Clinics

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 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 counseling about life-style issues. Oral health professionals should integrate tobacco use, prevention and cessation services into their routine and daily practice (14) for the following reasons:

1. They are especially concerned about the adverse effects of tobacco practices in the oro-pharyngeal region of the body.
2. They have easy access to children, youth and their caregivers, thus providing opportunities to influence individuals to avoid all together, postpone initiation or quit using tobacco before they become dependent.
3. They often have more time with patients than many other clinicians, providing opportunities to integrate education and intervention methods into practice.
4. They often treat women of childbearing age, thus are able to inform such patients about the potential harm to their babies from tobacco use.
5. They can build their patient's interest in discontinuing tobacco use by showing actual tobacco effects in the mouth.

Dentists in many parts of the world have a positive attitude about intervening for their adolescent patients. The majority of them consider smoking cessation and prevention for adolescents as part of their responsibility (15). Most dentists and hygienists don't counsel children to prevent tobacco use due to lack of confidence and doubt about the effectiveness of their intervention efforts. (15, 16)

Barriers mitigating provision of tobacco cessation counseling

Numerous barriers have been reported for the limited involvement of dental professionals in tobacco cessation programs for youth. (15, 16, 17, 18) Some of them are lack of time, lack of reimbursement or incentives, resistance from the patients or their parents, lack of skills, lack of patient education materials, and perception of poor effectiveness and fear that giving unwanted tobacco cessation counseling may upset the dentist-patient relationship.

Adolescents also under- report tobacco use on health history forms that ask them to specify whether they use tobacco products (19) making it difficult to identify them in the first place.

Globally about 70% of 13-15 year olds who currently smoke have a desire to quit but only two third of them make a dedicated quit attempt and a negligible proportion of these are successful in achieving long term abstinence (2).

The lack of formal training at the graduate level translating into lack of confidence is an important barrier that hinders large-scale involvement of dentists. Skills for providing tobacco cessation counseling to patients ideally should be learnt during the dental curriculum and reinforced within continuing education. Dental colleges need to incorporate into their curricula not just didactic instruction on the oral health impact of tobacco use, but relevant counseling techniques and training in pharmacotherapy.

Brief Interventions

Brief interventions typically involve an assessment of tobacco use, dependence, and motivation to quit; advice on the benefits and methods of quitting; and assistance with quitting, including referrals to other treatment modalities.

Behavioral interventions for tobacco use conducted by oral health professionals in the dental clinic and community setting may increase tobacco abstinence rates among smokeless tobacco users (20)

Motivating factors for Adolescents to quit tobacco

1. It is important to note that adolescents consistently rank physical attractiveness, dental concerns, and esthetics as greatly important.(21)

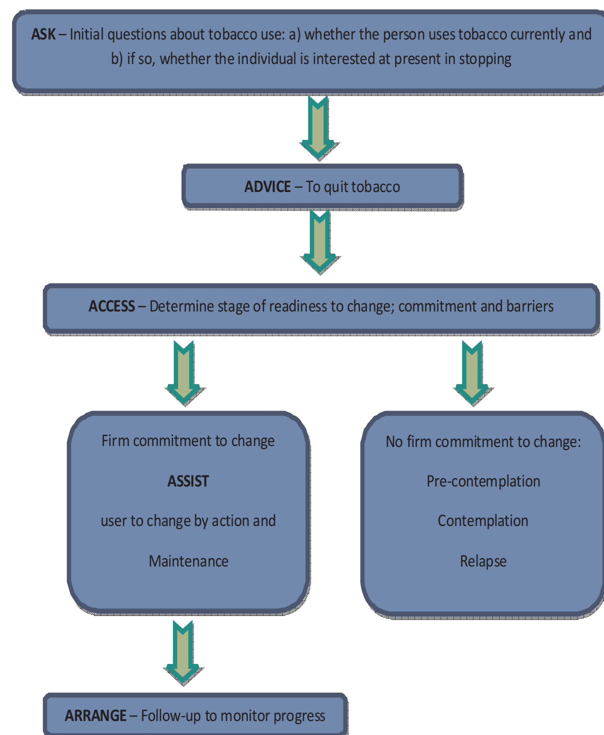
2. Relating tobacco to short-term adverse effects such as staining of teeth, halitosis, loss of taste may be more relevant and meaningful to an adolescent than long-term health effects such as cardiovascular or lung diseases. (17)

3. Highlighting role models abstaining from tobacco use and making the dental clinic adopt a "no tobacco policy" can also be used.

However, it is important to realize that tobacco cessation is a process and a number of stages are encountered in the process. Some of the attributes required for the clinician are to be persistent, supportive and not to give up.

The "5 A"s, Figure 1 (ask, advice, access, assist and arrange) is a brief intervention method, used to guide the dentist in tobacco cessation counseling. It is important to include some sort of intervention to bring behavior change, in cases where the adolescent wishes to quit tobacco. (22)

Figure 1: Steps involved in tobacco cessation



Ask every adolescent a simple question about current tobacco use and document all tobacco users at every visit. Once a tobacco user is identified, assess willingness to make a quit attempt. The dentist should urge in a "clear, strong, nonjudgmental and personalized manner," every tobacco user to

quit. The dentist can assist tobacco users by helping them set a quit date; referring them to a telephone counseling service, cessation group or intensive cessation program; prescribing pharmacotherapy; and providing educational materials about tobacco cessation. Follow-up contact to support and guide a patient's quit attempt should be arranged otherwise, users may slip back to earlier stages of change.

Users unwilling to make a quit may respond to a motivational intervention that provides the clinician an opportunity to educate, reassure, and motivate. Motivational intervention is built around the **'5 R's**: Relevance, Risks, Rewards, Roadblocks and Repetition. Such counseling involves talking about tobacco and quitting and then reinforcing the points most likely to motivate adolescents to quit. Information should be of their relevance, such as health concerns, rewards or specific barriers to quitting. A discussion of the health effects of tobacco and the benefits of quitting (such as immediate improved oral health and financial savings) may allow the dentist to identify and highlight risks and rewards that seem most relevant to the user. Identifying the patient's perceptions of roadblocks to quitting, such as fear of withdrawal symptoms or weight gain and address those barriers.

Pharmacotherapy

There are two classes of drugs for treatment of tobacco dependence: nicotine replacement therapy (NRT) and non-nicotine medication, sustained release antidepressants like bupropion. While intensive therapy is not in the realm of dentists providing brief interventions but NRT holds plenty of promise. Even though these methods may seem exclusive of each other, the existing data suggest that a combination of the two is often essential to achieve good success rates.(23) Normally these services will lie outside the dental practice although some trained dental teams will be able to provide these services.

Adolescent tobacco users are different from adult users in that their motivation to stop smoking tends to be more unstable. It is sensible, therefore, to check that they are fully committed to trying to stop smoking permanently before offering them NRT and to attempt to establish that they are dependent. (24)

Self-help

The self-help, non-interactive approach includes minimal interventions that do not require responses from the adolescent and are delivered through written or audio-visual materials or on a computer; to motivate them to quit the habit.

Challenges to youth tobacco cessation programs

The limited success in tobacco cessation programs for youth is due to multiple factors, such as, it is resource intensive intervention, low importance placed by oral health professional, lack of supportive environment and government policies for tobacco control program.

Conclusion

Though we do not fully understand all the factors that contribute to onset of tobacco use, which leads to addiction and eventual adverse health outcomes; we do need to understand better the patterns of use and how the determinants of initiation interact.

We, the dentists, must take the responsibility of providing tobacco cessation services and encourage non-users to be tobacco free, though few translate this into practice. Admittedly, there are several barriers in this process, both real and perceived, which should be addressed with further research. Screening for tobacco use, interventions, referring young users to additional resources for cessation, and establishing a follow-up system that will track their progress should be made mandatory. Brief advice from a dentist for adolescents is cost-effective and has a potentially large reach.

Success in relation to cessation does not only mean that more number of users has quit, but it also includes educating the masses, so that the number taking to this habit afresh will also reduce. We the members of the oral health profession should take efforts to make a "Tobacco free Society" for the benefit of mankind.

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