

Barriers to Seeking Preventive Dental Care by Kuwaiti Adults

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Key Words

Utilization of dental services • Attendance behavior • Preventive visits • Public dental services

Abstract

Objective: The aim of this study was to assess the prevalence of preventive dental visits and to identify self-reported barriers for this practice among Kuwaiti adults. **Materials and Methods:** A self-administered, anonymous, structured questionnaire was distributed to a random sample of Kuwaiti nationals 18 years of age or older recruited from all six health districts of Kuwait. A total of 2,400 questionnaires were distributed. Multiple logistic regression analysis was performed to identify factors independently associated with not having a preventive dental visit for more than 1 year. **Results:** Of the 2,400 questionnaires, 1,925 (80.2%) were completed. Of these, 620 (32.2%) had a dental visit within the previous 6 months, 504 (26.2%) between 6 and 12 months and 801 (41.6%) more than 12 months ago. The most common reasons for the last dental visits were pain or a dental emergency, need for restorative treatment, and an examination/prophylaxis. The strongest factors for not having preventive visits were not using a mouthrinse daily, flossing less than once a day, dental fear, belief that there is no need for visits unless pain was present, brushing the teeth less than twice a day, and believing that appointments are too far ahead. Also older respondents (>30 years), female gender, and those having only high school education or less were less

likely to visit a dentist for preventive reasons. **Conclusion:** More than half of the studied population reported not having had a preventive visit for more than 1 year. Unfavorable self-care habits, dental fear and belief that visiting a dentist is necessary only for pain relief were the strongest factors for the nonattendance behavior. Copyright © 2007 S. Karger AG, Basel

Introduction

The main dental diseases, caries and periodontal diseases, are largely preventable and significant progress has been made globally in reducing them amongst child populations. In many countries, comprehensive national dental care systems have succeeded in increasing their coverage and reducing or even eliminating socioeconomic differences in the use of dental services by children [1–3]. However, socioeconomic differences in the utilization of dental services by adults still exist in many countries [4–9]. There are also other barriers to seeking regular dental care, including availability of dental services [10, 11], and dental fear [12–14].

Barriers to seeking dental services have been classified by the Fédération Dentaire Internationale as related to: (a) individuals themselves (such as lack of perceived need, anxiety or fear, financial considerations, and lack of access), (b) the dental profession (inappropriate manpower resources, uneven geographical distribution, training in-

appropriate to changing needs and demands and insufficient sensitivity to patient's attitudes and needs), and (c) society (insufficient public support of attitudes conducive to health, inadequate oral health care facilities, inadequate oral health manpower planning and insufficient support for research) [15].

Preventive dental visits have been recommended for detecting treatment needs and for the early detection of oral diseases. The latter allows for targeting efforts on reversing early caries lesions or gingivitis. Regular dental checkups have traditionally been recommended every 6 months, but this frequency has been criticized for leading to unnecessary restorative treatment [16–18]. Current recommendations concerning intervals for regular oral health examinations encourage customization of the intervals based on individual patient needs and have therefore been extended up to 1–2 years for some low-risk patients [2, 3, 19, 20]. Although a recent meta-analysis has reported no evidence to support or refute a 6-month interval, the importance of regular preventive dental visits is still recognized as a means for the early detection of signs of oral diseases, especially in patients with proven susceptibility to periodontal disease and caries and high-risk patients [21]. Regular dental screening systems have been well established for children in several countries [1–3, 22], but the provision of preventive dental care for adults still mainly depends on the individual patients' initiatives in seeking dental checkups.

In Kuwait, government-operated dental care services for adults are basically free of charge for Kuwaiti citizens. However, no preventive policies or recall systems for regular checkups have been established, and the dental care tradition is largely treatment-oriented with no clearly defined goals [23]. As such, the dental visit patterns of adults in Kuwait may be expected to be mainly for emergencies and pain relief, and not focused on prevention. This is indeed supported by the few available studies describing dental visit patterns in Kuwait [24, 25]. 'Toothache' was the primary reason for approximately two-thirds of such visits, while dental checkups/preventive measure visits were accounted for only 4% of adults in 1985 and 32% of university students in 2000 [24, 25]. Whether reasons for this low attendance pattern are due to patient-related or dental service availability-related factors has not been determined. Since lack of finance, shown to strongly influence attendance behavior in other countries [14], is largely nonexistent in Kuwait, it may be possible to better assess the role of other barriers to seeking preventive care. The aim of this study was, therefore, to assess the prevalence of preventive dental visits by Kuwaiti adults and to identify self-reported barriers for this practice.

Materials and Methods

A self-administered, anonymous, structured questionnaire was distributed to 2,400 Kuwaiti nationals 18 years of age or older recruited from all six districts (Capital, Ahmadi, Hawalli, Jahra, Farwaniya, and Mubarak) in June and July 2003. In each district, study personnel distributed 100 questionnaires in each of four randomly selected locations (one male and one female high school, and two government offices). The completed questionnaires were collected after one week. The study protocol was approved by the Ethics Review Committee, Faculty of Dentistry, Kuwait University, Kuwait.

The questionnaire addressed the following aspects: sociodemographic characteristics, oral hygiene practices, dental visit history, and reasons for not visiting the dentist. Sociodemographic variables included age, gender, marital status, level of education, and smoking status (current or nonsmoker). Oral hygiene habits were assessed through questions on the frequency of use of the toothbrush, dental floss, and mouthrinses. Subjects were also asked to report the time and reason for their last dental visit, and when the last professional tooth cleaning or dental prophylaxis visit was performed. In the last part of the questionnaire, subjects were asked which of the following reasons prevented them from seeking preventive dental care or visiting the dentist: lack of time, dental fear or anxiety, believing there's no need to visit unless they were experiencing pain, inability to obtain access to the dentist or get an appointment, appointments being scheduled too far ahead, or believing that such visits will not help. A space was also provided for listing other reasons not included in the choices.

Statistical Package for Social Sciences (SPSS) version 12.0 (Chicago, Ill., 2003) statistical software was used to analyze the data. Differences in age between males and females were compared with the Student *t* test, while differences in the other categorical sociodemographic variables, oral hygiene habits, and reasons for not seeking dental care were compared using the χ^2 test. Multiple logistic regression analysis was performed to identify factors independently associated with not having a preventive dental visit for more than 1 year. Odds ratios and corresponding confidence intervals were generated for the examined variables. The significance level used was $p < 0.05$.

Results

A total of 1,925 completed questionnaires were returned and used in the analysis (response rate = 80.2%). Sociodemographic characteristics of subjects are presented in table 1. The mean age of the study participants was 33.4 ± 9.0 years (range: 18–70); male 977 (50.8%); female 948 (49.2%), and the majority were married (1,364, 72.3%). Of these, 463 (24.1%) were current smokers. Males were significantly older (35.3 vs. 31.4 years; $p < 0.001$) and also included more current smokers (43.9 vs. 3.6%; $p < 0.001$) than females, while the proportion of married individuals was similar in males and females (73.4 vs. 71.1%, respectively), and more females (823,

Table 1. Sociodemographic variables and smoking status of study subjects according to gender

Variable	Gender		p value	Total (n = 1,925)
	male (n = 977)	female (n = 948)		
Age, years (mean \pm SD)	35.3 (9.4)	31.4 (8.0)	<0.001 ^a	33.4 (9.0)
Marital status				
Married	717 (73.4)	674 (71.1)	NS ^b	1,391 (72.3)
Not married	260 (26.6)	274 (28.9)		534 (27.7)
Education				
Primary/intermediate education	78 (8.0)	40 (4.2)	<0.001 ^b	118 (6.1)
High school	151 (15.5)	85 (9.0)		236 (12.3)
Professional college	211 (21.6)	322 (34.0)		533 (27.7)
University degree	472 (48.3)	471 (49.7)		943 (49.0)
Postgraduate degree	65 (6.6)	30 (3.1)		95 (4.9)
Smoking status			<0.001 ^b	
Current smoker	429 (43.9)	34 (3.6)		463 (24.1)
Nonsmoker	548 (56.1)	914 (96.4)		1,462 (75.9)

Numbers and percentages (in parentheses) are given except for age.

^a Student's t test. ^b χ^2 test. NS = Not statistically significant; $p > 0.05$.

86.6%) have more than high school education than male (748, 76.5%), and the difference was statistically significant ($p < 0.001$).

Self-reported oral hygiene habits and a history of dental visits are presented in table 2. Overall, 1,194 (62%) subjects used a toothbrush at least twice a day, 228 (11.8%) dental floss at least once a day and 204 (36.6%) used mouthrinses daily. More females (699; 73.7%) than males (495; 50.7%) brushed their teeth at least twice daily ($p < 0.001$). Also, daily mouthrinsing was more commonly practiced by females (371; 39.1%) than males (333; 34.0%; $p < 0.01$). Of the respondents, 619 (32.2%) visited a dentist within the previous 6 months, 504 (26.2%) between 6 and 12 months and 802 (41.6%) more than 12 months ago. Reported reasons for the last dental visit were pain or a dental emergency (607, 31.5%), restorative treatment (581, 30.2%), an exam/prophylaxis (575, 29.9%), or other, unspecified reasons (162, 8.4%). Regarding dental visit history, only 828 (43%) of subjects had had a prophylaxis visit within the 12 months prior to the study, while the remaining 1,097 (57%) had not had such a visit for more than 1 year. No significant gender differences were found in the dental visit histories, reasons for the last dental visits, or the timing of prophylaxis visits.

Lack of time was the most commonly reported reason for not seeking preventive dental care by the 778 (40.4%) subjects, and this was more commonly reported by males than females ($p < 0.05$; table 3). The second and

third most common reasons were believing there was no need to visit the dentist unless there was pain by 676 (35.1%) subjects and appointments being too far ahead by 605 (31.4%), with no significant gender difference (table 3). Dental fear was reported by 357 (18.5%) of subjects and was more commonly reported by females than males ($p < 0.001$). Other less commonly reported reasons were inability to access the dentist or to get an appointment by 186 (9.7%) subjects, believing preventive visits would not help 78 (4.1%), and other unspecified reasons 90 (4.7%).

Results of logistic regression analysis of the factors associated with not having a preventive dental visit for more than 1 year are presented in table 4. The strongest factors for not having preventive visits were not using mouthrinse daily (odds ratio = 1.84, 95% confidence interval: 1.50–2.25), flossing less than once a day (1.75; 1.29–2.36), dental fear (1.71; 1.32–2.21), belief that there is no need unless pain was present (1.66; 1.34–2.05), brushing the teeth less than twice a day (1.52; 1.24–1.88), and believing that appointments were too far ahead (1.51; 1.22–1.87). Also older respondents (>30 years), female gender, and those having only high school education or less were less likely to visit a dentist for preventive reasons. Smoking status and lack of time did not significantly associate with nonattendance behavior.

Table 2. Oral hygiene practices and dental visit history according to gender

Variable	Gender		p value ^a	Total (n = 1,925)
	male (n = 977)	female (n = 948)		
Toothbrushing/day			<0.001	
≥ Twice	495 (50.7)	699 (73.7)		1,194 (62.0)
< Twice	482 (49.3)	249 (26.3)		731 (38.0)
Flossing/day			NS	
≥ Once	117 (12.0)	111 (11.7)		228 (11.8)
< Once	860 (88.0)	837 (88.3)		1,697 (88.2)
Daily mouthrinse use			0.010	
Yes	333 (34.1)	371 (39.1)		704 (36.6)
No	644 (65.9)	577 (60.9)		1,221 (63.4)
Last dental visit			NS	
≤6 months	309 (31.6)	310 (32.7)		619 (32.2)
6–12 months	249 (25.5)	255 (26.9)		504 (26.2)
>12 months	419 (42.9)	383 (40.4)		802 (41.6)
Reason for last dental visit			NS	
Pain/emergency	298 (30.5)	309 (32.6)		607 (31.5)
Restorative treatment	307 (31.4)	274 (28.9)		581 (30.2)
Prophylaxis/exam	290 (29.7)	285 (30.1)		575 (29.9)
Other reasons	82 (8.4)	80 (8.4)		162 (8.4)
Last dental prophylaxis			NS	
≤1 year	426 (43.6)	402 (42.4)		828 (43.0)
>1 year	551 (56.4)	546 (57.6)		1,097 (57.0)

Numbers and percentages (in parentheses) are given.

^a χ^2 test. NS = Not statistically significant; $p > 0.05$.

Table 3. Reasons for not visiting the dentist according to gender

Reason	Gender		p value ^a	Total (n = 1,925)
	male (n = 977)	female (n = 948)		
Lack of time	418 (42.3)	360 (38.0)	0.03	778 (40.4)
Not needed unless have pain	347 (35.5)	329 (34.7)	NS	676 (35.1)
Appointments too far ahead	312 (31.9)	293 (30.9)	NS	605 (31.4)
Fear	147 (15.0)	210 (22.2)	<0.001	357 (18.5)
Cannot get access/appointment	114 (11.7)	72 (7.6)	0.003	186 (9.7)
Visit will not help	48 (4.9)	30 (3.2)	NS	78 (4.1)
Other reasons	70 (7.2)	20 (2.1)	<0.001	90 (4.7)

Numbers add up to more than the total number of subjects due to reporting of multiple reasons by some subjects. NS = Not statistically significant; $p > 0.05$. Figures in parentheses are percentages.

^a χ^2 test.

Discussion

Barely one third of the studied population visited a dentist for an examination or prophylaxis (table 2). This proportion is only half of that reported in countries like

the UK and USA [6, 7]. However, the proportion is considerably higher than the results of the national study conducted in 1985 when only 4% reported having regular checkups or preventive dental visits [24]. The same trend has been reported in the USA where diagnostic and pre-

ventive services increased from 1 to 1.5/person/year between 1980 and 1995 [26], and in the UK where the increase was from 43 to 59% between 1988 and 1998 [6].

Most individuals in this study were highly educated, yet a large proportion reported not having a preventive visit for over a year. Similarly, in a previous study of Kuwait University students, only one-third of the subjects reported ever having had a preventive dental visit [25]. In this study, those having only high school education or less were even less likely to visit a dentist for preventive reasons (table 1). This might be due to the fact that dental education is not incorporated into the country's general education system, and people therefore do not have a sound knowledge about prevention, and because both general health care and oral health care have been very much treatment-oriented. The Ministry of Health/School Oral Health Program (SOHP) in Kuwait recently introduced preventive guidelines, in which it was stated that health education should be given annually to all students in kindergartens and primary schools, and for the teachers and parents of the students [27]. However, the contents of the education sessions and the mechanisms of implementation were not declared in the guidelines, and the proper establishment of preventive strategies has generally not been possible because of high treatment needs and inadequate manpower planning [28–30]. According to this study, people younger than 30 years were more likely to have a preventive dental visit than the older ones, which might be due to the fact that the SOHP was established in 1982, when these individuals were children and involved in the program and most probably received at least some kind of preventive treatment or guidance. Thus it might be that in the future preventive visits will increase, if manpower and strategic planning problems can be resolved. This finding is in contrast to results from other countries [6, 31]. In Canada and in the UK, for example, older dentate adults were more likely to attend a dentist on a regular basis than the younger ones.

Reasons pertaining to the individuals concerned were the most significant barriers to seeking preventive visits. Lack of time was considered the most common barrier in bivariate analysis; however, in the multivariate analysis it lost its association. In the final logistic model, fear was considered as the most common barrier, followed by the assumption that dental care is necessary only if pain occurs. Females reported fear more often as a barrier than males, which was in accordance with many international studies [13, 32–35]. Compared to the earlier study of 1985 [24] 'only visiting a dentist when having pain' as a reason has declined from 69 to 31.5% in this study. However, the

Table 4. Regression analysis of factors associated with not having a preventive dental visit for more than 1 year

Variable	n (%)	OR	CI	p value
Age				
≤30 years	473 (54.2)	1.00		
>30 years	624 (59.3)	1.37	1.12–1.66	0.002
Gender				
Male	551 (56.4)	1.00		
Female	546 (57.6)	1.38	1.10–1.72	0.005
Education				
College education	875 (55.7)	1.00		
High school or less	222 (62.7)	1.29	1.01–1.67	0.045
Smoking status				
Nonsmoker	813 (55.6)	1.00		
Current smoker	284 (61.3)	1.28	0.99–1.66	NS
Reason for last dental visit				
Prophylaxis/restorative treatment	714 (54.2)	1.00		
Pain/emergency	383 (63.1)	1.40	1.13–1.72	0.002
Toothbrushing/day				
≥2	613 (51.3)	1.00		
<2	484 (66.2)	1.52	1.24–1.88	<0.001
Flossing/day				
≥1	86 (37.7)	1.00		
<1	1,011 (59.6)	1.75	1.29–2.36	<0.001
Daily mouthrinse use				
Yes	322 (45.7)	1.00		
No	775 (63.5)	1.84	1.50–2.25	<0.001
Lack of time				
Yes	421 (54.1)	1.00		
No	676 (58.9)	1.03	0.84–1.26	NS
No need unless have pain				
No	658 (52.7)	1.00		
Yes	439 (64.9)	1.66	1.34–2.05	<0.001
Appointments too far ahead				
No	728 (55.2)	1.00		
Yes	369 (61.0)	1.51	1.22–1.87	<0.001
Fear				
No	862 (55.0)	1.00		
Yes	235 (65.8)	1.71	1.32–2.21	<0.001

OR = Adjusted odds ratio; CI = 95% confidence interval.

1985 data were from a larger sample of the population, while this sample comprised mainly high socioeconomic status individuals, which is one of the limitations of this study. It can be assumed that the decline may not be that significant in the whole population, given the absence of any major changes in preventive or educational policies since the first study.

As noted above, financial reasons were not considered as an individual barrier by respondents, probably because

dental care is provided free of charge for Kuwaitis. This is contradictory to the situation in most of the countries worldwide. For example, in the USA, those who had annual incomes of more than USD 80,000 were reported (in 2005) to have regular dental visits 4.5 times more often than those having annual incomes of less than USD 20,000 [14]. In an earlier US study, socioeconomic differences were especially clear when attending a dentist for diagnostic/preventive reasons, but in restorative and prosthetic treatment no such differences were found [7]. According to Newman and Gift [36], individuals with resources in the form of finances and education, and a positive attitude toward oral health, had the greatest probability of having a regular pattern of preventive care.

The finding that self-care (e.g. brushing and flossing with recommended frequencies and using a mouthrinse) was also significantly associated with seeking preventive visits suggests that those who were more aware of the importance of prevention were also more willing to seek professional preventive appointments to increase/strengthen the effects of their self-care. This may reflect the importance of dental and oral hygiene education given during dental visits. That self-care was found to be practiced more frequently among females than males is a universal phenomenon which has been reported in Kuwait before [24, 25]. On the other hand, the finding that females were less likely to visit a dentist for preventive reasons than males might seem surprising at first, especially as in the other studies, females visited the dentist more regularly than males [5, 6, 13, 14]. This finding may

be related to the higher prevalence of dental fear reported by females in this study.

While dental care is free of charge and few economic constraints exist – and considering that sampled Kuwaitis were highly educated – it is clear that both patient-related and dental service availability-related barriers to seeking preventive dental care exist. This may suggest a need for increasing patient awareness and encouraging more positive attitudes towards prevention as key aspects of oral health promotion in Kuwait.

The main limitation of this study is the sampling method. Since the sample consisted mainly of educated Kuwaiti individuals recruited from schools and workplaces (93.9% of the sample completed at least high school education), exclusion of people from other more deprived background could have affected the results. On the other hand, available population data indicates that the rate of secondary education enrollment amongst Kuwaitis is approximately 89% [37]. Nevertheless, interpretation of the data and its applicability to the general Kuwaiti population must be performed with caution.

Conclusion

More than half of the sampled Kuwaiti adults reported not having had a preventive dental visit for more than 1 year. Unfavorable self-care habits, dental fear and belief that visiting a dentist is necessary only for pain relief were the strongest predictors for nonattendance behavior.

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