Prevalence of Smoking among Dental Students in Universiti Sains Malaysia (USM)

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ABSTRACT

Background: Smoking has long reported to cause oral cancer. Dental professionals are responsible to advice on both smoking cessation and prevention as the effects of smoking are easily identify within the oral examination. This however may develop some conflict if they themselves own a habit of tobacco use.

Aim: This study is to determine the prevalence of smoking among dental student in Universiti Sains Malaysia (USM) and the factors associated with their smoking habit.

Methods: Data on smoking habits, smoking factors, cessation plan and sociodemographic status were collected and analysed using SPSS version 24.0.

Conclusions: Less than 7% of total undergraduate dental students at USM is a current smoker. All of them are well-addressed about the awareness and cessation of smoking habits from the dental school curriculum and university's program. However, having close friends who are smokers may influence the smoking habits.

Keywords: Smoking, dental students, oral cancer

Tob Regul Sci. ™ 2023;9(1): 550-561

DOI: doi.org/10.18001/TRS.9.1.41

1. Introduction

The tobacco epidemic is one of the biggest public health threats the world has ever faced, killing more than 7 million people a year. More than 6 million of those deaths are the result of direct tobacco use while around 890 000 are the result of non-smokers being exposed to second-hand smoke [1]. Smoking was reported to linked with respiratory, cardiovascular and neurological disease and also linked to psychological state disorders[2]. It is also responsible for most cancer incidence in ASEAN countries in 2012 [3]. In relation to dentistry, smoking has long reported to cause oral cancer [4] which is known as the sixth most common cancers in the

world [5]. The role of dentists in the prevention of smoking and smoking cessation is of vital importance. Tobacco use is very common among ASEAN's population [3]. Despite of continuous campaign on health-related issues associated with tobacco use, the prevalence of smoking has been reported to be increased every year. At present, it was reported that 121 million of adult smoker in ASEAN country which contributed to 10% of world population smokers [6]. Malaysia was reported to contribute to 21% of adult smokers population in South East Asia countries [7] with average of 12 cigarettes per day [8]. Recent trends suggest that young adults (aged 18-29) are susceptible in developing regular smoking behaviour [9]. Beside manufactured cigarettes, the use of waterpipe tobacco is currently common in this age group [10]. University students are usually from this age group, so they have high risk of picking up smoking habits due to factors like sociodemographic, social and environmental. Dental professionals are well positioned to provide their patients with advice on both smoking cessation and prevention because of frequent patient encounters and the easy identification of the oral effects of patients' tobacco use. This however may develop some form of conflict if the healthcare providers themselves own a habit of tobacco use. Thus, a study was conducted to assess smoking habit among dental students in Universiti Sains Malaysia. This study allowed us to determine the prevalence of dental students who smoke and determine any sociodemographic, personal and social and environment factors that associated with their smoking habit.

2. Materials and Methods

This was a cross sectional study carried out in the School of Dental Sciences, Universiti Sains Malaysia (USM) to determine the prevalence of smoking among dental students and associated factors contributing to the habit. Our study involved a total of 92 respondents among the undergraduate dental students from Year 1 to Year 5. Questionnaires which was adopted from Centres for Disease Control and Prevention (CDC) Youth Tobacco Survey (YTS) 2011 and some optional questions from the Current Youth Tobacco Survey which was last revised in 2002 were distributed randomly using the convenience sampling technique and being answered by participants him/herself within the data collection period. The statistical analysis was done using SPSS version 24.0. Descriptive statistics was used to summarise the socio-demographic characteristics of subjects. Categorical data presented in frequency and percentage while mean and standard deviation had been used to present numerical data. Chi-Square test was used to determine the risk of associating factors on smoking habits. The significance level was set at 0.05 and logistic regression analysis was used to compute the odd ratio with 95% confidence interval.

3. Results

Of 242 registered undergraduate dental students from Year 1 to Year 5, 92 students had been randomly selected and completed the questionnaires for this research.

3.1. Demographic Characteristics

Table 1 presents the respondents distribution by age, sex, race, year of study, their original residency and extra pocket money. The results showed that all the respondents were within the age group of 19 to 25-year-old. As depicted in Table 1, the majority of the respondents were Chinese (50%), followed by Malay (33.7%), Indian (10.9%) and others (5.4%).

3.2. General Smoking Habits

The overall smoking prevalence was 6.5% (6 smokers out of 92 respondents) and all of them are male. 83.3% or 5 smokers were Malays and another one is an Indian student. However only half of them smoke daily (smoking at least a cigarette sticks per day). The mean age of when they first tried to smoke was 15.83 indicating during their secondary school studies (Table 2).

Regardless of similar distribution shown between urban and rural students who smoke, data showed there was almost 10 times higher probability of students from rural area to start smoking ($p<0.05$). The data also suggests that those who have close friends who smoke, increased in tendency to smoke by 10 times (OR = 10.286) (Table 3).

Table 1: Demographic characteristics of study subjects.

VARIABLES	FREQUENCY (PERCENTAGE, %)
AGE (yrs)	0 (0)
19-25	92 (100)
Above 25	0 (0)
GENDER	
Male	39 (42.4)
Female	53 (57.6)
RACE	
Malay	31 (33.7)
Chinese	46 (50.0)
Indian	10 (10.9)
Others	5 (5.4)
YEAR OF UNDERGRATE STUDY	
Year 1	17 (18.5)
Year 2	16 (17.4)
Year 3	34 (37.0)
Year 4	14 (15.2)
Year 5	11 (12.0)

ORIGINAL RESIDENCY	
Village	11 (12.0)
Small Town	32 (34.8)
City	49 (53.3)
EXTRA POCKET MONEY	
None	3 (3.3)
Less than RM5	1 (1.1)
RM5- RM20	6 (6.5)
RM21- RM50	10 (10.9)
RM51- RM100	39 (42.4)
RM101-250	21(22.8)
More than RM250	12 (13.0)

Table 2: Descriptive characteristic of smokers.

VARIABLES	FREQUENCY (PERCENTAGE, %)
SMOKING STATUS (n=92)	
Current smoker	6 (6.5)
Ex-smoker / Non-smoker	86 (93.5)
**VARIABLES BELOW ONLY INVOLVE SMOKERS (N=6)	
Gender	
Male	6 (100.0)
Female	0 (0)
RACE	
Malay	5 (83.3)
Chinese	0 (0)
Indian	1 (16.7)
Others	0 (0)
YEAR OF STUDY	
Year 1	1 (16.7)
Year 2	2 (33.3)
Year 3	1 (16.7)
Year 4	2 (33.3)
Year 5	0 (0)
ORIGIN AREA	
Village	3 (50.0)

Small town	0 (0)
City	3 (50.0)
EXTRA POCKET MONEY	
None	1 (16.7)
Less than RM5	1 (16.7)
RM5- RM20	1 (16.7)
RM21- RM50	2 (33.3)
RM51- RM100	1 (16.7)
RM101- RM250	0 (0)
More than RM250	1 (16.7)
MEAN(SD)AGE WHEN FIRST TRIED CIGARETTE SMOKING	**15.83 (2.858)**
NUMBER OF CIGARETTES SMOKED PER DAY (LAST 30 DAYS)	
Not smoking any	3 (50.0)
Less than 1 cigarette per day	0 (0)
1 cigarette per day	1 (16.7)
2-5 cigarettes per day	2 (33.3)
6-10 cigarettes per day	0 (0)
11-20 cigarettes per day	0 (0)
More than 20 cigarettes per day	0 (0)

Table 3: Factors associated with smoking habits among dental students in USM.

Variables	Odd ratio	Pearson Chi- square	df	p-value
SOCIODEMOGRAPHIC FACTORS				
Sex	2.606	8.723	1	0.005
Race	11.538	7.079	1	0.016

Area of origin / residency	9.750	8.825	1	0.021
PERSONAL FACTORS				
Academic achievements (pass/fail)	1.012	0.071	1	1.000
Phases of study (pre-clinical/ clinical)	1.867	0.557	1	0.663
Stress level (high / low to moderate)	0.662	0.216	1	1.000
Start smoking due to curiosity	0.059	6.339	1	0.127
SOCIAL AND ENVIRONMENTAL FACTORS				
Smoking close friends	10.286	9.049	1	0.013
Smoking family members				
a. Mother	1.012	0.071	1	1.000
b. Father	1.233	0.034	1	1.000
c. Older siblings	1.950	0.345	1	0.471
d. Younger siblings	0.833	14.491	1	0.065
Parents told not to smoke	0.549	0.496	1	0.681

4. Discussion

Our study revealed that 6.5% of the respondents reported that they are smoker and smoke manufactured cigarettes. Half of them are occasional smokers (absence of smoking for the past 30 days). As the Health Sciences Campus, USM is a 'tobacco-free' campus, a 6.5% prevalence is considered a big number considering dentistry is a health related course which the students will be pursuing a career where a good platform of smoking cessation and raising awareness stand. However, a higher prevalence was also reported by several studies involving dental students worldwide. A study in Saudi Arabia reported a result of 17% of their dental students are smokers [11], which is almost similar to the studies from other countries such as Jordan (17.2%)[12] and Iran (22%)[13]. A lower prevalence of smokers was reported in studies conducted in Thailand (2.5%) and Sri Lanka (1.0%) [14]. Findings from our study clearly showed lower prevalence of smoking when compared to general adult population which was 46.4% [15]. A study on practise and perception of smoking among medical students in Malaysia also reported 22% of the respondents are smokers [16].

4.1.Smoking habits among dental students and possible risk factors

4.1.1 Association between sociodemographic backgrounds to smoking habit

Smoking rate between male and female was found to be significant when 15.4% of male respondents are smokers while none from female group. This was consistent with the findings of most of the studies among dental students and populations worldwide. Even there is a chance of non-reported female smokers, lower smoking rate among female may be probably suggest the cultural reluctance for females to smoke especially in this Asean region [17].

Malay and an individual originate from rural area was reported to have higher tendency of picking up smoking habits [15]. Findings from population-based study from other Asean country like Thailand, China and Korea also revealed smoking rate was higher for respondents from rural area [18-20]. It is possibly due to lower exposure to anti-smoking campaign in school, targeted marketing by tobacco industry [21] and lacking of parents restriction and control. It was reported that the mean age of picking up the smoking habits was around 15 to 16 years' old which simply means during their teenagers' life in secondary education period. Peer influence, curiosity, having family members who smoke were among the factors causing an individual in the age group of 14-18 to get attracted toward smoking habit and become an addict for the rest of his or her life [22,23].

4.1.2. Association between personal factors to smoking habit

Our study showed there was no significant difference in personal factors such as academic achievements, phases of study and stress level in picking up smoking habits. Our finding (p=0.663) was consistent to a few studies conducted in Saudi Arabia [11], Italy [24], and Australia [25] which also revealed smoking rates was about the same between students from different phases of study in dental school. On the other hand, senior students from different educational level were reported to have higher smoking rate due to stress induced by exams, social responsibilities and failure to graduate. Seeking for relaxation was one of the reasons why they smoke [26, 27]. Although several studies have pointed out to stressful academic nature in dentistry and academic achievement of students may affects the smoking rate, our study however showed no significant impact (p=1.000) of these factors in relation to smoking habit development. The research conducted in UK [28] and South Africa [29] however reported about 50% of students claimed that stress had been the main reason of picking up the habit and act as the obstacle for them to quit [30]. Picking up smoking out of curiosity is not one of the factors that showed a significant difference (p=0.127) which only 16.7% of them answered "yes" in our research questionnaire. This was consistent with the study done in Saudi Arabia (14.7%) [11].

4.1.3. Association between social and environment factors to smoking habit

Addiction toward the habits started from school life or having close friends who smoked could be the reason why the 6.5% of smokers among the samples continue to smoke. From our study, it

was found that having close friends who smoke showed significant difference with the smoking habit . Cigarette smoking while spending time with their close friends during their leisure time and surrounding peer pressure could be the explanation why this factor plays an important part in smoking habit. This was reflected in our study where there is a 10 times higher tendency of an individual to smoke when their close friend is smoking (OR= 10.3, 95% CI). A similar finding was reported in Saudi Arabia where they found that having close friends who smoke was associated with approximately 4 times the odds of being a smoker [11], while study done by Merdad et.al (2007) reported there was 5-fold possibility of a medical students to become a smoker when their close friend are smokers [31].

Among all the respondents, only 14% of their fathers smoked, 9.8% of elder siblings who smoked, and only 1.1% having a smoking mother and younger sibling. Smoking habit from parents and siblings has no significant difference with smoking habits among our respondents. These findings were against the studies from Nepal which reported a significantly higher proportion of active smokers among those having parents who are smokers (55.1%) [32], and India (P- 0.009) [33]. Students who did not received any advice from parents regarding avoidance from smoking habits also did not show any significant difference to the prevalence (p=0.681). This might be due to own awareness of the students regarding the bad effects of cigarette smoking, thus not picking up any smoking habit.

In our study, we found that 4 out of 6 smokers among dental student in our sample have desire to quit cigarette smoking for good. Thus, this research was a good start to identify the smokers and prepare them for smoking cessation programmes under the hospital at our university. The curriculum for dentistry course in USM incorporated a module in dental public health regarding smoking cessation and awareness and is given in third year of study onwards where the students are required to plan smoking cessation counselling for the community or patient. Therefore, the baseline knowledge of knowing how to quit smoking among our students was already adequate and there is almost no gap exists between the knowledge of tobacco health risks and level of training in tobacco counselling among dental students here in USM. Our school curriculum is much contrast with findings by Centres of Disease Control and Prevention (2005) [34] and by Warren et.al. (2011) [35] which they found that most of dental students believed that public tobacco usage is not well addressed in the current college curriculum, and they need special training in smoking cessation.

Similar to a study published by Alsuwailem et.al. (2014), the limitation of manual questionnaire survey regarding the smoking habits among individuals includes the issue of denial and under-reported information may be encountered despite of full confidentially as promised in consent form. For example, females tend to claim themselves as non-smoker due to the cultural unacceptability. Online survey regarding this sensitive issue generally has higher reliability and validity according to some studies which demonstrated high internal consistency reliability [36,

37]. Online survey also can ease the researcher to approach and collect data without the need to meet the respondents personally.

4.2. Conclusion

Dental professional has a big role in prevention and control of tobacco use by raising awareness and carry out intervention among community regarding smoking cessation. However, there might be a conflict when him/herself is a smoker. Dental students are actually well aware of the short and long term bad effect towards themselves and people around them, thus more encouragement and support is required for them to be more determine in quitting the habit before entering their working life. The only manipulatable factors was having close friends who smoke in this study which acts as an obstacle for the respondents from quitting.

Acknowledgement

The authors would like to thank the Human Research Ethics Committee of Universiti Sains Malaysia for approval of this study (JEPeM code: USM/JEPeM/ 18010052).

Conflict of interest

None.

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