Tobacco Cessation in the Dental Office

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KEYWORDS

• Tobacco cessation • Pharmacotherapeutics • Oral pathology • Addiction

KEY POINTS

- Evidence based tobacco-cessation guidelines (the 5 A's: Ask, Advise, Assess, Assist, and Arrange) when used by clinicians are effective in reducing tobacco use and obtaining successful quits by patients.
- Numerous investigations involving dentists have provided evidence that counseling by clinicians with regard to the 5 A's can be achieved.
- Dentists have been encouraged by organizations including the American Dental Association, the Centers for Disease Control and Prevention, and the US Public Health Service to provide instruction and intervention on tobacco cessation in the dental office. The dental provider is in the unique position to relate oral findings to the patient and to provide advice to tobacco-using patients about quitting the habit.
- Dentists are in a position where they are able to assess patients' self-addiction, and level of readiness to quit tobacco use. With this information, dentists then can provide assistance with the quit by providing an appropriate pharmacotherapeutic aid to help patients stop using tobacco, and thereby improve their oral and overall health.

INTRODUCTION

Tobacco use is the principal cause of preventable disease and death in the United States. One in 2 long-term smokers will die of a tobacco-related illness.[1] In annual estimates, smoking accounts for 438,000 premature deaths among smokers and an additional 38,000 deaths in nonsmokers from the effects of second-hand smoke.[2]

Seventy percent of those who smoke want to quit and approximately 41% try to quit each year.[3] However, despite the availability of a wide array of effective smoking cessation treatments, more than 60% will try to quit without assistance. Unfortunately for those smokers who try to quit alone, fewer than 5% will still be abstinent at 1 year.[4] A dentist's advice to quit coupled with pharmacotherapy can double or triple success rates.[5] Dentists are in an ideal position to offer smoking interventions, as 65% of adults 18 years and older visit the dentist annually. Approximately 50% of smokers visit

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a dentist within any year,[6] allowing dentists the opportunity to discuss tobacco use, its visible oral consequences, and cessation.

The risks of smoking can be reduced by successfully quitting at any age. Quitting smoking has immediate as well as long-term benefits, reducing risks for diseases caused by smoking and improving health in general. Quitting smoking immediately reduces risks for cardiovascular disease and cancer. For example, the risk of myocardial infarction decreases by 50% within the first year of abstinence.[7] Smoking cessation also reduces risk for low birth weight, respiratory illness, and sudden infant death syndrome (SIDS) among the children of smokers.[8] Smokers who stop smoking even at the age of 40 or 50 years avoid more than 90% of the risk of lung cancer associated with tobacco.[9]

Indirect exposure to tobacco smoke is also an important risk factor for premature death and disease in children and adults who do not smoke. The 2006 Surgeon General Report on the health consequences of involuntary exposure to tobacco smoke concluded that there is no risk-free level of exposure to second-hand smoke (SHS).[8] Children exposed are at increased risk for SIDS, acute respiratory infections, ear problems, and more severe asthma.[8] Exposure of adults to SHS has immediate adverse effects on the cardiovascular system, and causes coronary heart disease and lung cancer.[10] It is therefore equally important to inquire about exposure to SHS at home and to recommend that patients create a smoke-free home to protect children and nonsmoking adults.

Smokeless tobacco products, which consist of chewing tobacco and moist and dry snuff, have been used for thousands of years especially among populations in South America and Southeast Asia. However, these products have gained worldwide popularity including in the United States. Smokeless tobacco use is not a safe alternative for smoking, and can lead to nicotine addiction and dependence similar to that produced by cigarette smoking. There is sufficient evidence that the use of smokeless tobacco causes cancer in humans. Smokeless tobacco, like smoked tobacco, contains carcinogens, which contribute to cancers of the oral cavity and pharynx and increase the risk of other head and neck cancers.[11] Smokeless tobacco use also causes several noncancerous oral conditions, such as leukoplakia, gingival recession, alveolar bone loss, and caries.

An analysis of long-term national trends in smokeless tobacco use reported that considerable progress has been made in reducing adult and adolescent smokeless tobacco use.[12] Smokeless tobacco use has declined among the young, with a decrease noted particularly among boys in most subpopulations in all grades. The largest decline was noted among adolescent males.[12] Among adult men significant declines in smokeless tobacco use was also noted for all age groups, except for men aged 25 to 44 years.[12] Men within this age group now have the highest prevalence of smokeless tobacco use among all adult age groups.[12]

PERIODONTAL DISEASE

Cigarette smoking can lead to periodontitis and the loss of alveolar bone support (**Fig. 1**).[13]

A plethora of substances associated with cigarette smoking have the potential to adversely affect health. These substances include nicotine, which undergoes tissue absorption and enters the bloodstream at a level of 2 to 3 mg per cigarette, and several gases (notably carbon monoxide and hydrogen cyanide) that are inhaled at an approximate volume of 20 to 30 mL per cigarette.[14] These toxic substances have a multitude of biologically plausible effects, including vasoconstriction resulting in tissue ischemia,