Smoking Cessation Practices in the Dental Profession

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Abstract

Aim: The purpose of this review is to describe the current status of smoking cessation initiatives in the dental profession.

Review: A review of the initiatives undertaken by the dental profession to adopt smoking cessation recommendations as standard of care is presented.

Summary: Facts about the effects of smoking on the major oral diseases are stated and supported by national statistics. The barriers for compliance by dental professionals are described based on published research, but even more importantly, possible solutions are offered.

Clinical Significance: Awareness of the harmful effects of smoking tobacco can help dental professionals become more motivated to comply with current recommendations for smoking cessation in order to improve the oral and general health of the public.

Keywords: Tobacco cessation, nicotine replacement, 5As, prevalence, smoking

Introduction

Recognition of the Problem
The Surgeon General's Report of 1964 was the first document to state tobacco smoking was a probable cause of disease. This report entitled, "Smoking and Health", shockingly informed the public at that time when more than 40% of Americans smoked that smoking was a cause of lung cancer and chronic bronchitis as well as being responsible for a 70% increase in mortality. More than 40 years later, smoking prevalence has fallen to 20.6%, according to data from 2005.

Today, tobacco affects not only the respiratory system but nearly every system in the body. In 2004 the Surgeon General reported, "Smoking harms nearly every organ of the body, causing many diseases and reducing the health of smokers in general." Tobacco smoking has been proven to increase the risk of abdominal aortic aneurysm, cataract, coronary heart disease, cardiovascular disease, sudden infant death syndrome, and multiple forms of cancer.

The American Dental Association (ADA) has agreed with all statements from the Surgeon General on this matter. In 1964 the ADA adopted a mandate to educate the public about the dangers of tobacco through its members and in 1992 adopted a policy encouraging its members to help all patients who are smokers to quit using smoking cessation techniques. These cessation guidelines were endorsed by the American Dental Education Association (ADEA). The dental community is still encouraged to be more proactive in this health promotion effort.

Effects of Tobacco on Dental Health
Aside from its numerous systemic health effects, tobacco has severe, direct effects on the oral cavity. The Surgeon General's 2000 report "Oral Health in America" stated tobacco use, as well as other lifestyle behaviors such as alcohol use and poor diet, have a grave effect on oral and craniofacial health. Tobacco has been shown to increase risk for coronal caries, root caries, oral cancer, and periodontal disease. Compared to former and never smokers, smokers have more than double the risk for coronal caries (9.8% in non-smokers and 21.2% in smokers). Smokers are also at increased risk for root caries (21.1% in smokers, compared to 7% in former and never smokers).

Additionally, there is a five to 20 fold elevated risk for periodontal disease among smokers compared to never smokers. Even more, smoking is a major risk factor for periodontitis and may be responsible for more than half of periodontitis cases among adults in the United States.

Perhaps the most severe of all tobacco-related oral diseases are oral and pharyngeal cancers. In 2002 more than 200,000 people were living with oropharyngeal cancer. Seventy-five percent of these oropharyngeal cancer cases were caused by tobacco use. Smokers are six times more likely and smokeless tobacco users are 50 times more likely than non-smokers to develop these cancers.

Smoking can also jeopardize the prognosis of dental procedures, such as dental implants. In a 2000 study Wallace found the rate of dental implant failure was significantly higher in smokers (16.6%) compared to non-smokers (6.9%). One of the reasons why smokers may have a lower success rate for dental procedures is because smoking inhibits wound healing. In addition to the more serious oral implications of smoking, halitosis and tooth discoloration can also result. It is imperative all oral health professionals assist their smoking patients to quit as part of their treatment plan because of these serious health-related consequences.

Smoking Cessation in the Dental Environment
Because most tobacco use is in the form of cigarette smoking, most of the research efforts in the area are focused on this target population. According to Centers for Disease Control data from 2005, 2.3% of the adult US population uses smoking cessation products daily.
smokeless tobacco.\textsuperscript{16} Although the prevalence of smokeless tobacco use is lower than cigarette smoking, smokeless tobacco users should not be overlooked and clinicians should be diligent in assisting them with quitting their habit.

The essence of tobacco smoke reaches every area of the body including the oral cavity. Due to its deleterious effects, oral health professionals should be knowledgeable about effective strategies available to achieve smoking cessation for the public. The introduction of products like nicotine gum and the transdermal nicotine patch helped ignite the interest of dental professionals to assist their patients to stop smoking.\textsuperscript{17}

When these nicotine replacement therapies (NRT) were first introduced, smokers needed a prescription from their physician or dentist in order to obtain them. According to Burns\textsuperscript{17}, patients who requested such prescriptions to assist them with smoking cessation served as the catalyst for cessation interventions being added to dental protocols. Numerous studies have been conducted to determine the most effective method of smoking cessation counseling for use in the dental environment.\textsuperscript{17}

In 1994 Cohen, et al.\textsuperscript{18} completed a study of the most effective method to use in assisting smokers to quit in a dental office setting. This study determined the provision of free polacrilex nicotine gum for patients either with or without quitting reminders by phone was the most successful method for assisting smokers.\textsuperscript{18} In the control group, only 7.7% successfully quit at 12 months and 8.6% in the “reminder only” group quit, whereas 16.3% and 16.9% quit in the “gum only” and “gum with reminder” groups, respectively.\textsuperscript{18}

While many cessation techniques have been proposed, the National Institutes of Health and the National Cancer Institute still recommend using the “5A” counseling system\textsuperscript{19} (Table 1).

In addition, medications are available to assist smoking cessation (Table 2).

The American Academy of Family Physicians (AAFP) recommends a slightly edited protocol called, “Ask and Act”, which may be easier for healthcare providers to remember.\textsuperscript{20} All patients should be asked whether or not they use tobacco, and action should be taken to help tobacco users quit. The effectiveness of this method was evaluated by the AAFP’s Tobacco Cessation Advisory Committee.\textsuperscript{20} While there is no available research on using “Ask and Act” in the dental setting, a study done on family physicians found 70% of responding physicians asked their patients about tobacco use and 40% took further action based on patients’ responses.\textsuperscript{20}

<table>
<thead>
<tr>
<th>“5As”</th>
<th>Description</th>
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<tbody>
<tr>
<td>Ask</td>
<td>All patients should be asked about their tobacco use as frequently as possible.</td>
</tr>
<tr>
<td>Advise</td>
<td>Patients who identify themselves as tobacco users should be directly advised to quit. Advice should be made personal by noting oral implications of tobacco use that the patient may be experiencing.</td>
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<tr>
<td>Assess</td>
<td>Based on the conversation, the patient’s willingness to quit should be assessed.</td>
</tr>
<tr>
<td>Assist</td>
<td>Assistance to quit smoking can be provided by offering informational pamphlets, further coaching on the quitting process, writing prescriptions for NRT, or referral to a quitting program or help line.</td>
</tr>
<tr>
<td>Arrange</td>
<td>Arrange for follow-up contact.</td>
</tr>
<tr>
<td></td>
<td>Nicotine Patch</td>
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<tr>
<td>---------------</td>
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</tr>
<tr>
<td><strong>Dosage</strong></td>
<td>7mg-21mg (Choice of 16 or 24-hour dosage)</td>
</tr>
<tr>
<td><strong>Pros</strong></td>
<td>Easy to use One patch a day automatically gives the right dose Helps with early morning cravings No prescription needed</td>
</tr>
<tr>
<td><strong>Cons</strong></td>
<td>24-hour patches may disturb sleep Not orally gratifying Possible skin reaction</td>
</tr>
<tr>
<td><strong>Cost/Day (Approximate)</strong></td>
<td>Name Brand: $4-$4.50 (16 or 24-hour)</td>
</tr>
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In concordance with other studies\textsuperscript{19,20} assessing the use of 5As in the dental setting, Gordon et al.\textsuperscript{21} found the use of a brief intervention is effective, even when used among low-income patients. An American Medical Association 2000 report indicated a three minute counseling session is sufficient to effectively assist a patient to quit smoking.\textsuperscript{19} They reported a significant increase in cessation rates with an abstinence rate of 10.2 (95\% confidence interval 8.5-12.0) compared to no intervention (abstinence rate 7.9). This same report concludes there are three types of counseling that are particularly effective. The first is the provision of practical counseling involving problem solving skills training. Secondarily, social support is also necessary when providing smoking cessation intervention. Finally, social support is also necessary after the intervention and should be secured before the patient attempts to quit.\textsuperscript{19}

**Barriers to Compliance**

The most recent data reported in the *Journal of the American Dental Association* stated only 33\% of dentists asked most or nearly all of their patients about their tobacco use.\textsuperscript{22} Encouragingly, 66\% of the dentists surveyed advised their smoking patients to quit, while only 29\% provided some method of assistance for those smoking patients.\textsuperscript{22} This is a slight improvement from data reported by Jones et al.\textsuperscript{23} in 1993 where only half of dentists interviewed advised tobacco-using patients to quit. Even more, only 8.6\% helped patients set a quit date, 7.6\% referred patients to a smoking cessation program, 12\% discussed withdrawal symptoms and behavioral smoking triggers, and 15.2\% provided educational material and resources.\textsuperscript{24} Of those who provide assistance to their patients, nearly 30\% do not offer pharmaceutical assistance.\textsuperscript{24} A shocking 5\% of dentists report providing follow-up to patients trying to quit.\textsuperscript{24} Similar data has been presented by John et al.\textsuperscript{25} This group identified similar barriers, though they observed more proactive behavior from dentists from 1996-2001.\textsuperscript{25}

Numerous studies have been conducted to assess the reasons why dentists are reluctant to provide tobacco interventions. These reasons include: lack of training, perceived lack of relevance, fear of patient hostility, lack of remuneration, lack of knowledge regarding where to refer a patient for counseling, and amount of time required.\textsuperscript{22,26,27} A recent study of Texas dentists done in 2006 showed 90\% of dentists are unfamiliar with the 5A system of smoking cessation counseling.\textsuperscript{28} The same study also showed two-thirds of dentists felt they required additional training in smoking cessation techniques.\textsuperscript{28} While these data are certainly discouraging, a study done in 2002 showed 95.2\% of dentists were either willing or very willing to receive training on smoking cessation interventions.\textsuperscript{29} Incorporation of training during an academic program increases the use of smoking cessation practices within the dental team.\textsuperscript{30}

Many dental health professionals lack confidence or knowledge about smoking cessation, but they can obtain free educational materials on methods of cessation counseling from several national organizations.\textsuperscript{22} The ADA recommends the use of proven cessation counseling methods, such as statewide tobacco quitlines.\textsuperscript{4} The ADA also suggests dental health professionals use the “5A” system of smoking cessation counseling. When health professionals advise and assist their patients to quit, cessation attempts are significantly more successful.\textsuperscript{19} There is also a billing code for dental procedures on tobacco counseling for the control and prevention of oral diseases from the ADA (D1320).\textsuperscript{31} This should enable dentists to overcome the “lack of compensation” barrier. Statewide quitlines are available in every state to assist smokers who are ready to quit.\textsuperscript{32}
In many states dentists and other health professionals can refer their patients to tobacco cessation programs for treatment (such as free nicotine replacement therapy and educational materials) and follow-up. Many quitlines will provide feedback to the referring health professional to keep them updated on the progress of their patient. The Centers for Disease Control and Prevention (CDC), United States Department of Health and Human Services, and the American Cancer Society, among other organizations, will provide complementary pamphlets and other educational materials for patients who are counseled in the dental office. These programs are in place to make cessation counseling easier and more accessible to health professionals. As research continues, more dental schools are implementing cessation education in their curricula.

The Institute of Medicine released a report on “Ending the Tobacco Problem.” Among the recommendations in the report, insurance companies are advised to cover effective smoking cessation interventions which could overcome a barrier for dentists. The report also states smoking cessation interventions should be disseminated appropriately through healthcare providers, including dentists.

The recommendations made by the Institute of Medicine and the President’s Cancer Panel are being taken into account by the CDC. The CDC has set many goals for the health of the US population in their publication entitled, “Healthy People 2010.” Among them is to reduce smoking prevalence from 28% to 12% and to decrease the prevalence of smokeless tobacco use from 2.6% to 0.4%. The CDC is also encouraging managed-care organizations to cover evidenced-based treatment for nicotine dependency.

Of even greater importance for the dental community, many state departments of education (including the New York State Department of Education) are requiring dental health professionals to complete continuing education courses on the “oral health effects of tobacco and tobacco products” as part of license renewal obligations. The dental profession, as primary care providers, must maximize its efforts to establish smoking cessation and tobacco control as a standard of care in dental practice.

**Summary**
Facts about the effects of smoking on the major oral diseases are stated and supported by national statistics. The barriers for compliance by dental professionals are described based on published research, but even more importantly, possible solutions are offered.

**Clinical Significance**
Awareness of the harmful effects of smoking tobacco can help dental professionals become more motivated to comply with current recommendations for smoking cessation in order to improve the oral and general health of the public.
References


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Elizabeth B. Lozier is a graduate of the Master of Science program at the Roswell Park Cancer Institute, a division of the State University of New York (SUNY) at Buffalo in Buffalo, NY, USA. She has been a Research Affiliate with the SUNY at Buffalo School of Dental Medicine in Buffalo, NY, USA since 2006 where she has focused on the implementation of smoking cessation practices as a standard of care in the dental setting. Ms. Lozier has been involved with the smoking cessation efforts at the University at Buffalo School of Dental Medicine and has been accepted as a dental student for the class of 2013.

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