Smoking Cessation Practices in Kuwaiti General Dental Clinics

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Key Words

Kuwait · Dentists · Smoking · Cessation, activities · General dental practice

Abstract

Objectives: This study aimed to determine the degree of involvement of general dental practitioners working in primary health care centers of the Ministry of Health (MOH) of Kuwait in tobacco cessation activities. **Subjects and Methods:** A survey questionnaire composed of 48 structured multiple choice questions aimed at assessing practitioner knowledge, attitudes, perceived expectations, confidence, and perceived barriers preventing them from performing these activities was distributed to 150 general dentists working in MOH dental clinics. **Results:** One hundred forty-five dentists responded to the survey questionnaire. Twelve (12%) surveyed practitioners always or almost always incorporated overall tobacco cessation activities into their practice. Forty-one (3%) of the respondents felt that they had excellent cessation knowledge. One (1%) felt barriers prohibited their performance of cessation activities. One hundred (76%) participants strongly agreed that there was an expectation for them to perform cessation activities in their clinics. Fourteen (10%) respondents felt very confident about their cessation counseling skills. **Conclusions:** Findings showed that smoking cessation practices are not performed on a routine basis in MOH dental clinics. Practitioner knowledge and confidence showed the most significant association with the performance of cessation activities.

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Introduction

Smoking is the leading cause of preventable illness and death in the developing world [1]. A number of significant events and research findings during the last 15 years have led to the dental profession's growing involvement in tobacco use intervention activities [2]. Dental health care workers are a largely untapped resource for providing brief counseling to patients using tobacco products [3]. A dental office visit provides an opportunity for dental professionals to point out the detrimental effects of tobacco use on oral and general health [3].

Surveys of dentists have consistently shown willingness on the part of the dentist to participate in tobacco cessation campaigns. However, widespread acceptance of tobacco use interventions in the dental setting has lagged behind [4]. There is increasing interest in Western countries in broad inclusive public health interventions that involve low-cost self-help materials and minimal support from professionals as an alternative to clinical cessation programs [3]. The World Health Organization (WHO) has also been involved in encouraging the involvement of health care professionals in counteracting tobacco use [5, 6].

Studies conducted on Kuwait University health sciences students showed that they were more favorably inclined and prepared to perform smoking cessation on their patients after receiving cessation training courses [5]. Studies have shown that lack of training, lack of financial incentives, lack of time, and finally lack of dentists' confidence in their ability to perform cessation ac-

Table 1. Component questions of the 5 As

Variable	Component questions	Scale
Ask	– Frequency of evaluation of tobacco consumption – For smokers, frequency of evaluation of how much they smoke – For smokers, frequency of evaluation of how long they smoke	– Never to always (1–6)
Assess	– For smokers, do you ask if they are interested in cessation?	– Never to always (1–6)
Advise	– Frequency with which smokers are advised to quit – Frequency with which smokers are advised to use prescription smoking cessation aids	– Never to always (1–6)
Assist	– Frequency of providing smoking cessation for patients interested in quitting – Frequency of providing patients with information about external cessation clinics	– Never to always (1–6)
Arrange for follow-up	– Frequency with which cessation advice is repeated for patients interested in quitting – Frequency of providing follow-up on cessation advice for patients willing to quit	– Never to always (1–6)

tivities are the most common barriers of smoking cessation activities in general dental practices [7, 8].

Kuwait had an estimated population of 3.5 million people in 2009 [9]. Of this population, the estimated percentage of smokers was reported to be almost one third [1]. At the time the study was conducted, 326 general dentists were reported to be in practice at Ministry of Health (MOH) dental clinics [10]. Studies have demonstrated a significant lack of knowledge and awareness in the Kuwaiti smoking population regarding the connection between smoking and oral health problems [11].

Health professionals can have an important role in countering tobacco use; advice as brief as 3 min long can significantly increase the chances of success in quitting smoking as compared to nonintervention [5]. The focus of this study was to explore self-reported smoking cessation practices by examining the 5 As (table 1) as outlined by the US Agency for Healthcare Policy and Research [12].

This paper evaluates smoking cessation activities in MOH dental clinics. It assesses factors that relate closely to cessation activity performance including practitioner cessation knowledge, perceived barriers to cessation activities, practitioner willingness to perform cessation activities, practitioner-perceived expectations, confidence, and attitudes and their effects on the implementation of these practices in routine general dental practice.

Subjects and Methods

Participants

The study population was general dental practitioners working exclusively in MOH clinics (n = 326). A clustered sample design was used involving random selection of MOH general dental clinics

within the 6 health regions in Kuwait, which included all of the general dentists practicing within the selected clinics. Once the dentist was identified as eligible and agreed to participate, they were included in the study (n = 150).

Survey Measure

The survey instrument was a 48-item, 4-page questionnaire based on several sources. These sources included survey questionnaires used in related studies found in the literature [3, 7]. In addition, the website of the CDC provides databases of questions that were used as a data collection instrument pertaining to smoking cessation practices [13, 14]. The questions were modified to be applicable to the context of Kuwaiti MOH dental clinics – questions relating to cost/payment issues were eliminated as MOH services are free of charge. A pretest of the completed questionnaire (n = 20) was conducted in general dentists working in private clinics in Kuwait to help identify unforeseen problems and to modify the questionnaire before distribution.

The 5 elements of cessation activity, i.e. ask, advise, assess, assist, and arrange for follow-up, were used to assess overall smoking cessation activity. Responses to component questions of the 5 As were rated on a 6-point scale ranging from ‘never’ to ‘always’. The component questions for each of the individual elements of the 5 As are listed in table 1. A summary variable was created for each element of ask, advise, assess, assist, and arrange for follow-up; this was created by combining the means of the component questions – questions with missing responses were not included. Finally, a grand summary scale was created by combining the means of the 5 elements of cessation activity (5 As in individual summary variables); this was given the title cessation activity.

The survey questions used to assess different elements of knowledge, perceived barriers to cessation activity, willingness to perform cessation activities, practitioner-perceived expectations, and confidence are outlined in table 2. The individual component questions for each of the above stated categories were combined to create the independent summary variable subscales of knowledge, perceived barriers, willingness, expectations, and confidence. These were created by combining the means of the indi-

Table 2. Independent variable component questions

Variable	Component questions	Scale
Cessation knowledge	– Rate your knowledge of the association between smoking and oral health – Rate your knowledge of cessation behavior modification exercises – Rate your knowledge of cessation prescription medication aids – Rate your knowledge of external cessation clinics for referral – Rate your knowledge of what to include in a cessation message – Rate your knowledge of how to deliver a cessation message	– Poor to excellent (1–5)
Perceived barriers to cessation activity	– Patient resistance – Patient compliance – Amount of time – Resistance by staff – Belief that cessation is out of the scope of the dentist – Availability of patient education material – Availability of referral resources – Availability of continuing education material	– Greatly inhibit to greatly facilitate (1–4)
Willingness	– I am willing to perform cessation activities – I am willing to prescribe cessation aids	– Disagree strongly to agree strongly (1–4)
Expectations	– Leaders expect me to perform cessation activities – Colleagues expect me to perform cessation activities – Patients expect me to perform cessation activities – Staff expect me to perform cessation activities	– Disagree strongly to agree strongly (1–4)
Confidence	– I am confident in performing cessation activities – I am confident in my ability to deliver a cessation message	– Not very confident to confident (1–5)

vidual variable item question responses. Question responses within each summary variable with missing responses were not included in the summary variables. Practitioner attitudes were assessed by 2 items in the questionnaire – performing cessation counseling is easy and performing cessation counseling is effective. These were rated on a 4-point scale from ‘agree strongly’ to ‘disagree strongly’.

Procedure

This study was approved by the Institutional Review Board of Columbia University Medical Center. The MOH of Kuwait approved a request to conduct the study on practitioners working in its clinics. Subjects were approached in person by the researcher.

Statistical Analysis

Data management and analysis were performed using the software Statistical Package for Social Sciences (version 17.0; SPSS Inc., Chicago, Ill., USA). The 5 elements of cessation activity, i.e. the 5 As, were used as dependent variables to assess overall smoking cessation activity. Cessation knowledge, perceived barriers to performing cessation activities, willingness, practitioner-perceived expectations, confidence, and attitude towards performing cessation activities as easy and effective were classified as independent variables in the analysis. The descriptive statistics are presented as means $\pm$ standard deviation (SD) and percentages. χ^2 tests were used to find significant associations between study dependent and independent variables. Odds ratios (OR) with confidence intervals (CI) were calculated. Pearson’s correlation was

used to establish any correlation between the 5 As and knowledge, perceived barriers, willingness, expectations, and confidence. The two-tailed probability *p* value <0.05 was considered statistically significant.

Results

Of the 150 general dentists who agreed to participate, 145 (97%) responded to the questionnaire, with a gender ratio of 1:1.1 (M:F). The mean age of the male dentists was higher (34.0 ± 11.5 years) than that of the females (30.3 ± 8.7 years) ($p < 0.03$) (table 3). One hundred one (71.7%) of the participating dentists were relatively young, with less than 10 years of work experience, and 107 (73.8%) were nonsmokers.

Dentists’ responses to the 5 As’ components are presented in fig. 1. The 6 responses, from never to always, sometimes were merged into 3 for analysis and better presentation. Ask: 40 (28%) reported never asking their patients about smoking habits. Sixty-six (47%) often asked and 35 (47%) always asked their patients. Assess: the responses for the assess component with respect to smoking habits, and assessment of their patients in smoking cessa-

Fig. 1. Frequency of performance of the 5 As.

Table 3. Dentists' demographic and general characteristics

Characteristics	n (%)
Gender	
Male	77 (53.1)
Female	68 (46.9)
Mean age $\pm$ SD (range), years	
Male	34.0 $\pm$ 11.5 (23–68)
Female	30.3 $\pm$ 8.7 (21–55)
Total	32.3 $\pm$ 10.4 (21–68)
Work experience (years)	
0–9	104 (71.7)
10–19	9 (6.2)
20–29	25 (17.3)
30–39	7 (4.8)
Smoking	
Daily	24 (16.6)
Sometimes	14 (9.7)
Never	107 (73.7)

tion, were almost equally distributed – 49 never, 47 often, and 48 always (33%). Advise, assist, and arrange for follow-up: as regards practitioners' advice, assistance, and arranging for follow-up on smoking cessation, 73 (50%) reported 'never' as compared to only 16 (15%) who responded 'always', which was proportionately much lower ($p < 0.001$, OR = 2.9, 95% CI 2.31–2.60). A declining trend was noticed in the case of these 3 A components from never, i.e. 74 (51%), to often, i.e. 48 (33%), and to always, i.e. 23 (15%). When assessing the extent to which the surveyed practitioners advised their patients about smoking cessation, results showed that almost one half never or

almost never advised their patients. This was also reflected in assisting their patients with smoking cessation. In the case of arranging for follow-up, approximately half of the respondents reported never following up on cessation advice, with only 15 (5%) always following up on patients' cessation efforts.

Associations between dentists and the responses to the 5 As (cessation activity variable) with knowledge, barriers to cessation activities, willingness to perform the cessation activity, practitioner expectations, and confidence in performing smoking cessation are shown in table 4. Knowledge: those with poor or fair knowledge of smoking cessation showed an 8% ($n = 24$) response to 'always performing the 5 As' as compared to 62.6% ($n = 31$) response from those with very good and excellent knowledge of smoking cessation ($p < 0.001$). Barriers to cessation activity: the barriers such as patience resistance, compliance, and time did not generally inhibit clinical cessation activities, with 80 practitioners (30%) feeling somewhat inhibited by these issues. Willingness: in the case of willingness to perform smoking cessation activities with respect to the 5 As' components, 122 (88.8%) always agreed, while 22 (11.2%) always disagreed ($p < 0.001$). The response of 'almost always' or 'always' was higher among those who had very good knowledge of and were willing to perform smoking cessation activities. Expectations: practitioner-perceived expectations were reported to in 100 respondents (76%). Confidence: 63 (76%) of the strongly or very confident practitioners reported always/almost always engaging in cessation practices. Practitioner attitudes: when responding to the statement that performing cessation counseling is easy, 78 (55%) agreed somewhat/strongly. When responding to the statement 'performing cessation counseling is effective', 6 (4%) respondents disagreed strongly, 19 (13%) disagreed somewhat, 58 (40%) agreed somewhat, and 61 (42%) agreed strongly that their performance of cessation counseling activities is effective.

The variables cessation knowledge, barriers to cessation activities, willingness to perform cessation activities, practitioner expectations, and confidence cessation were correlated with the 5 As and cessation activity (table 5). Cessation activity and arranging to follow up showed a positive significant correlation with the above mentioned variables. A strong correlation with confidence and cessation knowledge ($p < 0.001$) was present. In response to whether performing cessation counseling is easy and effective, participants were asked to reflect on practitioner attitude; this showed no correlation with the performance of the 5 As or cessation activities.

Table 4. Associations with the 5 As

Variable	Response to the 5 As (%)					
	never	almost never	fairly often	very often	almost always	always
Knowledge						
Poor	26.0	17.3	13.8	10.7	10.3	7.8
Fair	22.4	22.6	20.2	15.5	11.4	10.1
Good	24.2	30.7	30.2	28.4	28.2	20.4
Very good	28.6	20.2	24.4	29.8	30.5	37.0
Excellent	8.8	9.2	11.5	15.5	19.6	24.7
Barriers						
Greatly inhibit	30.6	17.3	16.7	17.7	14.7	12.3
Somewhat inhibit	28.4	35.2	33.9	33.2	29.3	35.4
Somewhat facilitate	24.4	30.9	30.1	30.7	30.6	31.4
Greatly facilitate	16.6	16.6	19.2	18.4	25.4	20.9
Willingness						
Agree strongly	34.7	27.7	34.2	35.7	47.5	49.8
Agree somewhat	36.4	44.3	45.7	48.3	34.9	39.0
Disagree somewhat	17.6	20.4	14.1	12.0	13.5	7.5
Disagree strongly	11.3	7.7	6.0	4.0	4.1	3.7
Expectations						
Agree strongly	22.0	12.4	17.3	18.9	26.9	33.5
Agree somewhat	30.4	49.8	55.5	50.6	37.5	29.8
Disagree somewhat	27.6	30.0	19.9	25.1	25.6	24.3
Disagree strongly	20.0	7.9	7.4	5.4	10.0	12.5
Confidence						
Not confident	10.4	4.2	2.5	1.1	1.2	0.0
Somewhat confident	30.2	20.1	17.1	13.9	10.5	8.7
Confident	29.3	44.4	32.4	32.0	25.7	17.0
Strongly confident	16.5	19.2	28.7	35.7	37.4	40.6
Very confident	13.6	12.1	19.3	17.3	25.1	33.7

Discussion

Practitioner responses indicated that most dentists asked their patients about their tobacco consumption on a fairly frequent basis instead of always/almost always, indicating that tobacco consumption was not evaluated on a routine basis. The rate of responses to the frequency of performance of the 5 As was less than 50%, thereby indicating a lack of routine performance. They reflected a culture of general dentists who worked in extremely busy practices that tended to, on occasion, incorporate limited cessation activity. This cessation activity was most likely present when the treating practitioner felt as though the smoking might have a direct negative impact on the patients' welfare after having certain dental treatments, e.g. extractions.

Consistent with published trends [3, 4, 7, 15], general dental practitioners in Kuwaiti MOH clinics tended to mostly engage in asking patients about their willingness

to quit. Practitioners in the USA and the UK have been reported to advise their patients on a more regular basis. However, assessing, assisting, and providing follow-up are not performed routinely [4, 7]. Kuwaiti practitioners seem to assess their patients on the most regular basis. However, they assist, advise, and follow up on a very infrequent basis.

This difference in trends and the overall low performance of cessation activity reflect an urgent need for intervention. Published studies report that the actual role of dental professionals in supporting smoking cessation is very limited [3, 4, 7, 15–17]. On the basis of the present results, Kuwaiti practitioners seem to lack, even more fully, integration of these activities into their routine practice.

The finding that knowledge is an essential factor in smoking cessation counseling and a salient predictor of smoking cessation activities is consistent with other

Table 5. Correlations

Variable	Ask	Advise	Assist	Assess	Arrange	Cessation activity
Confidence						
Pearson's correlation	0.325**	0.366**	0.493**	0.340**	0.464**	0.481**
Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000
Barriers						
Pearson's correlation	0.299**	0.206**	0.142	0.233**	0.203*	0.258**
Sig. (2-tailed)	0.001	0.019	0.126	0.008	0.021	0.006
Willingness						
Pearson's correlation	0.140	0.207*	0.288**	0.240**	0.209*	0.267**
Sig. (2-tailed)	0.098	0.014	0.001	0.004	0.031	0.003
Expectation						
Pearson's correlation	0.133	0.252**	0.146	0.162	0.226*	0.212*
Sig. (2-tailed)	0.166	0.008	0.142	0.092	0.018	0.034
Cessation knowledge						
Pearson's correlation	0.507**	0.434**	0.544**	0.494**	0.488**	0.577**
Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000
General knowledge						
Pearson's correlation	0.318**	0.195*	0.236**	0.262**	0.263**	0.305**
Sig. (2-tailed)	0.000	0.021	0.008	0.002	0.002	0.001
Performance is easy						
Pearson's correlation	-0.008	0.045	0.048	0.099	0.051	0.012
Sig. (2-tailed)	0.929	0.602	0.596	0.245	0.55	0.897
Performance is effective						
Pearson's correlation	-0.107	0.072	-0.059	-0.026	0.065	-0.022
Sig. (2-tailed)	0.201	0.395	0.515	0.757	0.442	0.810
Years since graduation						
Pearson's correlation	-0.067	-0.096	-0.066	0.044	-0.058	-0.099
Sig. (2-tailed)	0.434	0.263	0.466	0.607	0.502	0.279
Smoking status						
Pearson's correlation	0.121	0.107	0.009	0.172*	0.091	0.175
Sig. (2-tailed)	0.156	0.211	0.273	0.041	0.284	0.055

Sig. = Significance. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

studies reporting willingness among healthcare practitioners and students to perform cessation counseling but a lack of training and knowledge of clinical guidelines for smoking cessation [16, 17]. The study results indicated that although practitioners agreed with the idea that cessation activity in their clinics would be effective, 45% felt that actually performing cessation activities was difficult. This information obtained has clarified a possible association between knowledge and counseling performance, thus implying a possible benefit from training in cessation counseling that would change their confidence levels and attitude towards the difficulty of performing smoking cessation counseling activities.

Based on the findings of this study, a few factors can be taken into consideration and may contribute to developing smoking cessation programs in Kuwait. These include negative attitudes towards performing cessation activities, which need to be addressed; practitioners should be encouraged to believe that performing cessation activities in their clinics is effective and will have an impact on society at large. Practitioners must be made aware of the fact that they are expected to perform these activities on a routine basis and policy makers must let it be known that these practices are encouraged in the clinics. Most importantly, practitioner confidence and the level of cessation knowledge must be increased in order for them to perform these practices.

The limitations of this study were noted after examining the overall results and outcomes. The researcher limited the study sample to general dentists working in public MOH clinics. The data collected does not provide any insight into the practices of general dentists working in private clinics. This therefore limits the conclusions and assumptions made to a certain practice structure and is not inclusive of different practice settings in Kuwait.

Conclusion

The findings showed that current smoking cessation practices in MOH dental clinics were not performed on a routine basis. Practitioner willingness and attitudes reflected positively on cessation activities. Most importantly, increased cessation knowledge showed the strongest and most significant associations with cessation activities.

References

- 1 Anjum M, Philip M, Thattaruparambil N, et al: Epidemiology of smoking among Kuwaiti adults: prevalence, characteristics, and attitudes. *Bull World Health Organ* 2000;78: 1306–1315.
- 2 Jones R: Tobacco or oral health: Past progress, impending challenge. *J Am Dent Assoc* 2000; 131:1130–1136.
- 3 Gordon J, Severson H: Tobacco cessation through dental office settings. *J Dent Educ* 2001;65:354–363.
- 4 Clareboets S, Sivarajasingam V, Chestnutt I: Smoking cessation advice: knowledge, attitude and practice among clinical dental students. *Br Dent J* 2010;208:173–177.
- 5 Waheedi M, Al-Tmimy A, Enlund H: Preparedness for the smoking cessation role among health sciences students in Kuwait. *Med Princ Pract* 2011;20:237–243.
- 6 World Health Organization: WHO report on the global tobacco epidemic. 2008. http://www.who.int/tobacco/mpower_report_full_2008.
- 7 Albert D, Ward A, Ahluwalia K, et al: Addressing tobacco in managed care: a survey of dentists' knowledge, attitudes, and behaviors. *Am J Public Health* 2002;92:997–1001.
- 8 Stacey F, Heasman PA, Heasman L, et al: Smoking cessation as a dental intervention – views of the profession. *Br Dent J* 2005;201: 109–113.
- 9 CIA World Factbook. 2009. <https://www.cia.gov/search?q=kuwait&site>.
- 10 Ministry of Health – Dental Administration annual report, ed 28. Kuwait City, Ministry of Health Publishing, 2006.
- 11 Shammari K, Mossa M, Al-Ansari J, et al: Dental patient awareness of smoking effects on oral health: comparison of smokers and non-smokers. *J Dent* 2006;34:173–178.
- 12 A clinical practice guideline for treating tobacco use and dependence: a US Public Health Service Report – the Tobacco Use and Dependence Clinical Practice Guideline Panel, Staff, and Consortium Representatives. *JAMA* 2000;283:3244–3254.
- 13 Centers for Disease Control and Prevention: CDC tips: tobacco information and prevention source. 2009. <http://www.cdc.gov/tobacco/>.
- 14 Centers for Disease Control and Prevention: CDCBRFSS: behavioral risk factor surveillance system. 2009. <http://www.cdc.gov/tobacco/>.
- 15 Saade G, Warren CW, Jones NR, et al: Tobacco use and counseling among health professional students: Lebanon Global Health Professions Student Survey. *J Med Liban* 2009;57:243–247.
- 16 Rosseel J, Jacobs J, Hilbrink S, et al: What determines the provision of smoking cessation advice and counseling by dental care teams? *Br Dent J* 2009;206:E13.
- 17 Al-Zoubi KH, Azab M, Khabour OF, et al: Smoking cessation practice guidelines: Awareness and implementation among medical teams. *Int J Pharm Pract* 2010;18: 93–99.