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Perceptions of Malaysian Dental Students on Their Role in Smoking Cessation

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ABSTRACT

Aim: The quantitative cross-sectional study was to explore the perceptions of fourth year undergraduate students enrolled on the Doctor in Dental Surgery Programme at a private University in Kuala Lumpur, Malaysia regarding their role in smoking cessation. This baseline assessment will inform the development of evidence-based lessons that can address gaps in knowledge and skills around smoking cessation as a dental intervention. *Materials and Methods*: All thirty-three fourth year dental students, who incidentally were the pioneer group in the Programme, were invited to participate. Participation in the study was voluntary. These students had completed training in smoking cessation and were in clinical practice. Selfadministered questionnaires were used to collect data on demographics, smoking behaviour, attitudes to smoking cessation in the dental practice and perceived competency in delivering smoking cessation. *Results*: Findings revealed that most students (83.9%) endorsed the practice of smoking cessation. About three-fifths (58.1%) felt they had sufficient training in counselling patients to stop smoking. However less than quarter (22.6%) thought they could convince their patients to quit smoking, implying they did not perceive themselves as competent in smoking cessation advice. *Conclusions*: On this basis, the present training for smoking cessation is deemed insufficient for the dental students to effectively deliver smoking cessation interventions and further training is needed.

Key Words: Dental students, Role, Smoking cessation, Perceptions, Training

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INTRODUCTION

Oral health in Malaysia has shown marked improvement over the past three decades. Respective dental epidemiological surveys of adults (15 years and above) by the Dental Division, Ministry of Health Malaysia has highlighted a reduction of dental caries and longer retention of teeth among adults.[1-3] Similar improvements have however not been realised of gingival conditions. In the 1990 and 2000 dental epidemiological surveys on adults in Malaysia, only 7.2% and 9.8% of the adults examined were free from periodontal disease. Also of concern are oral cancers. In 1998, oral cancers were the cause of 7.1% of deaths in the Ministry of Health facilities.[4]

In the same year, retrospective records of a large public hospital in Penang showed that lip and oral cavity cancers accounted for about 3% of cancer admissions and that more than 80% presented at stages three and four.[5] Changing lifestyle, in particular smoking, has been known to contribute to poor periodontal health.[6]

Smoking, one of the biggest threats to health is rapidly increasing in developing countries.[7] Althoughprevalence has been reducing in developed nations, it has been rising in developing countries including Malaysia.

The prevalence of smoking for Malaysians aged 15 years and above has increased from 21% in 1985 to 31% in the year 2000. In 2006, 52.6% of male adults and 2.6% of female adults in Malaysia smoked as compared to 56.5% for male adults and 4.8% for female adults in the Western Pacific region.[8]

In 2003, a survey in Malaysia indicated that 40% of adolescent males and 11.5% of adolescent females were smoking. The number of male and female youth smokers in Malaysia was the highest in the region.[9] A study in Malaysia also highlighted

that secondary schoolchildren had access to cigarettes despite the fact that it is illegal to sell cigarettes to people below 18 years of age.[10]

Smoking cessation activities are a part of tobacco control programmes in Malaysia. Taxation, advertising bans, smoke-free policies, health warnings and health promotion are some of the current strategies in place. Alongside these population level interventions, there is also the need to address the smoking behaviour of individuals. In 2003, it was reported that 43% of smokers in Malaysia had attempted to quit smoking on their own, but were mostly unsuccessful.[11] Another study found that 87.3% of students in Negeri Sembilan, Malaysia who smoked and had tried to quit, were unsuccessful.[10]

Smoking cessation is one of the most cost effective methods of improving health and prolonging lives.[7] In Malaysia, current tobacco cessation programmes are led by doctors. However the Ministry of Health recognizes the need for other health professionals to participate and treat smokers in hospitals, clinics or pharmacies (Ministry of Health, Malaysia, 2003.[11] This is based on the assumption that health professionals have prerequisite knowledge, attitudes and skills to support smokers in stopping smoking indefinitely. Given that smoking is an activity carried out in the oral cavity, dental surgeons are in a good position to detect smokers and therefore should lead on smoking cessation programmes.[12,13] In the USA, tobacco cessation efforts in the dental practice have evolved steadily[14] and dental surgeons are considered to be as effective as physicians in tobacco cessation.[15,16]

The general consensus from dental professionals themselves is that they should be actively involved in smoking cessation.[17-21] This is the case in Malaysia as well. AzaFazura found that 69.1% of dental surgeons in Selangor and Kuala Lumpur considered their role in smoking cessation important.[22] Likewise, Ibrahim and Norkhafizah noted that a high proportion (98.8%) of dental surgeons Kelantan, Malaysia agreed that they had a significant role in tobacco cessation.[23] However their involvement was rather limited with 31% not enquiring at all about their patient's smoking status; 17.8% not providing smoking cessation counselling; 20.2% not explaining about the health risks of smoking and 21.4 % not offering advice or motivation to stop smoking. A UK based study also found that few dental surgeons provided advice on smoking cessation.[20]

Lack of training in smoking cessation has been cited as a major reason for not practicing smoking cessation.[20,23] Lack of time, inadequate knowledge and counselling skills among dental surgeons were also identified as important barriers to delivering smoking cessation.[20,22,23] In a Malaysian study, only 4.8% of dental surgeons thought their counselling was effective and attributed this lack of confidence to insufficient training and knowledge.[23] Relatedly,37% of dental surgeons in Saudi Arabia regarded their counselling as not effective.[21] Research in Jordan highlighted that only 38.3% of dental surgeons thought they could convince their patients to quit smoking.[19] It has been suggested that education programmes should be organized for dental surgeons, to train them on smoking cessation techniques and interventions in their daily work.[19,24]

The dental surgeon's smoking status is relevant to his or her effectiveness in their role in smoking cessation. The smoking behaviour of dental surgeons can influence the delivery of cessation in clinical practice. Dental surgeons who were non-smokers or ex-smokers were more likely to educate their patients on the harm of smoking than dental surgeons who were smokers.[25] Similar studies in the United Kingdom have demonstrated that dental surgeons who smoke were less likely to counsel patients on smoking cessation than non-smoking dental surgeons.[17,26,27]

Several international studies have been conducted on dental students and smoking cessation. An American study wasconducted at New York University College of Dentistry with[24] fourth-year dental students to investigate their smoking cessation attitudes and practices.[28] It was found that while students endorsed smoking cessation practices, there were perceived barriers to provision. Students did not consistently provide counselling, with 69% asking on smoking status, 58% advising smoking cessation, 24% giving assistance and 22% arranging follow-up on a routine basis. Those who offered more counselling had a greater belief in the dental surgeon's role in the promotion of smoking cessation and did not feel that time was a barrier. The study demonstrated the high receptivity of dental students to smoking

cessation as a dental intervention and supports the necessity for including comprehensive training in the dental curriculum.

In 2006, a study in Japan on dental students found that having the tobacco cessation component in the dental curriculum had an impact on the attitudes of the students towards a no-smoking policy, with better results among non-smokers.[29] The study demonstrated that this education was effective in reducing smoking rates significantly among the students from 35% in 2003 to 26% in 2006. The reduction was found to be due to preventing smoking initiation rather than giving up smoking. In a Greek study, the dental school has been shown to be a promising platformfor education of dental professionals on tobacco control and cessation techniques.[30] Research demonstrated that more knowledge and belief in smoking cessation counselling among the students led to better attitudestowards smoking cessation practice in Belgium.[31] This study recommended that besides imparting knowledge, attitude towards the importance of smoking cessation activities should also be stressed.

The aim of the current study was twofold: 1) to explore the perceptions of fourth year Malaysian dental students on their role in smoking cessation. As evidence has suggested that training of dental professionals in smoking cessation can be inadequate and considering that these students were the pioneer group of dental students on a new dental programme, it was imperative to determine if current provision within the dental curriculum was sufficient and 2) to redress the current gap in the evidence base. A review of literature indicates that few studies relating to this topic have been conducted specifically on undergraduate dental students; current studies tend to be on qualified dental surgeons. As the dental surgeons of the future, current dental students should have the mind-set and skills to take the lead in the role against smoking cessation. Study findings will be used to make recommendations in the training for the Doctor in Dental Surgery degree course regarding smoking cessation at the University.

MATERIALS AND METHODS

A quantitative cross-sectional survey was administered in November 2011. The study was undertaken to obtain baseline assessments on the dental students who had been exposed to the dental curriculum on smoking cessation. Ethical approval for the study was obtained from the Research Ethics Committee of Liverpool John Moores University and the Research Review Committee of MAHSA University.

Participants and Procedure

The group of dental students selected for the study were fourth year students enrolled on a five year Doctor in Dental Surgery programme at a private University in Kuala Lumpur, Malaysia. The students hadreceived some training specific to smoking cessation and were currently in their clinical practice. With the training, the students were expected to counsel patients on smoking cessation at the clinics in the third, fourth year and fifth years.

A briefing was given three days prior to distribution of the questionnaires to explain the aim of the study and to ensure confidentiality of data collected. The entire class of thirty-three students were given the questionnaires during didactic teaching. The questionnaires were self-administered and anonymous. Of the thirty-three questionnaires distributed, thirty-one were returned giving a response rate of 93.9%.

Survey Instrument Tool

The structured questionnaire was designed by the lead author and written in English. It included four sections: sociodemographic profile of the respondents; smoking as a health issue; smoking cessation in the dental practice and the perceived competency of the dental students in smoking cessation. To measure responses, a 3-point scale of ‘agree’, ‘neither agree nor disagree’, and ‘disagree’ was used. The decision to use a three-point rather than a 5-point Likert scale was because of the relatively small sample size (n=33). If the results were dispersed over five choices, there would be limited opportunity for inferential statistical analysis as the numbers associated with each choice would be small. This would weaken the study as the conclusions would not be concrete. Validation of the questionnaire was done by a panel of dental experts. Their opinions and recommendations were considered and modifications for improvement were made accordingly. The questionnaire was then pre-tested with a group of fourteen staff members

to rule out ambiguities and iron out procedural problems.

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) software version 16.0 was used for statistical analysis. Data from the questionnaires was coded for entry into the database. Descriptive statistics were used to generate characteristics of the sample. For the variables, percentages were generated based on the number of respondents.

RESULTS

Table 1. Socio-demographic characteristics of the respondents (n=31)

Variables	Number (%)	Mean (SD) / Range
Age (years)		
Mean (SD)		23.3 (1.23)
Range		21 - 26
Ethnic Group		
Chinese	15 (48.4%)	
Indian	8 (25.8%)	
Malays	5 (16.1%)	
Others	3 (9.7%)	
Gender		
Male	13 (41.9%)	
Female	18 (58.1%)	
Smokers		
Total	6 (19.4%)	
Male	4 (66.7%)	
Female	2 (33.3%)	

Socio-Demographic Characteristics of Respondents

The socio-demographic profile of the respondents is shown in Table 1. The age of the respondents ranged from 21-26 years, the mean age being 23.3 years (SD 1.23). In this sample, the Chinese were the majority (48.4%) of subjects compared to others. In this group, 19.4% were smokers and 80.6% non-smokers. Of the six smokers, 66.7% were males and 33.3% females.

Smoking as Health Issue

The responses of the dental students to smoking as a health issue are illustrated in Figure 1. All the dental students agreed that smoking was harmful to general health while 90.3% agreed that smoking was harmful to oral health.

Smoking Cessation in the Dental Practice

The responses of the dental students towards smoking cessation in the dental practice are shown in Table 2. The majority of students (87.1%) agreed that dental surgeons who recognized patients as smokers have a duty to inform them of the smoking cessation options available. The majority (83.9%) also agreed that dental surgeons should be involved in smoking cessation andshould set a good example to the community by not smoking. About half of the students (51.6%) agreed that dental patients would expect advice on smoking cessation from the dental surgeon and that the setting of the dental clinic did facilitate delivery of advice on smoking cessation. However only a minority (16.1%) of the students agreed that counselling in smoking cessation could be profitable to the dental practice.

Perceived Competency of the Dental Students in Smoking Cessation

The responses of the dental students towards their perceived competency in delivering smoking cessation are shown in Table 3. The majority of students (71.0%) felt they had enough knowledge about smoking cessation while about half (58.1%) thought that they had sufficient training in counseling patients on smoking cessation. However, only a minority of students (22.6%) were confident that they could convince their patients to quit smoking.

DISCUSSION

The aim of this study was to ascertain fourth year dental students' perceptions of their role in smoking cessation with a view to informing curriculum and improving practice. There were some limitations in this study. First, as the data was collected by selfadministered questionnaires, the students may have wanted to present their responses more favourably and there was no assurance that the questionnaires were completed by the respondents themselves. Secondly, although total populationsampling was used, the sample size for the study was small and findings may not reflect the perceptions of dental students in other institutions.

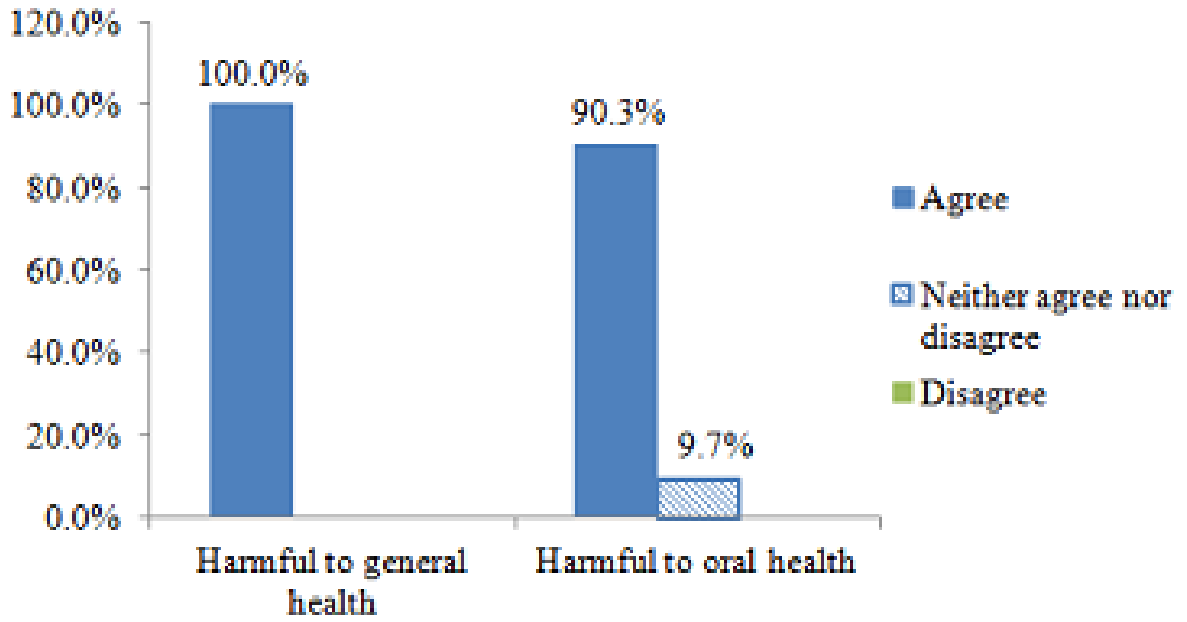

Figure 1. Smoking as a health issue

All the dental students acknowledged that smoking was harmful to general health (100%, n=31). The majority (90.3%, n=28) agreed that smoking was harmful to oral health. More than four-fifths (83.9%, n=26) of the students perceived they should be involved in smoking cessation. This finding concurs with previous national and international studies around dental professionals involvement in smoking cessation.[17-23] In light of Yip et al's (2000) finding that dental students who had provided counselling had more favourable beliefs about the dental surgeons' role in promoting smoking cessation, it is imperative that dental students understand and assimilate the belief that smoking cessation is a critical function in dental practice.[28] Students should be trained to consider that dental care institutionalizes prevention including smoking cessation and it is "bad dentistry" if interventions are not instituted when needed.[32]

The majority of students (83.9%. n=26) agreed that they should set a good example to the community by refraining from smoking. This finding was similar to Burgan's study whereby the majority (86.8%) of Jordanian dental surgeons agreed that they should be non-smoking role models.19By not smoking, the dental surgeon reinforces the patient's motivation to remain or become tobacco-free and does not impede the patient's desire to stop smoking which can be reduced when they see healthcare professionals smoking.[19,27] Moreover, non-smoking dental surgeons are more likely to educate their patients against smoking and implement interventions towards a smoke-free environment in the dental practice.[17,25-27] A study on dental students also found that the students who did not smoke had more positive attitudes towards no-smoking policies than those who smoked.[29] Essentially for health improvement initiatives to be effective, dental surgeons and other health workers should themselves refrain from smoking. Such evidence highlights the importance of being smoke-free dental surgeons and stresses the necessity of addressing the smoking behaviour of dental students who smoke.[26,29] As such, it is recommended that Quit Smoking Clinics, which do not currently exist on the campus be established to assist students to give up smoking.

About half (51.6%, n=16) of the dental students agreed that dental patients expect advice on smoking cessation from the dental surgeon which mirrors research done in the United States which found that dental patients expect dental surgeons to inquire on their tobacco usage.[33] The link between smoking and oral health makes it relevant for dental surgeons to be involvedalthough the evidence from the patients' perspective is inconclusive.[34] In astudy by Campbell, Sletten and Petty, it was found that 58.5 % of the 3,088 patients surveyed believed that dental surgeons should offer tobacco cessation services.[33] Patients who were

interested in quittingsmoking were more comfortable receiving tobacco cessation counselling than those who were not interested (59.7%versus 39.4%, $p < .01$). Increasing awareness of the risk smoking has on oral health should be a prerequisite for dental surgeons treating patients and such knowledge must be included in their training curriculum. Additionallyto maximise effectiveness, dental students should learn to assess individual patient's readiness to change their smoking behaviour and provide appropriate and tailored strategies to facilitate behaviour change.

About half (51.6%, n=16) the dental students perceived that the setting of the dental clinic facilitates delivery of advice on smoking cessation. As health is salient in the dental clinic, the setting is conducive for delivery of advice on smoking cessation.[33] However this does not always appear to be the case. Ibrahim and Norkhafizahfound that 42.8% dental surgeons in Malaysia did not provide relevant reading material and described their involvement in in smoking cessation as 'rather limited'.[23] The undergraduate training programme should emphasize the advantages that dental health setting offers in facilitating smoking cessation and ensure that the students capitalise on it.

A minority of dental students (16.1%, n=5) perceived that smoking cessation could be profitable to the dental practice. As smoking cessation is not included in the scale of fees for treatment provided at the Faculty of Dentistry at the University, the students mayperceive it as a service that does not generate remuneration. Lack of remuneration was identified as a major barrier to practicing smoking cessation interventions by dental surgeons.[20,35] There have been suggestions that smoking cessation interventions be integrated and charged with other services where smoking would affect its treatment. It is common practice to integrate the time spent in smoking cessation with the treatment of periodontal disease, which is linked to smoking.[36,37] The dental students should be informed that this can be done and the misconception that smoking cessation activities are not profitable be rectified. The students should also appreciate that benefits in smoking cessation activities are large in terms of preventing smoking related diseases especially oral, cardiovascular, pulmonary and neoplastic diseases.[9,36,38] There are also savings in terms of reduced medical costs to the individual and to society.[39] Counselling on smoking cessation has also been shown to be cost-effective when done by health professionals as it usually requires repetition.[40]

The majority of dental students (87.1%) agreed that dental surgeons have a duty to counsel patients that smoke. This figure is slightly higher than that of Ibrahim and Norkhafizah'sMalaysian study in which 79.8% of dental surgeons did explain the health risks of smoking to patients.[23] It is considered a professional responsibility to advice all dental patients who smoke about the harmful effects of smoking and the options available in smoking cessation.[13] This should be enforced in the clinical years of training.

Given that the subjects of the study were fourth year dental students in their clinical years and were expected to counsel their patients who smoked, it is worrying that just a small majority (58.1%, n=18) perceived themselves sufficiently trained in counselling patients on smoking cessation. Also a small minority (22.6%, n=7) perceived themselves to be able to convince their patients to quit smoking. Although 71.0% (n=22) affirmed they had enough knowledge on smoking cessation, a further study needs to be conducted to probe into what specific knowledge and skills are needed to improve delivery of smoking cessation in dental practices. Studies in Malaysia have identified inadequate knowledge, a lack of counselling skills in smoking cessation and a lack of training opportunities in which to practice such skills when considering smoking cessation as a dental intervention in Malaysia.[22,23] Globally comprehensive training in smoking cessation is considered both necessary and important for dental surgeons[19,20,22-24] and can ideally be embedded into the undergraduate dental curriculum as receptivity is high.[28,29-31]

CONCLUSION

In conclusion,the study findings indicate that in general the dental students in this cohort acknowledge the significance of the dental surgeon's role in smoking cessation. However only a minority perceived themselves to be able to convince their patients to quit smoking and a small majority perceived themselves to be sufficiently

trained in smoking cessation. The findings suggest that the present training was insufficient to develop these students, the future dental surgeons of Malaysia, as key players in smoking cessation. Given that lack of training has been attributed as a significant reason for poor engagement in smoking cessation by dental surgeons, there is a critical need to improve the current provision of training around smoking cessation as well as providing smoking cessation support for the dental students who smoke themselves.

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