

REVIEW ARTICLE

Tobacco Cessation and Dental Practitioner's Attitudes in Clinical Practice: A Review

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ABSTRACT

Many dental institutes have integrated tobacco cessation into their curriculum. However, dental practitioner's perceptions should be taken into consideration when designing those curriculum. The aim of this review was to comprehensively review the published literature on dental practitioner's attitudes and perceptions regarding tobacco cessation. The research review conducted a literature data search for articles using the online databases such as Medline, Cochrane Library, and PubMed. Each abstract and/or article was reviewed for literature; data were extracted from all articles. The majority of studies were cross-sectional, and there was wide variation in the measurement of dental practitioner's attitudes. Overall, the majority of dental practitioner's reported believing that it is within the scope of dental practice to address tobacco use with patients, but there was variability in terms of the practice of specific tobacco cessation strategies. The most common perceived barrier was patient resistance or lack of motivation. The majority of dental practitioners were interested in being trained in tobacco cessation. The findings suggest that dental practitioner will respond positively to receiving tobacco cessation education while in dental institutes and that educators should include strategies to help future dentists deal with patient resistance. Future studies should focus on the development of a validated measure of dental practitioner's attitudes toward tobacco cessation and longitudinal, multi-institutional research that can provide more generalizable findings.

Keywords: Dental education, Dental practitioners, Tobacco cessation education, Tobacco use cessation, Tobacco.

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BACKGROUND

The adverse effects of tobacco in systemic and oral health are already identified and registered a long back ago.^[1,2] Perhaps, the outcomes of dental health care are most commonly effected.^[3] The dental practitioner is a gatekeeper for oral health and disease as screening, diagnosis as well as provide the tobacco counseling to the patients.^[4] Furthermore, the tobacco-consuming patient can be educate, teach, and motivate on the tobacco's risks and effects during the dental visit.^[5] "The tobacco dependence treatment provided by health-care professionals, including dentists, is an effective way to prevent and reduce tobacco use," this guideline also gives brief intervention in dental care settings with all tobacco users based on the five "A" model as: Ask, advise, assess, assist, and arrange.^[6]

The tobacco cessation interventions in behavioral aspect delivered by the dental practitioners may increase abstinence rates among tobacco smokers and smokeless tobacco users,^[7] and the majority of dental practitioners do not involve in tobacco cessation counseling efforts with respect to the patients.^[8] One of the barriers in tobacco cessation is a lack of tobacco dependence education in dental college and hospital training.^[9] As there are many dental college and hospitals have conducted the programs for dental students to address the tobacco addiction.^[10] Some authors have evaluated dental student's attitude toward tobacco cessation as the tobacco cessation training included in dental education.^[11-13] However, for the development and implementation of tobacco cessation, programs need the information on dental student's attitude and perspectives. The effective tobacco cessation training should include skills and strategies which can address the dental student's perceptions to foster the belief that tobacco cessation efforts are a part of quality clinical practice.^[6]

The research studies on the dental student's attitude on tobacco cessation are seen with many variations. As, for example, the dental student's attitudes about the need for

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tobacco cessation programs in Romanian dental schools.^[14] Furthermore, the accessed dental students in American dental school with an established tobacco dependence education syllabus to determine their barriers to providing the tobacco cessation measures and care.^[15] Another research study evaluated extensively at dental student's attitudes and practices across some Indian dental schools.^[16] However, these studies differ in the specific aims but contain the some valuable information which could be used in understanding dental student's attitudes and behaviors regarding tobacco cessation in the dental practices.

The aim of this review was thus to comprehensively review the published literature on dental student's attitudes, perceptions regarding tobacco cessation. The following questions to be answered based on the findings of this review as what are dental student's attitudes toward tobacco cessation? What are the barriers to tobacco cessation? Also, to what extent do they engage in tobacco cessation programs? And what are the limitations to the research on this topic? The information from this review will be used to identify trends, inform tobacco dependence education, and determine the need for future research on this topic.

METHODS

The following databases were searched for the review such as Medline, Cochrane Library, and PubMed. The search terms used were "undergraduates or college or university or student or education or academic" and "dental or dentistry" and "tobacco cessation or smoking cessation or tobacco intervention or tobacco counseling," and relevant articles published in peer-reviewed journals were obtained. Furthermore, some of the literature was gathered by cross-checking the reference lists of the articles were obtained. For reading and understanding purpose, only the literature materials that were published in other than the English language were excluded from the study.

DENTAL PRACTITIONER'S ATTITUDES TOWARD TOBACCO CESSATION IN THE DENTAL SETTING

The reviewed data varied in with respect to the operational definition of tobacco cessation and assessment of attitudes about tobacco cessation. The four categories of attitudes emerged from the data review as training attitudes, planning attitudes, dentist role attitudes, and barrier attitudes. In the training attitudes, the data on whether students reported any prior training, perceived efficacy of training, and interest in training. In the planning attitudes, data that evaluated whether students intended to address tobacco cessation in dental practice. In dentist role attitudes, the data that asked practitioners whether tobacco cessation was within the scope, role,

and responsibility of the dentist. In barrier attitudes, the data that assessed practitioner's perceived barriers to providing tobacco cessation. The literature data to assess attitudes in these four areas varied across studies.

Training Attitudes

The data on attitudes related to some aspect of training in tobacco cessation, that is, whether dental practitioners reported receiving training, adequacy of training, and whether practitioners were interested in training. Some studies included reported data on whether practitioners had received training in tobacco cessation and rates ranged from 6% to 85% having received training.^[17,18] The data on the specific type or level of training received by dental practitioners did not include in these studies. Some studies reported that whether practitioners felt adequately trained or prepared to provide tobacco cessation training as rates ranged from 26% to 60% feeling adequately trained or prepared.^[19,20] Furthermore, interest in tobacco cessation training or belief that training should be included in the dental curriculum as rates ranged from 45% to 98% interested in training or believing it should be in the curriculum.^[16,21] In most of the studies, the majority of practitioners, more than 75%, reported being interested or believing that it should be included.

Planning Attitudes

The studies reported dental practitioner's plans for the future practice of tobacco cessation. The specific wording of the questions varied, with some reporting, plans to provide tobacco cessation and others reporting willingness as rates ranged from 54% of practitioners willing to provide tobacco cessation to 96% willing to use anti-tobacco programs in practice to advise patients to quit.^[22,23] In some of studies, more than 60% of the dental practitioners were willing or planning to address tobacco use with patients.^[16,23-27]

Dentist Role Attitudes

The studies as reported whether dental practitioners believed that it was within the scope or responsibility of dental practice to have a role in tobacco cessation. The specific wording of items assessing this attitude varied among studies, for examples, asking whether it was within the scope to help smokers quit, whether it was the professional responsibility of dentists to help smokers quit, and whether tobacco cessation counseling is part of dentist's professional role^[16,24,28] and rates ranged from 40% of professionals agreeing it is the responsibility and duty of every dentist to cooperate in anti-tobacco programs to 97% of professionals agreeing that the dentist has a role in giving advice about tobacco cessation.^[23,29]

The majority of dental practitioners like more than 60% agreed that it was within the scope or responsibility of dental practice to help tobacco users quit. The data on specific practices, for example, prescribing nicotine gum. Anders *et al.*^[30] reported that while 84% of the dental professionals in their study agreed, it was within the scope of dental practitioners to advise patients to quit, fewer professionals agreed that performing specific cessation strategies were within the scope as 76% for referring to a cessation clinic, 74% for discussing specific strategies, 61% for prescribing nicotine gum, and 55% for prescribing nicotine patches.^[30]

While the majority of dental professionals in most studies agreed, it was within their scope of practice to address tobacco use in some way; fewer practitioners agreed that their time providing tobacco cessation was well spent or would have an effect on the patient's tobacco use. In the study, in which 97% of the dental practitioners agreed that dentists have a role in tobacco cessation, only 74% agreed that their advice would impact patient quitting.^[29] Another study reported that 84% of the dental practitioners agreed, it was within the scope of dental practice to advise patients to quit, but only 49% agreed that the time was well spent.^[30] In another study, 68% reported feeling tobacco cessation was ineffective unless the patient had a related health problem.^[25] However, the study reported that 86% of the practitioners believed that patients would be more likely to quit if a health professional advised it.^[31]

Perceived Barriers to Tobacco Cessation

Some of studies reported rates of dental practitioner's perceptions of barriers to tobacco cessation in the dental setting and some reported perceptions that 'patient resistance' or 'lack of patient motivation to quit' was the biggest barrier.^[15-17,19,24-26,30,32] Also, few studies reported 'inadequate counseling skills'^[33,34], 'lack of time'^{15,35}, and 'lack of resources and referral sources'^[20,28] as perceived barriers to tobacco cessation. Among the studies, lack of time and patient resistance were tied as the biggest perceived barriers to tobacco cessation counseling.^[15] Comparisons between America-based studies and non-American-based studies found no significant differences in the top-rated barrier. Comparisons between studies based on clinical vs. non-clinical status of dental practitioners sample found no significant differences in the top-rated barrier.

DENTAL STUDENT PRACTICE OF TOBACCO CESSATION

The studies reported information on students reported practice of some or all of the steps in the five "A"s approach to tobacco cessation as: Ask, advise, assess,

assist, and arrange. Dental students asked patients about tobacco use, and rates ranged from 28% to 96% asking all or almost all of the time.^[15,33] In addition, dental students advised tobacco users to quit and rates ranged from 13% to 94% of student's agreeing that they performed the advice step.^[25,28] Few studies reported percentages for the assess step. In one study, 12% and, in the other, 65% of the students reported assessing whether tobacco users were willing to quit.^[24,28] Also, what percentage of students reported assisting patients who were ready to quit and rates ranged from 4% to 24%.^[20,28] Another studies reported on the arrange step, which is arranging follow-up contact regarding tobacco quit attempts and those rates ranged from 1% to 22%.^[2,20]

DISCUSSION

Tobacco cessation efforts in the dental setting can have an impact on patient's tobacco use.^[7] However, the dentists report not being sufficiently trained to provide tobacco cessation counseling.^[8] Dental practitioners provided with tobacco cessation training may help them feel better prepared to address tobacco use. This comprehensive review of previously published articles focused to provide an overview of dental practitioner's attitudes toward tobacco cessation, their perceived barriers to tobacco cessation as well as the degree to which they engage in tobacco cessation efforts.

Dental practitioner's attitudes toward tobacco cessation in the dental setting were found in the survey studies to be generally favorable. The majority of the practitioners were believed that addressing tobacco use was within the scope of dental practice although not in every study. Dental practitioner's attitudes may be greatly influenced by the dental college's environment. Dental colleges should consider the environment and dental faculty attitudes when developing tobacco dependence education or implementing tobacco cessation in the practice. The variation found in the specific strategies used, with less favorable attitudes toward practices like prescribing nicotine replacement therapy and few of the studies evaluated practitioner's attitudes toward specific strategies for example as refer to cessation clinic, set quit date, and prescribe nicotine replacement therapy. It is not clear exactly what these dental practitioners were considered to be within the scope of practice. Dental practitioner may have demonstrated favorable attitudes toward asking and advising about tobacco use but been less positive about specific strategies. Dental educators may consider assessing practitioner's overall perceptions, their attitudes about specific practices, and addressing those perceptions in tobacco dependence education. Therefore, general dentists with prior training and positive attitudes toward

treating tobacco use were more likely to routinely offer cessation assistance, suggesting the importance of addressing attitudes in training.^[36]

Patient resistance or lack of motivation was the most common barrier reported by the dental practitioners. Dentists have reported different barriers such as lack of adequate training, lack of materials and referral sources, and lack of financial incentive.^[37,38] Dental practitioner's perception that patient resistance is the biggest barrier may not be consistent with what is observed in clinical practice. Indeed, the majority of dental patients have favorable attitudes toward dental professional's addressing tobacco use with 89% of patients in the study agreeing that dental practitioners should offer tobacco cessation information to patients who wanted to quit.^[20,39] Hence, based on the findings, suggestive of tobacco cessation training programs consider including strategies to address patient resistance and enhance motivation such as motivational interviewing techniques and motivational counseling.

This review found variation in dental practitioner's tobacco cessation practice.^[16,19,20,24-26,28,32,35] Furthermore, few studies that reported information on dental practitioner's practice, <50% of the practitioners were reported engaging in certain tobacco cessation practices.^[16,19,20,26,28,32,40] However, in some studies or with certain tobacco cessation strategies, for example, as advising user to quit, the majority of practitioners were engaging in the practice.^[14,15,25,35,39] Dental practitioners in several studies were more likely to ask and advise about tobacco use than engage in the other five "A"s: Ask, advise, assess, assist, and arrange.^[20,24,26,28,32] There is evidence that briefer models of tobacco cessation can have an impact, such as ask, advise, refer^[41] as well as ask, advise, and connect in which patients are connected directly with state quitlines.^[42] In ask, advise, and connect, the patient completes a form during the health-care visit and the provider submits information directly to the quitline through an electronic system. Once the form is received, the quitline contacts the patient directly to provide services. This process is, in contrast, to ask, advise, and refer in which the patient is given information about the quitline or another tobacco cessation provider and must initiate contact. These models may be suitable for dental college and hospital where dental practitioners may feel most prepared and comfortable asking and advising about tobacco use and then connecting the patient with resources to receive more in-depth support. In terms of training, there was wide variation in terms of what was assessed in the studies, but few of them included information on the type of tobacco cessation education provided at the dental colleges. Therefore, future studies should include this

information since the level of training may impact attitudes toward tobacco cessation. The majority of studies that assessed practitioner's interest in training reported a majority interest or need for training in tobacco cessation. Given dental practitioner's receptivity to training, the dental college years may be an optimal time to train students in these practices, so they enter the workforce prepared to address tobacco use in practice. A survey of American and Canadian dental schools found that the majority provide tobacco dependence education.^[43] However, while that survey found high faculty confidence in teaching tobacco-related pathology, there was less confidence in teaching dental professionals how to help patients quit and given the less favorable attitudes about specific tobacco cessation strategies and concerns about patient resistance, a tobacco dependence education curriculum may benefit from utilizing faculty with expertise in these areas to teach professionals how to help patients quit.

In terms of scope and quality, there were limitations to the reviewed studies that should be noted. First, many studies were limited in terms of generalizability. The majority sampled dental professionals from single dental college. Some only sampled dental professionals from certain dental years. The findings may reflect perceptions and practices specific to that college or student year. These data can be very valuable to that institution, particularly in designing or evaluating a tobacco dependence education curriculum but are not broadly applicable. Another limitation is that most studies were cross-sectional, which limited the ability to determine whether attitudes changed and if so, the factors that impacted such changes. An additional limitation was the lack of a validated measure to assess tobacco cessation attitudes. The majority of studies utilized author-developed scales or variations of previously used scales. While the studies assessed dental student attitudes toward tobacco cessation in the dental setting, the operational definition of "attitudes" varied widely across studies. One, for example, assessed attitudes by asking whether it was part of the role of the dentist to help patients quit,^[14] while another assessed attitudes by asking whether students felt that patients would be offended if tobacco use was raised.^[10] The lack of a consistent, validated measure, along with the varying operational definitions of attitudes, limited the utility of the findings and prevented comparisons across studies or across time. Further, the standardized methods of administration involved sampling 3rd year dental health profession students, which limit information from preclinical or advanced students who have spent more time doing clinical work.

The findings from the review indicate various future directions that researchers can take on this topic. Future

studies should include larger samples across multiple dental colleges. Furthermore, longitudinal research can determine whether there are changes in attitudes across dental colleges and factors that predict changes. Research is needed to develop a validated measure of tobacco cessation attitudes. Moreover, most of the studies did not include information on the type or level of tobacco dependence education provided in the dental colleges. Hence, level of training may impact attitudes, and future studies should include this as a variable.

CONCLUSION

The review found interesting patterns in the findings that warrant discussion about their relevance to tobacco dependence education in dental colleges. Dental practitioners have favorable attitudes toward tobacco cessation, and the majority expressed interest in training. However, dental practitioners may need more guidance and information regarding specific tobacco cessation skills and strategies to address patient resistance. Dental institute interested in developing or evaluating tobacco dependence education programs should take this information into consideration for modifying or strengthening existing tobacco cessation curricula or for including tobacco dependence education in behavioral sciences courses where issues related to patient resistance and behavior change can be addressed. Furthermore, dental institutes may consider expanding the frequency of clinical opportunities for students to develop these skills both inside and outside the institute.

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