

Assessment of readiness of dental faculty and students in Kuwait to implement a smoking cessation counseling curriculum

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Received: 01-02-16

Accepted: 11-03-16

Published: 26-04-16

Abstract

Aims and Objectives: The goal of this study was to assess the readiness of both dental faculty and dental students in Kuwait to implement a smoking cessation counseling curriculum. **Materials and Methods:** The study population included all faculty and students in their clinical training years at the Faculty of Dentistry, Kuwait University. The survey instrument was a 42-item questionnaire. Data analysis involved employing various methods of descriptive statistics. **Results:** Students and faculty reported that their general knowledge of what to include in a cessation message was “excellent.” Students reported and anticipated more clinical barriers than did the faculty. Both students and faculty agreed strongly that they were willing to refer patients for cessation in their clinical practice, faculty were much less willing to prescribe medications for cessation as compared to students. The majority of students and faculty disagreed with the statement that performing cessation was easy. Responses showed that the use of the 5 A’s has not penetrated well into clinical practice for either the students or the faculty. **Conclusions:** Clinical students and faculty members believe smoking cessation counseling to be effective; however, their activity was mostly limited to asking patients if they smoked and both reported their knowledge of cessation counseling to be only “fair.”

Key words: *Counseling, dental education, prevention, smoking cessation*

INTRODUCTION

Worldwide, tobacco kills approximately 6 million people and causes more than a half trillion dollars of negative impact each year.^[1] The use of tobacco products is increasing on a global scale in low- and middle-income countries, although there is a clear trend toward a decrease in high-income countries.^[2] While it is generally known that smoking has a detrimental effect on health, awareness of its negative influence on oral

health is still low.^[3,4] Smoking is an important etiological factor in periodontal disease, deficits in postoperative healing and recovery, and it plays a role in the failure of dental implants.^[5]

Smoking cessation counseling is more effective when given by health-care workers as an intervention within their health treatment.^[6] In addition to physicians, health-care providers from a variety of professions

Access this article online	
Quick Response Code:	Website: www.jispcd.org
	DOI: 10.4103/2231-0762.181164

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How to cite this article: Khalaf ME, Katz RV. Assessment of readiness of dental faculty and students in Kuwait to implement a smoking cessation counseling curriculum. *J Int Soc Prevent Communit Dent* 2016;6:S28-34.

such as dentistry, social work, and nursing are in a unique position to deliver counseling to patients as these providers often see patients more frequently or for longer durations than physicians.^[7] Assistance from the dental team can be an effective, evidence-based way to help patients avoid or quit tobacco use.^[8] The World Health Organization has stated that enhancing adherence to tobacco use prevention and cessation counseling guidelines should be one of the priority goals in dentistry today.^[9]

The U.S. Public Health Service Clinical Practice Guideline for treating tobacco use and dependence recommends that health-care providers employ a five-step approach known as the 5A's to help patients quit tobacco use: (1) Ask all the patients whether they use tobacco; (2) advise all smokers to quit; (3) assess smokers' willingness to quit; (4) assist smokers in quitting; and (5) arrange follow-up contact to prevent relapse.^[7] Despite evidence indicating that implementing the 5A's model helps in promoting quit attempts and smoking cessation,^[10] uptake and implementation of multiple components of it appear to be lower among some health professionals, including dentists.^[10] However, there has been progress. In a 2014 survey of dental practitioners in the United States, more than 90% of dentists indicated that they ask about tobacco use and 45% refer patients for cessation medication, counseling, or both.^[11]

In order for dentists and dental students to help their patients change smoking behaviors, a counseling paradigm is needed that fits within the frame of a dental appointment and is teachable within a school or continuing education setting.^[12] There continues to be evidence that dental professionals do not possess the education and training needed to properly assess tobacco use and provide tobacco cessation interventions.^[13] Though medical and dental education has made progress in preparing the next generation health-care providers to offer effective tobacco cessation interventions during their training years, there seems to be an overall consensus that implementation of comprehensive tobacco cessation as a component in the practice of dentistry is generally lacking.^[14]

Dental students can play a key role in reducing tobacco use and helping their patients quit by incorporating tobacco cessation referral, counseling, and/or treatment skills into their clinical training. Studies are beginning to establish evidence that the more consistently and effectively dental students provide tobacco cessation counseling while in training, the

more likely they will provide it when they become practitioners.^[15] There is also evidence that tobacco education should be provided early and re-enforced throughout the professional dental school curriculum in both didactic and clinical settings.^[14] It has been reported that dental educators have found it difficult to implement tobacco cessation counseling, reporting that the lack of integration of didactic course material and clinical instruction makes it difficult to train students.^[15]

The overall goal of this study was to assess the readiness of both dental faculty and dental students in Kuwait to implement a smoking cessation counseling curriculum. The specific aims of this study are two-fold: (1) To investigate the extent to which faculty members and clinical dental students in a teaching institution implement cessation counseling into their own clinical practices and (2) to determine barriers to the implementation of smoking cessation practices as perceived by faculty members and by clinical year dental students.

MATERIALS AND METHODS

Subjects

The study population included all faculty and students in their clinical training years at the Faculty of Dentistry, Kuwait University. Dental students at the Faculty of Dentistry in the clinical years of their education (i.e., years 5 and 6) were eligible for inclusion ($n = 48$). Full-time ($n = 19$) and part-time ($n = 22$) clinical faculty teaching at the Faculty of Dentistry during the current teaching semester were included in the study population. All clinical students ($n = 48$) and faculty ($n = 41$) in the Faculty of Dentistry at the time of data collection were invited to participate in the study.

Survey measure

The survey instrument was the 42-item Smoking Cessation Readiness (SCR) Questionnaire, a questionnaire designed and developed by the investigators specifically for this study consisting of 29 items related to SCR and 13 demographic items. A pilot study of the completed SCR Questionnaire was conducted on twenty general dentists working in external government general dental clinics with no connection to the Faculty of Dentistry at Kuwait University to help identify unforeseen problems with the administration of the questionnaire as well as beta-test and modify the specific wording of the items in the questionnaire before distribution.

The smoking cessation related to items in the SCR Questionnaire addressed four broad topics: (1) General knowledge (GK) about smoking cessation interventions; (2) barriers to smoking cessation activities; (3) smoking cessation activity implemented in their own clinical practices; and (4) willingness and attitudes toward implementing smoking cessation activities within a dental practice. The 29 specific questionnaire items related to smoking cessation are listed in Table 1.

Based on these individual 42 items in the SCR Questionnaire, several independent summary

variables were created for the planned analysis. These summary variables included four scales: (1) GK scale; (2) overall barrier (OB) scale, composed of two subscales: The clinical barrier (CB) subscale and the informational barrier (IB) subscale; (3) willingness, attitude, and confidence scale, and (4) smoking cessation implementation scale (SCIS). Each scale score was calculated by combining the means of the individual 4-point Likert scale variable item question responses worded to “best fit” the stem. For each subject, missing responses within a variable were not included in the calculation of the scale scores.

Table 1: Component questions of summary scales

Scale	Questions
General knowledge scale	I know all that is needed to know for a brief smoking cessation intervention with a patient Overall, how would you rate your knowledge of What to include in cessation message Best ways to approach a patient with cessation advice Behavioral modification exercises as a part of cessation counseling Prescription medication as a part of cessation counseling Information about referral facilities
Barriers to activity Clinical barrier scale + informational barrier scale	The need to be more efficient with patient appointments prevents me from giving smoking cessation advice The need to be more efficient with my appointment (clinical session) prevents me from giving smoking cessation advice Patients may get uncomfortable if I offer smoking cessation advice Patients may not feel, it is my role to offer smoking cessation advice Patients may not compliant with smoking cessation advice I give My clinical staff may not feel it is my role to offer/refer for smoking cessation counseling I am unsure of what to include when giving a patient smoking cessation counseling The availability of patient education materials would help me give my patients smoking cessation advice Increased knowledge of referral facilities would help me give my patients smoking cessation advice Availability of continuing education courses on cessation counseling would help me implement smoking cessation counseling in my clinic Payment for smoking cessation counseling activities in clinic would help me provide it to patients
Smoking cessation implementation scale	In your clinical practice for your patients how often do you Ask and document patient tobacco use Assess a patient's interest in receiving cessation counseling Give cessation advice Negotiate tobacco cessation goals and strategies with patients Arrange for follow-up support for cessation
Willingness, attitude, and confidence scale	I am willing in my clinical practice to Provide referral for cessation counseling Prescribe medication for cessation In your opinion, performing cessation counseling is Easy Effective How important do you think it is to include Behavioral modification exercises as part of cessation counseling Prescription medication as a part of cessation counseling Information about referral facilities

Procedure

The study was approved by the Ethical Committee of Health Science Center at Kuwait University. Subject recruitment was completed over three rounds of questionnaire distribution.

Data analysis

Data management and analysis were performed using the software Statistical Package for Social Sciences (Version 16.0, SPSS Inc., Chicago, IL, USA). Data were entered and verified via a second independent entry of the data with any noted discrepancies resolved by checking the original data forms. Data analysis involved employing various methods of descriptive statistics – means with standard deviations for continuous variables. Frequency and percentages were used for categorical variables. Chi-square tests were used to assess the association between students and staff responses. Fisher’s exact test was used when Chi-square test was violated. *P* values were reported as <0.05, <0.01, or 0.001.

RESULTS

The highest response rate was achieved for the full-time faculty with a response rate of 89.5%; the response rate for part-time faculty response rate was 50.0%. Overall, for the 41 eligible faculty, the response rate was 78.0%. For the dental students, the overall student response rate was 67.0%.

The mean age for student respondents was 23.4 ± 0.9 years with 71.0% of respondents being female (*n* = 23). The mean age of full-time faculty was 41.3 ± 12.5-year-old with 71.0% being male (*n* = 12). For the part-time faculty, mean age was 40.0 ± 8.7-year-old with 73.0% being male (*n* = 8). The data revealed that 12.5% of students, 53% of full-time faculty, and 72.2% of part-time faculty reported being ever-smokers.

Responses to GK questions are reported in Figure 1. For four of the five questions, both students and faculty reported that their GK of what to include in a cessation message was “excellent.” For the fifth question which focused on knowledge of referral facilities, about half of the respondents rated their knowledge as “poor.”

The responses to the two component subscales of the OB scale are shown separately in Figure 2a and b, respectively. For all items in the CB subscale, Figure 2a

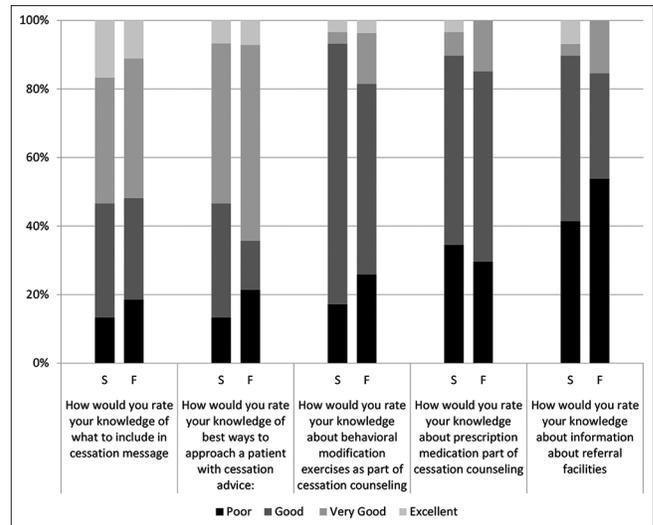


Figure 1: Distribution of responses to general knowledge scale questions on cessation counseling among students and faculty working at the Dental Center clinic, Kuwait University

shows that students consistently reported and anticipated more CBs than did the faculty. There was a significant difference between students and faculty in their feeling that it is their role to offer smoking advice; *P* = 0.032, *df* = 3, and the belief that patients may not compliant with smoking cessation advice given; *P* = 0.008, *df* = 3. For the four questions that comprised the IB subscale as shown in Figure 2b, both students and faculty indicated these to constitute a major issue, as 65–100% responded “agree” or “strongly agree” that these 5 items served as a barrier.

Willingness toward the performance of cessation activities for both students and faculty is revealed in Figure 3. There was a significant difference between students and faculty in their willingness to prescribe cessation medication; *P* = 0.006, *df* = 3. While both students and faculty agreed strongly that they were willing to refer patients for cessation in their clinical practice, faculty were much less willing to prescribe medications for cessation as compared to students. Overall, the majority of students and faculty (82% and 59%, respectively) disagreed with the statement that performing cessation was easy, despite the fact that 70% of each group indicated their belief that smoking cessation counseling was effective.

Figure 4 shows the responses to the SCIS which assessed belief in and adherence to the 5A’s. The response patterns show that with the sole exception of “Ask,” the use of the A’s has not penetrated well into clinical practice for either the students or the faculty.

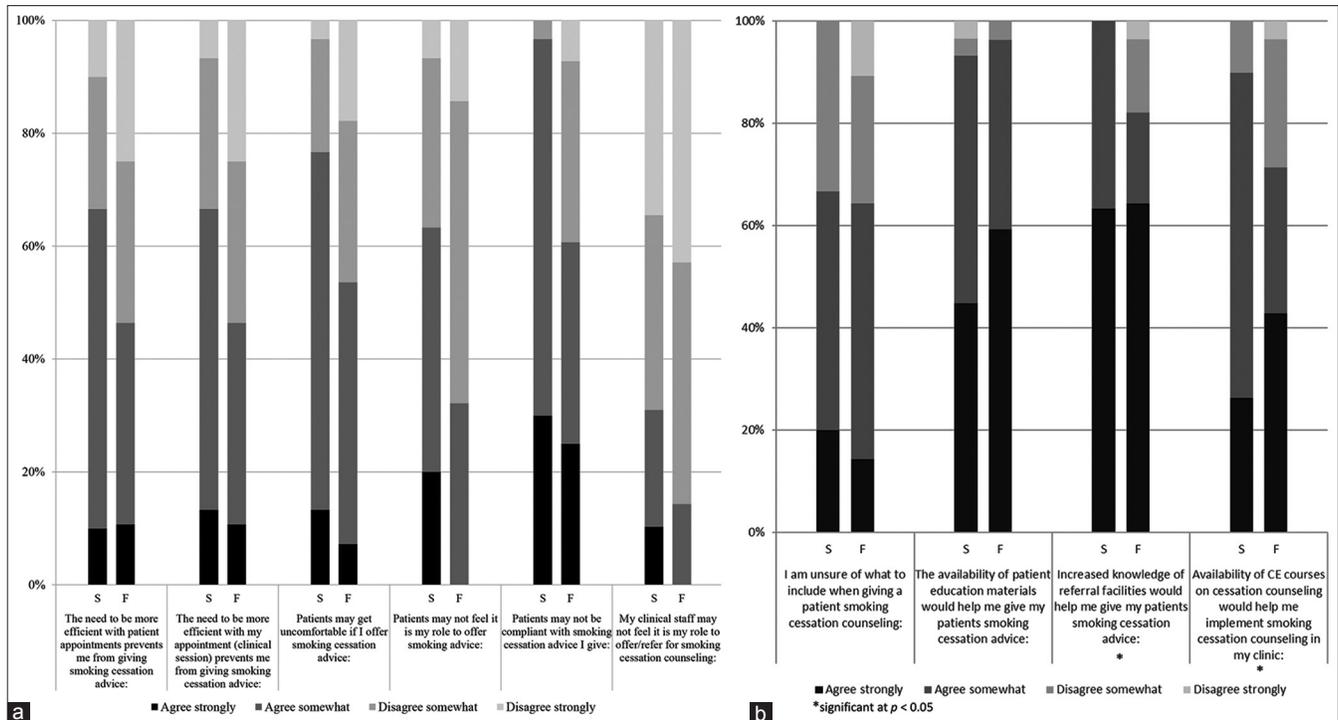


Figure 2: (a) Distribution of responses to clinical barriers (subscale) questions on performing cessation counseling activities as perceived by students and faculty working at the Dental Center clinics, Kuwait University. (b) Distribution of responses to informational barrier subscale on performing cessation counseling activities as perceived by students and faculty working at Dental Center clinic, Kuwait University

DISCUSSION

The study succeeded in obtaining a sample that was representative of three groups approached. Faculty and student demographics showed the sample to be a young population of students and educators. Full-time faculty had an average of 15 years of work experience, inclusive of their years of postdoctoral training.

Students in this study were being mostly taught by educators who have been educated themselves in a relatively more recent dental curriculum, one that largely lacks any emphasis on smoking cessation counseling. While most current predoctoral dental education programs include some level of tobacco dependence education in their curricula, and it has been reported that about 80% of dental schools in the United States have introduced tobacco cessation counseling as part of their curricula.^[16]

Currently, an organized tobacco cessation educational curriculum does not exist at the Faculty of Dentistry, Kuwait, and counseling education is taught independently in different didactic lectures across various disciplines. This can have a negative impact on student knowledge. As shown in past research, one of the primary reasons students fail to provide adequate intervention is that they

do not feel adequately trained.^[15] Hence, tobacco cessation counseling teaching needs to be included as a part of the predoctoral curriculum if students are to acquire skills in this aspect of dental practice. Of the most important issues to be addressed is that a comprehensive and logically step-wise progressive multi-year curriculum on tobacco cessation counseling teaching needs to be included as a part of the predoctoral curriculum.

Of the most notable IBs was the lack of knowledge of referral facilities and availability of patient education materials. The presence of these barriers can be tied in with the finding in this study that both students and faculty felt that overall, their GK of what to include when providing chair side cessation counseling was, at best, “fair.” These reported barriers are not unique to this study as it has been previously reported that the barriers that preclude dentists and dental hygienists from incorporating tobacco cessation into practice include self-doubt about their knowledge and skills in assisting patients as well as self-doubt about their effectiveness to give quitting advice.^[17,18]

Consistent associations have been found between the attitudes of dentists and their reported behaviors across a variety of preventative activities including diet tobacco and alcohol.^[19] While faculty and students reported that

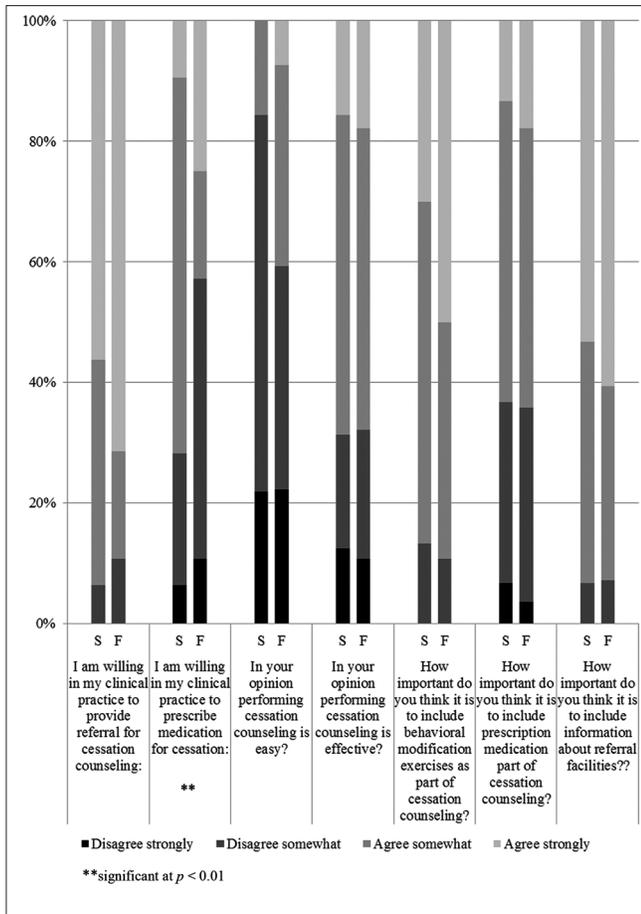


Figure 3: Distribution of responses about willingness, attitude, and confidence subscale questions toward performing smoking cessation counseling among students and faculty working at Dental Center clinic, Kuwait University

they thought cessation counseling to be effective, they also recognize that it is not easy to achieve, which likely explains their high emphasis on their willingness to refer patients externally for cessation counseling. Studies have reported that although most of the dentists have an encouraging attitude in taking responsibility for smoking cessation, their involvement in cessation counseling is limited, with other reports of an overall feeling of doubt among general dentists about the effectiveness of their smoking cessation advice and lack of confidence.^[17]

Thus, while students and faculty reported almost always asking patients about their tobacco use, the other elements of the SCI subscale were significantly less utilized. In this case, part-time faculty reported only asking “often” – showing that for faculty engaging primarily in clinical practice, even less attention is paid to the 5A’s with less emphasis placed on any of the elements of cessation counseling.

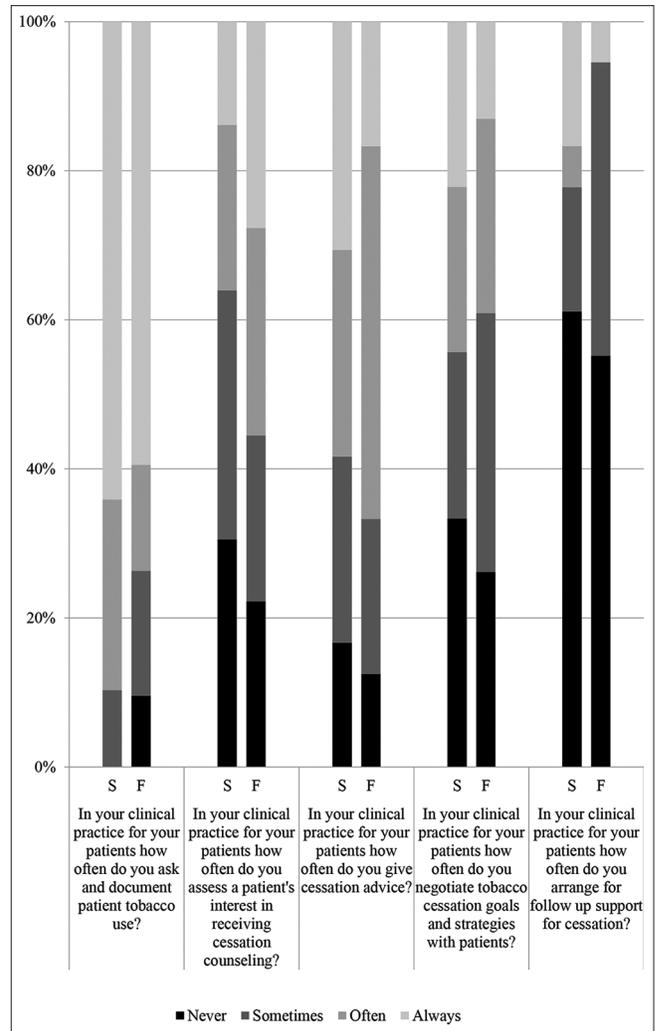


Figure 4: Distribution of responses to the smoking cessation implementation subscale – performance of the 5A’s among students and faculty working at Dental Center clinic, Kuwait University

Limitations

The limitations of this study include the fact that information collected from subjects relied on self-reporting which may have had some degree of recall bias. In addition, faculty responses may have been affected by what they perceived they should be reporting.

CONCLUSIONS

This study showed that while clinical students and faculty members believe smoking cessation counseling to be effective, their activity was mostly limited to asking patients if they smoked and that both students and faculty reported their knowledge of cessation counseling to be only “fair.”

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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