Attitudes of Incoming Dental Students Toward Tobacco Cessation Promotion in the Dental Setting


Abstract: Dentists can play an important role in helping patients quit using tobacco. The aim of this study was to investigate incoming dental students’ attitudes toward tobacco cessation promotion in the dental setting. Such attitudes can impact students’ receptivity to training and subsequent involvement in tobacco cessation promotion. A twenty-six-item written survey was administered to freshman students at a midwestern dental school during orientation weeks 2002 and 2003. Questions focused on students’ attitudes toward the dental professional’s responsibilities and scope of practice in promotion of tobacco cessation. Response rate was 99 percent (139/140). Respondents were 75 percent male, 25 percent female. Mean age was 24.8 ± 3.0 years. Ninety-nine percent agreed that it is the dental professional’s responsibility to educate patients about the oral health risks of tobacco use. Eighty-five percent agreed that it is within the scope of dental practice to advise patients to quit using tobacco, but fewer agreed that it is within the scope of practice to discuss specific strategies for stopping (70 percent) or to prescribe nicotine gum (45 percent). Sixty-nine percent agreed that tobacco cessation counseling in the dental office could impact patients’ quitting. Seventy-one percent anticipated that patient resistance could be a barrier to tobacco cessation promotion. Nearly one quarter (23 percent) were only slightly or not interested in receiving tobacco cessation training. Attitudes of incoming dental students appear to be positive regarding the dental professional’s responsibility to educate patients about the risks of tobacco use. However, some students may have reservations about the extent to which tobacco cessation services fit within the scope of dental practice, the efficacy of such services, and patient receptiveness. These reservations should be addressed if dental school curricula in tobacco cessation are to be effective.

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Smoking is a leading cause of preventable death in the United States, resulting in the deaths of more than 440,000 people each year from 1995 to 1999.1 The oral health risks of tobacco use are well documented, particularly with regard to the role of tobacco use as a significant risk factor for both oral cancer and periodontal disease.2,3 Health care providers play an important role in educating patients about the health risks of tobacco use and in promoting tobacco cessation.4 The U.S. Public Health Service recommends that dentists and other health care providers offer brief tobacco cessation interventions to all patients who use tobacco.5 However, evidence suggests that not all dentists do so or that they do so only to a limited extent6-8 and that dentists as a group are less active in promoting tobacco cessation than are other providers such as physicians.9

U.S. dental schools have made a substantial effort to increase dental students’ knowledge of and level of engagement in tobacco cessation promotion.10-12 Weaver et al. recently commented that the “commitment of [dental] schools to this aspect of educating their students is an impressive accomplishment” and reported that forty-four of fifty-four U.S. dental schools now include instruction in tobacco cessation promotion in their curricula.11 The extent to which this training will be incorporated into graduates’ clinical practice behaviors is not yet fully known. Three factors—attitudes, knowledge, and barriers to behavior—are thought to play a role in determining the extent to which clinicians implement clinical practice guidelines.13 Attitudes of senior dental students toward smoking cessation practices were examined by Yip et al.,14 but attitudes of incoming
first-year students have not been adequately investigated. Attitudes of the latter group toward tobacco cessation promotion are relevant because a) pre-existing attitudes may play a role in determining students’ receptivity to tobacco cessation curricula, and b) ultimately, these attitudes can impact the extent to which students incorporate what they learn into their clinical practice.13 The aim of this study was to determine incoming first-year dental students’ attitudes toward tobacco cessation promotion in the dental setting. Implications for curriculum design are discussed.

**Methods**

A twenty-six closed-item written survey was administered to incoming first-year dental students (N=140) at a midwestern dental school during orientation weeks 2002 and 2003. Written informed consent was obtained from each student as required by the institutional review board.

Demographic data including age, gender, and race/ethnicity were collected. Students were asked to report whether they had personally used tobacco and whether a close family member had ever regularly used tobacco.

Fourteen items were used to determine student attitudes. Each item consisted of a statement and a five-point Likert response scale, ranging from strongly agree to strongly disagree. These items focused on three areas:

1. Professional responsibility. Three items focused on students’ attitudes toward the dental professional’s responsibility to promote tobacco cessation.

2. Scope of dental practice. Eight items focused on students’ attitudes regarding the extent to which the tobacco cessation services recommended in the U.S. Public Health Service guidelines are within the scope of dental practice. These guidelines for brief tobacco cessation interventions are organized around the “5 As,” or five steps in delivering a brief tobacco cessation intervention.5 The 5 As are: 1) ask if the patient uses tobacco, 2) advise tobacco users to quit, 3) assess readiness to quit, 4) assist in the quitting process, and 5) arrange follow-up. Each of the 5 As and related activities were incorporated into statements regarding the scope of dental practice (for example, “It is within the scope of dental practice to ask patients if they use tobacco”); “It is within the scope of dental practice to advise patients to quit using tobacco”), and students were asked to rate their agreement with each statement on a five-point Likert scale ranging from strongly agree to strongly disagree.

3. Effectiveness. Three items focused on students’ attitudes regarding the effectiveness of tobacco cessation promotion in the dental setting in helping patients quit tobacco use.

Finally, students were asked whether or not they had ever received training in tobacco cessation promotion, what their current level of interest in receiving training was, and the extent to which they anticipate that patient resistance might be a barrier to tobacco cessation promotion in the dental setting.

In developing the survey, several items were drawn from the survey used by Yip et al.14 to determine senior student attitudes toward smoking cessation guidelines. These items were modified for use with incoming students. We also developed additional items. Two dental students who had recently completed the first year of dental school reviewed the survey to ensure that items were written at a level appropriate for incoming dental students. The survey was pilot-tested using a convenience sample of Advanced Education in General Dentistry (AEGD) residents, and revisions were made as necessary.

The survey data were analyzed using the SPSS 10.0 software package. Descriptive statistics were generated for all questions. To facilitate further statistical analyses, summary scores for student attitudes items were calculated, and t-tests were used to test for differences in attitudes based on gender and family tobacco use. Statistical significance level was set at p<.05. Limited variability in age, race/ethnicity, and current tobacco use status of respondents did not permit analyses based on these characteristics.

**Results**

Response rate was 99 percent (139/140). Respondents were 75 percent male and 25 percent female, with mean age 24.8±3.0 years. Eighty-one percent of respondents were Caucasian, 12 percent were Asian/Pacific Islander, 2 percent were Hispanic, 1 percent were African American/black, and 4 percent were Other or unreported. Seventy-three percent of respondents reported that they had never used tobacco, 23 percent reported that they had experimented with or used tobacco regularly in the past, and 4 percent reported current occasional tobacco use. Thirty-six percent of respondents reported that
a member of their close family had used tobacco regularly. The majority of respondents (94 percent) had not received prior training in tobacco cessation promotion.

Responses to items related to professional responsibility are shown in Table 1. Nearly all respondents strongly agreed (80 percent) or agreed (19 percent) that it is the dental professional’s responsibility to educate patients about the oral health risks of tobacco use. A total of 81 percent of respondents strongly agreed (42 percent) or agreed (39 percent) that it is the dental professional’s responsibility to encourage patients to quit using tobacco. Nineteen percent of respondents were neutral or disagreed that it is the dental professional’s responsibility to encourage patients to quit using tobacco.

Responses to items related to the scope of dental practice are shown in Table 2. The majority of respondents strongly agreed or agreed that it is within the scope of dental practice to ask patients if they use tobacco (87 percent in total), to advise patients to quit using tobacco (85 percent in total), to discuss the health hazards of tobacco use (94 percent in total), and to discuss the benefits of stopping (91 percent in total). Fewer respondents strongly agreed or agreed that discussion of specific strategies for stopping (70 percent) or prescription of nicotine gum (45 percent) or patch (42 percent) is within the scope of dental practice. The percentage of respondents who strongly agreed that a specified service is within the scope of dental practice varied widely. For example, although 61 percent strongly agreed that discussion of health hazards of tobacco use is within the scope of dental practice, the percentage fell to 54 percent for discussion of benefits of stopping, 34 percent for discussion of specific strategies for stopping, and 15 percent for prescription of nicotine gum or patch.

Responses to items related to the effectiveness of tobacco cessation activities in the dental setting are shown in Table 3. Sixty-nine percent of respon-
dentists strongly agreed or agreed that tobacco counseling offered in the dental office can have an impact on patients’ quitting, and nearly one-third (30 percent) were neutral. Seventy-eight percent disagreed or strongly disagreed with the statement “It is not worth discussing tobacco use with patients since most people already know they should quit.” Twenty-two percent were neutral or agreed with the statement. Finally, 21 percent agreed that the dental professional’s time can be much better spent doing things other than trying to reduce tobacco use in patients.

Although the majority of respondents were very (38 percent) or moderately (39 percent) interested in receiving training in tobacco cessation promotion, nearly one-quarter (23 percent) reported that they were only slightly or not interested. Finally, 71 percent of respondents anticipated that patient resistance might be a strong barrier or somewhat of a barrier to tobacco-cessation promotion, 16 percent anticipated that it would not be a barrier, and 13 percent were unsure.

No statistically significant differences in attitudes summary scores based on gender or family tobacco use history were found.

Discussion

In interpreting the results of this study, two limitations based on sampling issues should be considered. First, the 140 dental students surveyed represent a relatively small sample of the total first-year dental student population in the United States for 2002 and 2003. Second, the demographic characteristics of the sample may vary from those of the first-year dental student population nationally. Although demographic data for first-year dental students enrolling in 2003 is not yet available, comparison with currently available data for 2002 enrollees suggests that males and Caucasians are overrepresented in this sample. In comparison to 2002 data for total U.S. first-year dental school enrollees, males represent 75 percent of the sample but approximately 56 percent of the population nationally. In addition, Caucasians represented 81 percent of the sample, but approximately 66 percent of the population nationally. Given the possibility of variations in student attitudes based on gender and/or race/ethnicity, generalizations should be made with caution.

The results of this study may reveal important information about incoming students’ attitudes toward tobacco cessation promotion in the dental setting. First, nearly all incoming students agreed that it is the dental professional’s responsibility to educate patients about the risks of tobacco use. Most agreed that it is part of the dental professional’s role to ask patients if they use tobacco, to discuss the benefits of stopping, and to advise tobacco users to quit.

Second, despite their overall high level of agreement that dental professionals have a responsibility to educate patients, some incoming students may have reservations about the extent to which all of the tobacco cessation services recommended in the U.S. Public Health Service guidelines fit within the scope of dental practice. That is, some students are not certain that all activities within each of the 5 As categories fall within the scope of dental practice. For example, 61 percent of students strongly agreed that discussion of the health hazards of tobacco use is within the scope of dental practice. However, the proportion of students who strongly agreed that the specified activity is within the scope of dental practice fell to 37 percent for advising a patient to quit using tobacco, 34 percent for discussion of specific strategies for stopping, and 15 percent for prescription of nicotine gum or patch. As the tobacco cessation service moves from patient education and provision of information to active involvement in a particular individual’s quit attempt, fewer respondents agreed that these services are within the scope of dental practice. It may be that students do not view active involvement in an individual’s quitting efforts as part of the dentist’s role—they are content with a more hands-off approach, providing general information and education but not becoming more actively involved.

Third, some students may be skeptical about the extent to which tobacco cessation promotion is effective in helping patients to quit. When asked about the impact of tobacco cessation counseling on patients’ quitting, only 20 percent of students strongly agreed that counseling can have an impact, and nearly one-third were neutral. Seventy-eight percent of students disagreed or strongly disagreed with the statement “It is not worth discussing tobacco use with patients, since most people already know they should quit,” but more than 20 percent of students agreed or were neutral. Finally, more than 20 percent agreed
that the dental professional’s time can be better spent doing other things. These responses suggest that the majority of students are positive about the extent to which tobacco cessation promotion is effective in helping patients to quit, but that some students may have reservations about effectiveness.

Finally, incoming students’ interest in receiving training is highly variable, ranging from significant interest to no interest. Nearly one-quarter of respondents were only slightly or not interested in receiving tobacco cessation training. This may be quite different in relation to many other topics in the dental school curriculum. For example, if incoming students were asked if they were interested in learning to diagnose carious lesions or to educate patients about oral hygiene, it is likely that nearly 100 percent would be very interested. Educators teaching students tobacco cessation promotion skills may be facing a somewhat different attitude among their students and must keep this in mind when designing the curriculum.

The results of our survey of incoming dental students are in many ways similar to the results of Yip et al.’s survey of senior students. Yip et al. surveyed 302 senior dental students at a single institution to examine students’ attitudes toward smoking cessation practice and to describe patterns of smoking cessation counseling among the students. Senior students’ attitudes toward tobacco prevention and control practices in dental clinic settings were positive. For example, 71 percent agreed (somewhat or strongly) that it is the dental professional’s responsibility to convince patients to quit. However, Yip et al. also found that some students had reservations. For example, 39 percent felt their time is better spent on other practices besides tobacco cessation, and 83 percent felt that patient resistance is a barrier (somewhat or strong) to providing tobacco cessation services. Yip et al. also found that, in general, attitudes toward smoking cessation counseling practices and barriers did not differ by gender, ethnicity, or current smoking status, with a small number of exceptions. In addition, in general gender, ethnicity, and current smoking status did not predict students’ adherence to smoking cessation practices.

What are the implications for curriculum design? The findings of this study suggest that there is variation in dental students’ attitudes toward tobacco cessation promotion. If the goal of tobacco cessation curricula is to influence students’ future clinical practice behaviors—to produce practitioners who incorporate tobacco cessation promotion as a routine component of dental practice—then instructors must understand where students are starting from. Attitudes, concerns, and reservations must be acknowledged and addressed. It may be tempting to ignore student resistance to a topic and simply present the facts to be memorized. However, if tobacco cessation curricula are presented without acknowledgment of students’ attitudes, beliefs, reservations, and concerns, it is likely that students will listen quietly but then fail to incorporate tobacco cessation promotion as a part of their future clinical practice behaviors.

Although lecture is a very efficient teaching method for transmission of primarily factual material, it may not be the most effective method for topics in which attitudes play a significant role and vary considerably within the class. For the didactic portion of tobacco cessation curricula, instructors may want to experiment with the use of alternate teaching methods, such as case-based discussion or small group discussion. In this way, opportunities for developing awareness of one’s own beliefs and attitudes, as well as opportunities to hear other points of view and approaches through discussion with peers and faculty, can be provided.

Instructors must have clarity in their educational goals. Rollnick et al. suggest that, in facilitating behavior change, the goal is not to force people to change, but to encourage dialogue and to help people to begin to think about changing their behavior. Given the variability in students’ attitudes and the reservations some students have, this concept is relevant in the design of tobacco cessation curricula. While some students will adopt tobacco cessation promotion practices quite readily, others may hesitate or resist doing so. An instructional approach that encourages dialogue and ongoing examination of motivations and concerns may ultimately be more successful that an approach aimed at forcing compliance.

In addition, given the marginal nature of some students’ interest in tobacco cessation training, the institution must send a clear message that this is something of value and is part of the role of the dental professional. We must ensure that our “informal or hidden curriculum” does not inadvertently narrow students’ understanding of their scope of practice. Ideally, tobacco cessation curricula should be
integrated throughout the dental school curriculum, particularly in clinical activities. If mixed messages are sent or if the tobacco cessation promotion curriculum is partitioned in an isolated section of the curriculum, it may be ineffective. The Surgeon General’s Report on Oral Health in America emphasized the link between oral health and overall health, and instructors need to reinforce that link, encouraging students to conceive of their professional identity in a broad sense, as competent, knowledgeable, caring health care providers who are interested in the health behaviors that impact their patients’ oral and overall well-being.

As Koerber et al.\(^\text{19}\) point out, dentists are called upon to discuss health behavior changes—oral home care skills such as brushing and flossing, periodontal treatment plans and recall programs, use of mouth guards, dietary modifications—with patients every day. As the mix of dental services delivered in the United States shifts toward a greater emphasis on preventive services,\(^\text{20}\) the need for practitioners to discuss health behaviors with patients will persist. Enhanced health promotion skills, as cultivated in tobacco cessation curricula, will apply to these other areas as well and ultimately make students more effective practitioners. Again, we must help students to make this link and encourage them to develop the health promotion skills vital to effective clinical practice.

REFERENCES

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