Published in final edited form as:

J Cancer Educ. 2010 September ; 25(3): 282–284. doi:10.1007/s13187-010-0042-9.

Tobacco Cessation Education for Dentists: An Evaluation of the Lecture Format

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Abstract

Dentists with tobacco cessation training perform more interventions, report increased self-efficacy, preparedness and fewer barriers than those without training. The aim of this study was to assess changes in knowledge, attitudes and behavior of dentists (CE group) at six months following presentation of a standardized tobacco cessation lecture module. These data were compared to those from age and gender-matched controls who did not receive training. The CE group was more likely to feel cessation was very important, score higher on knowledge questions, update tobacco use of continuing patients, ask former smokers about relapse and ask about daily consumption. The CE group was also more likely to discuss the personal relevance of quitting, roadblocks and setting quit dates, identify triggers, discuss pharmacotherapy and provide follow-up. These results suggest that group education appears to be a cost-efficient and effective method of teaching dentists about the latest methods of tobacco cessation.

Keywords

Keywords Tobacco cessation; Continuing education; Dentistry

Background

All forms of tobacco (cigarettes, cigars, pipes, bidis, snuff, snus, and chewing tobacco) are associated with a variety of oral diseases and disorders. The most serious oral consequence of tobacco use is an increased risk for cancer of the oral cavity. Tobacco use is also a primary etiologic factor for periodontal disease (including increased pocket depth, poor prognosis of therapy, failure of dental implants and tooth mobility), poor wound healing following oral surgery and gingival recession. Cosmetic concerns include halitosis, staining of teeth and restorations, a reduced taste sensation, tooth abrasion and gingival pigmentation [1]. Tobacco use also has a significant impact on the overall health of the nation's population. Dentists have

the opportunity to play a role in promoting healthy lifestyles by incorporating tobacco cessation programs into their practices.

The USPHS guideline, Treating Tobacco Use and Dependence, Clinical Practice Guideline 2008 Update, strongly states that tobacco dependence is a chronic condition that requires repeated interventions by healthcare providers and multiple attempts by patients to stop. It also states that the most effective way to quit smoking is through a combination of medication and counseling and that even brief counseling by healthcare providers about the serious health consequences of use and the importance of quitting is one of the most cost-effective methods to reduce smoking [2]. A recent study conducted on behalf of The American Legacy Foundation concluded that smokers might overlook opportunities to talk to their healthcare professionals, including dental professionals, about smoking cessation [3]. The delivery of tobacco cessation in a dental practice must become the standard of care to effect change. In 1992, the American Dental Association issued the following statement: "The Association urges its members to become fully informed about tobacco cessation intervention techniques to effectively educate their patients to overcome their tobacco dependence. This information should include education on primary prevention of tobacco use." Furthermore, in an editorial Journal of the American Dental Association editor Michael Glick stated, "Embracing smoking cessation activities as a part of unabridged oral health care no longer should be a choice" [4].

Multiple studies indicate that tobacco cessation training is associated with higher intervention rates and increased self-efficacy. A cross-sectional survey of east Texas dentists [5] found that knowledge and training in the use of the recommendations of Treating Tobacco Use and Dependence, specifically use of the 5A's (Ask Advise, Access, Assist, and Arrange), was significantly associated with adherence to cessation protocols and time spent counseling. Lack of training was a major barrier to adherence. Similarly, a survey of oral surgeons reported that only 8.7% of those surveyed had received training in treating tobacco dependence [6]. Although 63.3% advised tobacco users to quit, <15% actually assisted in patients' quit attempts. Providers with training performed significantly more interventions, perceived interventions to be more effective, reported greater self-efficacy and perceived fewer barriers than did those without training. In a study of tobacco-related knowledge, attitudes and intervention behaviors of family doctors, dentists and nurse practitioners, Applegate et al. [7] reported that providers with training performed more interventions and reported greater self-efficacy, preparedness and fewer barriers than those without training. Training in cessation practice is also associated with greater increases in self-efficacy, preparedness and intervention behaviors for dentists than for other groups. A study of members of the American Academy of Pediatric Dentistry revealed that only 11% had tobacco prevention/cessation training [8]. Feeling well prepared to ask about tobacco was significantly associated with assisting tobacco users, leading the authors to recommend continuing education as a means of enhancing the knowledge and skills of pediatric dentists.

Approximately 45 million Americans continue to smoke cigarettes, and the toll of smoking-related disease will be reduced only when tobacco dependence treatment is provided to the millions of individuals who want to quit but are addicted. Less than half of current smokers try to quit each year and fewer than one in three who do try use an FDA-approved tobacco cessation medication. In addition, <3% of physician visits by a smoker result in a prescription for a cessation medication [9]. Dental practitioners are a largely untapped resource for providing advice and brief counseling to patients who use tobacco. Although the hazards associated with cigarette smoking and smokeless tobacco are well known to most dental professionals, the adoption of tobacco cessation activities into practice has been slow. If dental practitioners provided cessation assistance routinely to their patients and achieved even modest success rates, the public health impact would be enormous [10].

The ideal method for the delivery of tobacco cessation training is a source of considerable debate. The aim of this study was to assess the impact of a lecture format tobacco use cessation continuing dental education course (CDE course) on the subsequent knowledge, attitudes and behavior of those individuals who attended one of the CDE courses.

Results

The control group and CDE course participants were similar at baseline in terms of gender composition, year of graduation from dental school, age and history of tobacco use. Approximately 35% of both groups felt tobacco cessation was very important. About 93% advised their patients to quit tobacco, and about 54% updated tobacco use status on continuing patients. Approximately 40% could correctly identify contraindications for the use of the transdermal nicotine patch. This matching procedure yielded groups that were similar not only on the background variables but also on tobacco use cessation outcome variables as well. Attrition of the groups for follow-up did not introduce any large differences that were due to differential attrition.

At the 6-month follow-up, the CDE participants demonstrated a 5% increase in the perceived importance of tobacco use cessation, while the control group showed a slight decline. Changes in knowledge between the control and the CDE group would be expected due to course content, and this was observed, with a significant gain in knowledge. There was a 3.1% increase in CDE participants' specific knowledge of nicotine patch use. For patients ready to quit tobacco use, there was significant increase in course participants who discussed setting a quit date (8.8%), identified tobacco triggers (8.5%), and discussed pharmacotherapy options with patients (10.1%).

An especially important finding is that there were significant increases in behavioral outcomes for course participants. A small increase was observed in the percentage of dentists who advise patients to quit tobacco. Although small, this change is notable as the high response observed at baseline left little room for increase. The “ceiling effect” phenomenon could certainly be a limiting factor for this measure. Participation in the CDE course contributed to an increase in practice behavior compared to baseline and controls at 6 months. Course participants reported a significant increase in the percentage who updated the tobacco history of continuing patients (9.3%) and asked former users about relapse (7.4%). There was also a significant increase in the percentage who discussed the relevance of quitting (5%), roadblocks to quitting (8.3%), and rewards of quitting (6.1%).

Analysis of respondent background variables yielded some interesting results. Females were more likely to engage in tobacco use cessation activities in their practices. General practitioners were more likely to do so than specialists. Age was an important indicator of these activities. Younger dentists were more likely to engage in these activities. Those dentists who had never used tobacco were more likely to engage in tobacco use cessation activities. Those who once used tobacco but had quit were next most likely. Current tobacco users were the least likely to perform these activities.

Multivariate regression analysis demonstrated a substantial additional effect of the course in improving the key tobacco use cessation outcomes. The course contributed significantly to the increased performance of both tobacco use cessation attitudes, knowledge and practice behavior. The only tobacco use cessation outcomes that did not demonstrate an additional and separate benefit from the CE course were: (1) asking tobacco users the age at which they started tobacco use and (2) advising patients to quit tobacco use, which can be attributed to the “ceiling effect.”

Discussion

Lecture format tobacco use cessation CDE appears to be an effective method to achieve important changes in practice behavior regarding these activities. Dentists who attended the courses were substantially more likely to perform the activities, perform them correctly, and on a wider age range of patients than matched controls. Clearly, the course improved practice behaviors on the key tobacco use cessation outcome variables. Several important implications flow from these findings. Group education sessions are an effective and cost-efficient method of teaching dentists about the latest science of tobacco use cessation. The ability of group education sessions to contact and impact large numbers of dentists in a single encounter must be counted as a crucial advantage for this approach. More consistent and widespread tobacco use cessation activities among dentists can be an important component in the array of societal tobacco use control endeavors.

The limitations of the study are worthy of note. While the short-term impact of the course is clearly demonstrated by the findings of this study, the long-term effect of these changes cannot be known. Further research that permits longer follow-up would be valuable, especially when combined with periodic reinforcement of the course messages. Finally, clinical trials that permit random assignment would do much to confirm these findings.

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