IN BRIEF

- This paper provides useful feedback from patients regarding dentists' current rates of smoking cessation advice.
- Dental patients expect dentists to be interested in all relevant health issues. It appears that smoking cessation advice by dentists will not alienate patients who smoke.
- However, patients lack confidence in dentists' ability specifically to assist them to quit.
- Less than one in three smokers would make a quit attempt if advised by their dentist to do so.
- Smoking cessation advice by dentists is not self-evidently effective. To ensure that dentists maximise their limited time with patients, more rigorous research is required to establish efficacy of smoking cessation advice when delivered by dentists before admonishing changes in clinical practice.

Preventive dentistry: what do Australian patients endorse and recall of smoking cessation advice by their dentists?

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Objective To investigate patients' views regarding dentists' smoking cessation advice.

Design Survey questionnaire.

Setting One hundred and thirty five dental practices in Sydney Australia.

Subjects Two thousand, four hundred and fifty one dental patients.

Results One thousand, one hundred and sixty pre-consultation questionnaires were obtained (RR=80%), 302 (26%) were self-reported smokers. From these, 623 post-consultation questionnaires were returned (RR = 54%). Most patients expected dentists to be interested in their smoking status ($n = 847/1160$, 73%, 95% CI: 70% to 76%) and to discuss smoking with them ($n = 713/1160$, 61%, 95% CI: 59% to 64%), however, smokers were significantly less likely to respond as such compared with non-smokers ($P < 0.001$). Smokers and non-smokers equally would not change dentist even if asked about their smoking status opportunistically (59% versus 62%) (OR = 0.91, 95% CI: 0.67 to 1.22). Less than one third of all smokers would try to quit if their dentist suggested they do so ($n = 90/302$, 30%, 95% CI: 25% to 35%). Smokers' recall of quit advice from their recent consultation was low ($n = 22/124$, 18%).

Conclusions Smoking cessation advice by dentists is not self-evidently effective. These findings behove interventional research to ascertain efficacy of smoking cessation advice delivered by dentists before admonishing changes in routine clinical practice.

Results from studies examining whether dentists are effective in assisting their patients who smoke to quit are inconclusive. In one randomised controlled trial, advice by dentists in Indianapolis ($n = 54$) achieved sustained patient quit rates of 7.7% enhanced by their use of nicotine gum.¹ However, three other well-designed studies failed to demonstrate significant results.²⁻⁴ Specifically, a randomised controlled trial in Finland of a comprehensive intervention comprising annual inquiries of adolescents about their smoking, photographs of the harmful

effects of smoking on dentition and brief advice by the dentist failed to demonstrate long-term (> 2 years) changes in adolescent smoking rates.² Another randomised controlled trial in 75 Oregon dental practices demonstrated that a brief quit message from dental-hygienists was ineffective.³ A prospective study (non-randomised) conducted in 54 primary care dental practices in the United Kingdom was hindered by sustained reluctance of dental practice staff to recruit smokers into a smoking cessation advice programme, despite training and educational materials.⁴ Of 159 smokers enrolled in the programme, only 4% ($n = 7$) attributed quitting to the dental intervention.⁴

As these results appear to be the sum of all rigorously acquired evidence to date, it is understandable that dentists are reluctant to initiate smoking cessation advice.⁵⁻¹¹ Recently, recognised experts have called for better trials to provide health professionals, such as dentists, with a more compelling evidence-base.¹²

Dentists perceive that their patients do not consider smoking advice part of their dentist's professional role.^{5,8} They are fearful that providing smoking cessation advice may alienate patients or interfere with the dentist-patient relationship^{6,13-15} and that their patients lack the motivation to quit.^{10,15-16}

We found only three studies attempting to determine the views of patients themselves. In the first of these,¹⁶ the authors report discrepancies between dentists' self-reported behaviour and findings of a concurrent community survey. Although 41% of dentists stated that they had advised smoking patients to quit, only 7% of smokers in the community reported that they had received this advice during dental visits. A subsequent study using household-face-to-face interviews of smokers in the United States found that less than one quarter had been advised to quit by their dentists in the previous year.¹⁷ The third and most recent study, conducted in Canada, involved telephone interviews with dental patients asking about any smoking cessation advice they received from their dentists during their last visit.⁸ Many patients (58.5%) responded that dentists should routinely offer smoking cessation advice yet the majority of dentists (61.5%) perceived that patients did not expect such smoking cessation advice.⁸

We have examined views of dentists in Sydney, Australia.^{5,6} Patients' motivation, perceptions of dentists as smoking counselors and issues of patient alienation outranked lack of time, skills or financial reimbursement as perceived barriers to provision of routine smoking advice.⁵ We next designed the present study to

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determine smokers' receptivity to smoking cessation advice from their dentist, their motivation to quit, patient recall of smoking advice strategies used by their dentist and their perception of efficacy of such advice. We conducted our study in Central Sydney, a region with high smoking rates in New South Wales, the most populous Australian state.¹⁸

METHODS

Subjects

All dentists practising in the region served by the Central Sydney Area Health Service were asked to participate. A list purchased from a commercial mailing house was cross-checked against the most current telephone listings to ensure a complete sampling frame. Recruitment commenced in 1999 and continued until April 2000.

Dentist recruitment

All dentists were telephoned to advise them of the imminent arrival of a letter outlining our study. One week later, dentists were phoned again to arrange a convenient time to explain the study further and request consent to participate. Practices were considered ineligible if there was no receptionist, if the dentist was working less than one day per week within Central Sydney or if the proportion of ineligible patients (non-English speaking or paediatric) was 80% or more of the dentist's caseload. Both consenting and non-consenting dentists were asked to complete a brief questionnaire to ascertain socio-demographics. No training in the provision of smoking cessation advice was provided to dentists prior to recruitment.

Patient recruitment

Receptionists were trained to approach a consecutive sample of patients to complete a pre-consultation questionnaire. They were provided with tally sheets to record ineligible patients and refusals. Patients were considered ineligible if they were physically or mentally unable to participate, too old or too young, spoke insufficient English to complete the questionnaire unassisted or if they had previously completed a questionnaire. Participating patients also were asked to indicate their consent for a 'post-consultation' questionnaire to be posted to them within a few days of their consultation and, if agreed, to provide contact details. Completed pre-consultation questionnaires were sealed inside envelopes before being given to the receptionist who mailed them back to the researchers in secure bags. Regular telephone contact was maintained with receptionists to monitor compliance.

Pre-consultation questionnaire

Our pre-consultation questionnaire commenced with five questions to obtain demographic information. We next asked patients about their use of dental services. We also assessed patients' knowledge of the risks associated with smoking for two medical conditions (heart disease and lung cancer) and three oral health conditions (cancer of the mouth, delayed healing of mouth wounds, dental caries). Smoking is associated only with four of these, namely heart disease, lung cancer, oral cancer and delayed healing of mouth wounds.⁷

Patients then were asked to report the number of members of their household who they rated to be regular smokers and their own current smoking status. A series of questions determined 'stage of change'.¹⁹

Using a 5-point Likert scale ('agree a lot' to 'disagree a lot'), all patients were next asked to respond to five statements about dentists providing smoking cessation advice. We then asked about nine specific strategies that they may have used during any quit attempts in the previous six months.

Smokers also were asked to rate their agreement ('agree a lot' to 'disagree a lot') with eight statements which elsewhere had been

asked of dentists.⁵ Three of these addressed 'expectations' about dentists' role as providers of smoking cessation advice, five addressed specific smoking cessation 'strategies' that smokers may receive from their dentist.

Post-consultation questionnaire

In order to minimise recall bias,²⁰ patients were mailed post-consultation questionnaires within one week of their attendance at the dental clinic. Non-responders received a telephone prompt one week from mail-out.²¹

In our post-consultation questionnaire, smokers only were asked to recall whether the dentist had provided any of ten strategies during their most recent consultation. We asked patients to recall whether their dentist had asked about their smoking status. They then were asked to rate their agreement to seven statements about dentists' provision of smoking advice ('agree a lot', 'agree', 'neither', 'disagree', 'disagree a lot').

Data analyses

Descriptive statistics were generated for dentist and patient participation and socio-demographics. Descriptive statistics and univariate analyses were calculated using an Epi Info statistical package.²² McNemar's tests were used for paired responses. When reporting 95% confidence intervals, the CSAMPLE module of Epi-Info 6.04c was used to control for clustering of patient data within dental practitioner.²³ Consent bias was examined.

Frequencies and corresponding percentages were calculated for patient responses to pre-consultation questionnaire items. Univariate analyses were undertaken to determine the relationship between patients' preferences of oral health advice from their dentist. Logistic regression models were undertaken for two outcome variables:

- Self-reported smoking status of patient ('never' versus other responses)
- Knowledge that smoking is a cause for the development of heart disease, lung cancer, oral cancer, delayed healing of mouth wounds ('yes' versus other responses) but not dental caries ('no' versus other responses).

Study variables for these models included: gender, age, self-reported smoking status, marital status ('married' versus other), language spoken at home ('English' versus other), higher education ('university or college degree' versus other) and whether other smokers were reported in the household ('yes' versus 'no').

Response bias was examined for patients' willingness to have a questionnaire posted to their home and for completing the post-consultation questionnaire. Frequencies and corresponding percentages next were calculated. Univariate analyses were undertaken for patients' smoking status and recall of being asked a specific question about their smoking status during their recent consultation. Comparisons were made with smoking detection and quit advice rates reported by dentists practising in the study region.⁵

SPSS for windows was used for logistic regressions.²⁴ A manual backwards elimination procedure used whereby the least significant explanatory variable was removed in succeeding models until only significant variables (5% significance level) remained. When examining bivariate relationships, the CSAMPLE module of Epi-Info 6.04c was used to control for the clustering of patients within dental practitioner. These relationships are expressed as odds ratios with 95% CI which have taken account of intra-cluster dependencies. A generalised estimating equations (GEE) approach was adopted when estimating odds ratios and associated confidence intervals for the regressions using a STATA statistical package (V5.0).²⁵

RESULTS

Dentist and patient recruitment

Of 135 eligible dentists practising in Central Sydney, 78 (58%) consented to participate. There was no significant difference in gender, self-reported smoking, age, year since graduation, practice type and work load between consenting and non-consenting dentists.

A total of 2,451 patients were approached to participate during the study period. Of these, 1,009 were ineligible for the study (293 non-English speaking; 163 too young or too old; 37 forgot reading glasses; 68 physically or mentally unwell; 209 dental practice restraints; 158 had participated previously; 81 other reason). Of those 1,442 eligible patients, 1,160 agreed to participate (80% response rate). Younger patients were significantly more likely to agree to participate than older patients (85% versus 81%) ($\chi^2 = 4.18$, $df = 1$, $P = 0.04$). The number of patients recruited per dentist ranged from 1–73 (median = 16, mode = 27).

Pre-consultation patient questionnaire

Table 1 summarises socio-demographic characteristics of the 1,160 participants. The age range of the sample was 18 to 94 (median = 42 years; mode=37 years). Due to an administrative oversight, we ascertained gender only for 900 respondents (76%). Of these, 377 were males (42%) and 523 were females (58%). The majority of patients reported having a regular dentist ($n = 948$; 82%) and being a patient of their regular dentist for more than 12 months ($n = 857$; 74%).

Of the sample, 302 (26%) (95% CI:23.6% to 28.6%) were self-reported current smokers. Those never married, living with a smoker and speaking English within the home each independently increased the likelihood of a patient having ever smoked (Table 2).

Patients' knowledge of smoking related health conditions

($n=1,160$)

A majority of respondents correctly indicated that smoking was a risk factor for the development of lung cancer ($n=1,056$, 91%), heart disease ($n = 1,095$, 94%) and cancer of the mouth ($n = 860$, 74%). Significantly fewer patients knew the risks of smoking associated with cancer of the mouth than lung cancer (McNemars

$\chi^2 = 126.55$, $df=1$, $P < 0.001$) or heart disease (McNemars $\chi^2 = 196.55$, $df = 1$, $P < 0.001$). Just under half correctly indicated that smoking delays healing of mouth wounds ($n = 570$, 49%) but few correctly identified that smoking does not increase the risk of oral caries ($n = 145$, 13%).

Patients' views regarding dentists' provision of smoking advice ($n = 1,160$)

Patients' views about dentists' provision of smoking cessation advice are summarised in Table 3. Smokers ($n = 186/302$) were significantly less likely than non-smokers ($n = 661/858$) to hold positive views about dentists' interest in their smoking status (62% versus 77%) (OR = 0.48, 95% CI: 0.36 to 0.63) and discussing smoking (smokers: $n = 145/302$, non-smokers: $n = 568/858$) (48% versus 66%) (OR = 0.47, 95% CI: 0.37 to 0.60). However, most patients would not change dentist if asked about their smoking status opportunistically during every visit ($n = 708$, 61%). Further, similar proportions of current smokers ($n = 179/302$) and current non-smokers ($n = 529/858$) (59% versus 62%) (OR = 0.91, 95% CI: 0.67 to 1.22) held this view.

'Stage of change' and previous quit attempts

Nearly half of the smoking patients ($n = 139/302$, 46%) were not seriously considering quitting ('pre-contemplation'). Only 79 smokers ($n = 79/302$, 26%) were considering quitting ('contemplation') and 41 ($n = 41/302$, 14%) had made an attempt to do so ('preparation'). The distribution of 'stage of change' for dental patients was not significantly different from that determined for a community sample of residents of Central Sydney ($\chi^2 = 0.80$, $df = 2$, $P = 0.67$).²⁶ A majority of ex-smokers ($n = 205/287$, 71%) had sustained their abstinence over the past 6 months ('action').

When smokers were asked which strategies they had used in the past six months to assist them to quit smoking, significantly more responded that they had attempted to quit 'cold turkey' ($n = 87/302$, 29%) than used nicotine replacement therapy ($n = 42/302$, 14%) (McNemars $\chi^2 = 20.38$, $df = 1$, $P < 0.001$). However, nearly one fifth of smokers attempting to quit had tried by gradually cutting down ($n = 58/302$, 19%), an ineffective

Table 1 Socio-demographics of participating patients seen in 78 dental practices in Sydney, Australia ($n = 1160$)

		N	%*	1996 Census % ²⁸
The characteristics of participating patients				
Age	18–39	500	43	37
	≥ 40	619	53	41
Language spoken (home)	English	401	35	66
	Other	752	65	44
Marital status	Never married	284	24	38
	Married/ defacto	666	57	45
	Other	172	15	13
Education	Did not complete primary	6	< 1	
	Completed primary	617	53	
	University/college degree	468	40	
	Other	62	5	
Employment status	Employed	817	70	
	Not in labour force	326	28	
Patient dental utilisation				
Do you have a regular dentist?	Yes	948	82	
	No	203	18	
How long have you been a patient of your regular dentist?	< 12 months	127	11	
	≥ 12 months	857	74	
	No regular dentist	135	12	
Is this the first time ever that you have seen this dentist?	Yes	138	12	
	No	1,013	87	
How long have you been a patient of the dentist you are seeing today?	< 12 months	344	30	
	≥ 12 months	801	69	

* Where data missing, cells do not add up to 100%

Table 2 Univariate and binomial generalised estimating equations (GEE) analysis: odds of having ever smoked

Variable	Univariate odds ratio (adjusted for clustering)	GEE odds ratio adjusted association
<i>Language</i>		
English	1.00	1.00
Other	1.19 (0.94–1.46)	1.41 (1.10–1.82)
<i>Marital</i>		
Ever married	1.00	1.00
Never married	1.20 (0.87–1.63)	1.39 (1.02–1.91)
<i>Living with a smoker</i>		
No	1.00	1.00
Yes	4.67 (3.57–6.11)	5.07 (3.80–6.76)

strategy.²⁷ Less than 5% of smokers had used self-help smoking group/clinic, written manual/book, drugs, hypnosis, acupuncture or a support group.

Smokers' views about smoking cessation advice in dentistry (n = 302)

Smokers' had low 'expectations' about smoking cessation advice in dentistry (Table 3). Further, with respect to 'strategies', while a majority would appreciate their dentist advising them about the effects of smoking on oral health, significantly fewer were positive about dentists' provision of practical advice about how to stop smoking (64% versus 41%) (McNemars $\chi^2 = 28.3$, $df = 1$, $P < 0.001$) or being given written information (64% versus 39%) (McNemars $\chi^2 = 24.6$, $df = 1$, $P < 0.001$). Less than one third of all smokers surveyed would try to quit if their dentist suggested they do so ($n = 90/302$, 30%, 95% CI: 25% to 35%). While 40% of smokers ($n = 120/302$) were considering quitting or had made an attempt to do so ('contemplation' or 'preparation'), only about a third of these would try to quit if their dentist advised them to do so ($n = 44/120$, 37%).

Post-consultation patient questionnaire

Response rate

Of 1,160 patients who completed pre-consultation questionnaires, 849 (73%) agreed to have a post-consultation questionnaire forwarded to their home. Univariate analyses demonstrated that non-smokers were significantly more likely than smokers to agree to being posted a post-consultation questionnaire (75% versus 68%) (OR = 1.42, 95% CI: 1.08 to 1.87), as were older patients (≥ 40) compared with younger patients (OR = 1.56, 95% CI: 1.06 to 2.30). Further, non-English speaking patients were also significantly more likely than English speaking patients to agree to being posted a post-consultation questionnaire (OR = 2.44, 95% CI: 1.77 to 3.36).

From those 849 who agreed, 623 (73%) returned post-consultation questionnaires. Smokers were significantly less likely than non-smokers to return post-consultation questionnaires (60% versus 77%) (OR = 0.44, 95% CI: 0.31 to 0.63) as were younger patients compared with older patients (64% versus 80%) (OR = 0.45, 95% CI: 0.33 to 0.63). Male patients were also significantly less likely to return post-consultation questionnaires than female patients (67% versus 78%) (OR = 0.57, 95% CI: 0.41 to 0.78).

Respondents' views about smoking advice provided by dentist (n = 623)

Table 4 summarises patients' responses to seven statements regarding their most recent consultation. Significantly more smokers agreed with the statement that 'dentists should not be giving smoking cessation advice' than non-smokers (33% versus 20%) (OR = 1.97, 95% CI: 1.25 to 3.11).

Table 3 Patients' and smokers' responses to statements about smoking cessation advice by dentists: pre-consultation questionnaire

Patients' responses to five statements (n=1,160)	N	%*
<i>I would expect my dentist to be interested in the smoking status of his/her patients</i>		
Agree + strongly agree	847	73
Neither	148	13
Disagree + strongly disagree	92	8
<i>I would expect my dentist to discuss smoking with their patients</i>		
Agree + strongly agree	713	61
Neither	225	19
Disagree + strongly disagree	149	13
<i>I would change to another dentist if the dentist asked me about my smoking this visit</i>		
Agree + strongly agree	47	4
Neither	145	13
Disagree + strongly disagree	883	76
<i>I would change to another dentist if the dentist asked about my smoking every visit</i>		
Agree + strongly agree	173	15
Neither	192	17
Disagree + strongly disagree	708	61
<i>I think that smoking advice provided by dentists to their patients should be covered by insurance</i>		
Agree + strongly agree	533	46
Neither	331	29
Disagree + strongly disagree	212	18
Smokers' responses to eight statements (n = 302)		
Smokers' expectations	N	%*
<i>I would expect my dentist to discuss my smoking every visit</i>		
Agree + strongly agree	51	17
Neither	71	24
Disagree + strongly disagree	160	53
<i>I would expect my dentist to discuss my smoking this visit</i>		
Agree + strongly agree	68	23
Neither	90	30
Disagree + strongly disagree	123	41
<i>I would appreciate my dentist helping me to stop smoking</i>		
Agree + strongly agree	86	28
Neither	102	34
Disagree + strongly disagree	94	31
Smokers' views about specific strategies		
<i>I would appreciate my dentist advising me about the effects of smoking on my oral health</i>		
Agree + strongly agree	192	64
Neither	44	15
Disagree + strongly disagree	48	16
<i>I would appreciate my dentist giving me practical advice about how to stop smoking</i>		
Agree + strongly agree	125	41
Neither	61	20
Disagree + strongly disagree	96	32
<i>I would appreciate my dentist giving me written information about quitting</i>		
Agree + strongly agree	117	39
Neither	72	24
Disagree + strongly disagree	93	31
<i>If my dentist referred me to a GP, I would go</i>		
Agree + strongly agree	71	24
Neither	94	31
Disagree + strongly disagree	118	39
<i>If my dentist suggested that I quit smoking, I would try</i>		
Agree + strongly agree	90	30
Neither	96	32
Disagree + strongly disagree	99	33

* Where data missing, cells do not add up to 100%

Table 4 Patients' responses to seven statements regarding preventive dentistry: Post-consultation questionnaire (n = 623)

Patients' responses	N	%*
<i>Dentists should be interested in all health issues relevant to their patient</i>		
Agree + strongly agree	395	63
Neither	92	15
Disagree + strongly disagree	123	20
<i>Patients want their dentist to take an interest in all health issues relevant to them</i>		
Agree + strongly agree	345	55
Neither	118	19
Disagree + strongly disagree	140	22
<i>Dentists should provide good oral care, nothing more</i>		
Agree + strongly agree	190	30
Neither	49	8
Disagree + strongly disagree	368	59
<i>Dentists should not be giving smoking cessation advice</i>		
Agree + strongly agree	141	23
Neither	113	18
Disagree + strongly disagree	348	56
<i>Dentists should take care of oral health issues only and doctors should take care of other general health issues</i>		
Agree + strongly agree	232	37
Neither	97	16
Disagree + strongly disagree	282	45
<i>Dentists do not know how to stop patients smoking</i>		
Agree + strongly agree	158	25
Neither	213	34
Disagree + strongly disagree	221	35
<i>Many dentists themselves smoke</i>		
Agree + strongly agree	128	21
Neither	343	55
Disagree + strongly disagree	110	18

* Where data missing, cells do not total 100%

Patients' recall of dentists' smoking status detection

Of 623 patients who returned post-consultation questionnaires, only 117 (19%) recalled that their dentist had asked about their smoking status during their most recent consultation. Recall of this question was significantly higher among smokers ($n = 40/124$) compared with non-smokers ($n = 77/499$) (32% versus 15%) (OR = 1.55, 95% CI: 0.96 to 2.51). The proportion of patients who recalled a specific question about their smoking status did not differ from the proportion of Central Sydney dentists who previously reported 'always' asking this question of patients (19% v 14%) ($\chi^2 = 1.80$, $df = 1$, $P = 0.18$).⁵

Smokers' recall of smoking advice provided by dentist during most recent consultation (n = 124)

When asked to recall which smoking cessation advice strategies were provided during their most recent dental consultation, less than one third of smokers recalled each of ten strategies (Table 5). Smokers were significantly more likely to recall receiving advice about the oral health effects of smoking rather than the next most commonly recalled strategy, namely advice to quit (McNemars $\chi^2 = 8.52$, $df = 1$, $P < 0.01$).

Nevertheless, the percentage of smokers' recall of advice about the effects of smoking on their oral health was significantly higher than the proportion of Central Sydney dentists who reported 'always' providing this advice to patients (32% v 14%) ($\chi^2 = 10.03$, $df = 1$, $P = 0.001$).⁵ However, smokers' recall of advice to quit was not significantly different from the proportion of Central Sydney dentists who reported always providing this advice (19% v 13%) ($\chi^2 = 1.32$, $df = 1$, $P = 0.25$).⁵

Table 5 Smokers' recall of ten smoking cessation strategies delivered by dentists during their most recent consultation: Post-consultation questionnaire (n = 124)

Dentist behavioural advice	N stating 'Yes'	%	95% CI
Tell you about the effects of smoking on your oral health	37	30	18 – 46
Advise you to quit smoking	22	18	11 – 27
Tell you about the health risks due to smoking	17	14	6 – 23
Suggest nicotine replacement therapy	6	5	1 – 10
Give hints on how to stop smoking	5	4	1 – 8
Suggest you set a 'quit' date	5	4	1 – 8
Offer anything to read about giving up smoking	4	3	1 – 7
Give advice on how to 'cut down'	4	3	1 – 7
Refer to a GP to discuss smoking	3	2	0.3 – 5
Refer to a clinic or anti-smoking group	3	2	0.4 – 6

Overall, only 35% ($n = 44/124$) of smokers recalled any type of smoking cessation advice from their dentist during their recent consultation. There were no independent predictors of recall of smoking advice. Recall of any smoking cessation advice strategy by smokers considering quitting ('contemplation') was low, only 16% ($n = 13/79$) reported such advice. Further, only four ($n = 4/41$, 10%) smokers who had made a quit attempt ('preparation') recalled any smoking cessation advice strategy.

DISCUSSION

Our method involving pre- and post-consultative questionnaires of patients attending community-based dental practice has generated unique data about perceptions and recall of smoking cessation advice by their dentists. First, the majority of patients seen in dental practices have a long-term (> 12 months) relationship with a regular dentist indicating that dentists are ideally suited to provide smoking cessation advice. Further, a majority of respondents expected their dentist to be interested in all health issues ($n = 395/623$, 63%). Only a minority agreed that dentists should not provide smoking advice ($n = 141/623$, 23%). That significantly fewer patients knew that smoking was a cause for oral cancer compared with the proportion who knew the association between smoking and other diseases, demonstrates the potential for public health intervention.

Encouragingly, most dental patients (smokers and non-smokers) in our survey ($n = 708/1160$, 61%) would not change to another dentist if asked about smoking opportunistically at every visit. It seems that dentists' fears that smoking advice may alienate patients may be unwarranted.⁵ Australian and Canadian dentists perceive that their patients' motivation to quit smoking mitigates their provision of smoking advice.^{5,15} Less than one third of all smokers surveyed would try to quit if their dentist suggested they do so ($n = 90/302$, 30%). This low acceptability of Australian smokers to a 'quit message' delivered by their dentist appears to substantiate Australian dentists' fear about lack of smokers' motivation to quit.

Our study is among the first internationally to determine rates of dentists' provision of smoking advice by linking patient recall to a specific consultation. Smokers reported low rates of detection of their smoking status from their dentist ($n = 40/124$, 32%). Further, few smokers reported that their dentist advised them to quit ($n = 22/124$, 18%). Only 5% ($n = 6/124$) of smokers recalled that their dentist suggested nicotine replacement therapy, despite promising evidence of its impact on cessation.⁷ Very few smokers amenable to the quit message, that is in a 'contemplative' or 'preparation' stage-of-change, recalled any smoking cessation advice strategy during their index consultation. These results reflect findings from the UK^{9,28} and demonstrate the persistent reluctance of dentists to provide smoking cessation advice despite recent calls from within the profession for them to do so.

Our results invite reflection. While randomised controlled trials (RCTs) have been conducted to evaluate educational programmes for dentists to enhance their provision of smoking advice,^{1,29–31} it seems premature to embark on such programmes in the absence of more compelling evidence of what will make a real difference in patient outcomes. While patient alienation may not be a major barrier to smoking cessation advice by dentists, our findings suggest a disturbing lack of confidence among patients in their dentist's ability to provide effective smoking cessation advice. Over one third of our respondents ($n = 213/623$, 34%) were unsure of whether their dentist knew how to stop patients from smoking. Further, when asked, 'if my dentist suggested that I quit, I would try', less than one third agreed. With such low expectations, it is not surprising that office-based dental interventions, similar to those reported in the United States,^{2–3} have failed.

Therefore, we support the argument, proposed elsewhere,¹² that the efficacy of non-medical clinicians such as dentists in the delivery of smoking cessation advice needs to be proven conclusively through better trials. We recommend well-designed randomised-controlled studies to determine the acceptability and effectiveness of smoking cessation advice in diverse dental settings in various healthcare systems. Studies such as that by Smith *et al.*⁴ serve as a reminder that this field is fraught with barriers and disincentives. In the absence of more compelling evidence however, dentists will justifiably resist any calls to provide smoking cessation advice to their smoking patients.

Methodologically, we recognise that our sample may be biased as a result of achieving relatively modest consent rates from dentists and that of their patients. Of 135 dentists approached, only 78 (58%) consented to participate and, while 1,160 patients completed pre-consultation questionnaires, we received only 623 post-consultation questionnaires (54%). Further, smokers were significantly less likely to return post-consultation questionnaires, suggesting that our findings about the current rates of smoking cessation advice rates may be an over-estimate. Smokers who did not return questionnaires may have felt no need to do so if their dentist failed to raise the issue of smoking in the consultation. However, as self-reported smoking rates of dental patients in our sample ($n = 302/1160$, 26%) were consistent with population-based data, we are confident in the generalisability of smokers' views ascertained in our survey to the broader community.²⁶ We also cannot exclude the possibility that dentists modified their provision of smoking cessation counselling during the study, although this would appear unlikely in light of previous evidence.³² Patient expectations and recall may have been heightened as a result of their completion of pre-consultation questionnaires, however in the absence of validation studies this remains speculative.

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