Changing Habits and Attitudes Towards Smoking Among Future Physicians

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SUMMARY

This study was conducted to asses the future physicians' habits, knowledge and attitude towards smoking. These factors influence the credibility of future Malaysian physicians as advocators and treatment providers. A cross sectional study was carried out among medical students at the Medical Faculty, University Malaya. Knowledge on smoking was evaluated on the total scores for knowledge questions, with one point and zero for each correct and incorrect answer respectively, to a maximum of six potential points. Attitude towards smoking was measured by summation of scores on attitude items; each item was scored from five points for "against smoking" and one point for "favourable to smoking". The possible score ranged from 10 to 50. The response rate was 79.4%. Prevalence of overall smokers was 4.4%. The mean knowledge score among smokers (4.30 ± 2.17) was significantly lower than non-smokers (5.19 ± 1.28). The mean attitude score was higher among non-smokers (44.30 ± 6.54) than smokers (39.86 ± 10.93). The result from this study showed that smoking prevalence was lower compared to previous studies done in Malaysia.

KEY WORDS:
Future physicians, Habits and attitudes, Smoking

INTRODUCTION

Cigarette smoking is recognised as a serious public health problem. Malaysia's national smoking prevalence was 21.5% in 1986[1] and later increased to 24.8% in 1996[2].

Generally, physicians receive scientific information on smoking and health more frequently than the general public. They also witness personally the effects of smoking on their patients. Despite this, smoking prevalence among Malaysian physicians is much higher than that of the general population of 24.8% (24.1-25.6%) in 1996[2]. Even so, this reported prevalence has reduced from 50% among male military physicians[3] to 28.3% among male medical physicians working at University Sains Malaysia (USM) in 1991[4]. Smoking prevalence for female physicians is low, as evidenced from the USM study of 2.5%[4].

Physicians are regarded as the most likely persons from whom advice on smoking would be accepted by smokers and non-smokers[5,6,7]. The prevalence of smoking among physicians is a good indicator of their willingness to recognize smoking epidemic and its health related problems. As such, high prevalence of smoking among physicians would not be effective in advising others to quit smoking[6,7]. As aptly stated by Australian researcher Robyn Richards "…… health workers should look at themselves before trying to convince others to quit smoking"[6]. Advice from a physician to stop smoking has been identified as one of the leading strategy to reduce tobacco use. However, the issue of tobacco use is less likely to be discussed if the physicians themselves are smokers[6,7]. The effectiveness of health advice about the hazards of tobacco use will be further reduced if patients observed the physicians smoke[5,7]. From the two Malaysian studies, physicians who were smokers were less enthusiastic in advising and discussing about smoking cessation with their patients[3,4].

As future physicians, medical students' habits and attitude towards smoking and tobacco control measures will have much influence in their future work. The credibility of our future physicians as advocators and treatment providers for smoking and its related diseases are influenced by these factors. This study's main objective is to assess the future physicians' habits and attitude towards smoking.

MATERIALS AND METHODS

This cross sectional study was conducted from January till June 2005. All medical students registered for the 2004/2005 academic session in the Faculty of Medicine University Malaya main campus were sampled. Clinical students who were undergoing their elective training were excluded from this study, due to logistics reasons.

Medical students were surveyed using a self-administered questionnaire. The questionnaires were handed to the students during lecture sessions. All respondents were assured of anonymity and confidentiality.

The questionnaire included demographic details, year of study, knowledge on smoking and attitude towards smoking. Smoking refers only to cigarette smoking. The use of other tobacco products, such as pipe, cigar and snuff were not considered. Medical students who had smoked at least once up to the time of survey that might include medical student who had been just tried smoking, ex-smoker, regular or occasional smoker were defined as ever smoker. Current smokers were those who were smoking at the time of survey and had smoked more than 100 cigarettes in their lifetime. Those who had smoked more than 100 cigarettes in his/her

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lifetime before but had stopped smoking at the time of survey were considered as ex-smokers and those who had never smoked in his/her lifetime were never smokers. Knowledge on smoking was evaluated on the total scores for knowledge questions with one point and zero for each correct and incorrect answer respectively. A maximum of six potential points was obtained if a respondent answered all knowledge questions correctly. Attitude towards smoking was measured by summation of scores on attitude items; each item was scored from five points for "against smoking" and one point for "favourable to smoking". With a total of ten questions, the possible total attitude score ranged from 10 to 50.

Pre-testing of questionnaire was carried out prior to the actual study among a group of undergraduate science students. These students were not included in the actual study. Unclear questions were rephrased and modified before the conduct of the study.

Data was analysed by using the Statistical Package for Social Sciences (SPSS Version 11.0). Statistical analysis was performed by describing the characteristics of respondents. Proportions were summarized as percentages and any differences were tested using the Chi-square test. Continuous variables were summarized as means and standard deviation and any differences were tested using the independent t-test. Statistical significance was defined as $p < 0.05$.

RESULTS

A total of 481 medical students were studied. The response rate was 79.4% (481/606). Table I shows the distribution of respondents by their socio-demographic characteristics. The respondents comprised of more females (60.9%) than males (39.1%). Malays constituted majority of the responders (50.5%), followed by Chinese (39.2%), Indians (6.0%) and others (4.3%). In terms of marital status, the majority of respondents were single (98.5%).

The overall prevalence of smokers (current and ex-smokers) was 4.4% among the respondents – 1.6% current smoker and 2.7% ex-smoker. Smoking rate was much higher among the males (3.7%) than among females (0.7%). This difference is statistically significant ($p < 0.001$). The distribution of ethnic group was similar among the smokers and the non-smokers. Higher prevalence of smokers was observed as the students' progressed in their curriculum years. The prevalence of smoking among the clinical year students were higher (2.5%) than the non-clinical years (1.9%) as shown in (Figure 1). Table II showed some characteristics of the current smokers. Most of them had been smoking for more than five years. Among the current smokers, majority (50.0%) identified "friends" as their source of first cigarette and being curious was their main reason for first tried smoking. Fifty percent of the current smokers had made at least one serious attempt to quit smoking. Majority of the current smokers expressed their inability to refuse cigarettes offered by friends as the main reason on their failed attempt to quit smoking.

The mean total knowledge scores of respondents were as shown in Table III. There were statistically significant differences between curriculum year, smoking habits and sex with the mean knowledge score. The mean knowledge score among clinical year students were higher (5.36 ± 1.38) than their pre-clinical counterparts (5.04 ± 1.31). Never smokers also showed higher mean knowledge score than smokers with (5.19 ± 1.28) and (4.30 ± 2.17) respectively.

The comparisons of mean total attitude scores between curriculum year, smoking habits and sex were presented in Table IV. Ten tobacco attitude items were assessed with scores ranged from 10 to 50. A lower score indicates a more favourable attitude towards cigarette smoking (a negative attitude). Only smoking habits and sex variables showed statistically significant difference in the crude analysis.

DISCUSSION

It is important in public health terms that future physicians have appropriate values and attitudes towards tobacco and tobacco control[5]. Smoking among future physician is a barrier to implementing cessation intervention since service providers are keys to initiating, designing and implementing intervention programmes. Even if these physicians assess smoking status and provide advice, they may not be seen as credible if their patients know they smoke[5,6,7]. Thus, medical students' habits and attitude towards tobacco and tobacco control will have vast influence on their future work.

Our study revealed that the future physicians' smoking prevalence was 4.4%. This prevalence had declined, based on previous studies conducted in Malaysia. Pathmanathan in 1972 noted that the smoking prevalence of medical students in University Malaya was 20.3%, with 62.9% regular smokers[8]. Further decline was seen in 1987. A study by ML Wong reported that smoking prevalence among University Malaya medical students was 10.0%[9]. A more recent published data by Yaacob (1994) revealed that the smoking prevalence of Malaysian male medical students was 9.0%[10].

It would be imperative to say that if smokers are aware of the hazardous effect of smoking, they will refrain from smoking. As medical students progress through their course, their knowledge on smoking and adverse health effects of smoking increases. They are generally well informed that smoking is a health hazard. This was evidenced by their high mean knowledge score. Sadly this knowledge did not deter them from smoking, as it was shown that the clinical year students smoked more than those in the non-clinical years. This trend is similar in all medical schools worldwide – supporting the evidence that young people with good knowledge underestimate the addictiveness of nicotine[11,12]. The proportion of smokers who made a serious attempt to quit was low in our study population. Again, this could be attributed by the addictive properties of nicotine. Tobacco is powerfully addictive and its dependence is caused by nicotine, an alkaloid, which is contained in all tobacco products including manufactured cigarettes in substantial quantities. The absorption of nicotine by the blood is very rapid, it is quickly distributed to the brain and its effects on the central nervous system are manifested almost instantaneously. Both humans and animals studies have shown that nicotine is a potent psychoactive drug. High doses can lead to intoxication and death; but at doses typically obtained from tobacco products, nicotine is

Table I: Sociodemographic characteristics of respondents by smoking status

Characteristics	Current Smoker No. (%)*	Ex-smoker No. (%)*	Never smoke No. (%)*	p - value
Age (years)				
Less than 20 years	-	-	6 (1.3)	
20-24 years	6 (75.0)	9 (69.2)	393 (85.5)	0.389
25-29 years	2 (25.0)	4 (30.8)	60 (13.0)	
30 years and above	-	-	1 (0.2)	
Sex				
Male	6 (75.0)	12 (92.0)	170 (36.9)	<0.001
Female	2 (25.0)	1 (8.0)	290 (63.1)	
Ethnic group				
Malay	5 (62.5)	5 (38.5)	233 (50.7)	
Chinese	1 (12.5)	6 (46.1)	182 (39.6)	0.017
Indian	1 (12.5)	1 (7.7)	26 (5.7)	
Others	1 (12.5)	1 (7.7)	19 (4.0)	
Marital status				
Single	8 (100.0)	13 (100.0)	453 (98.5)	<0.001
Married	-	-	7 (1.5)	
Place of resident before attending the course #				
Rural	2 (25.0)	8 (61.5)	174 (37.8)	
Urban	4 (50.0)	5 (38.5)	261 (56.7)	<0.001
Overseas	1 (12.5)	-	-	
Total	8 (100.0)	13 (100.0)	460 (100.0)	

*Numbers in parenthesis are percentages in columns.
-Missing values

Table II: Characteristics of current smokers among medical students (n=8)

Characteristics	No. (%)*
Source of first cigarette	
Parents	2 (25.0)
Friends	4 (50.0)
Not sure	2 (25.0)
Reason for first tried smoking	
Curiosity	6 (75.0)
Stress	1 (12.5)
Other reasons	1 (12.5)
Years of smoking	
≤5 years	3 (37.5)
>5 years	5 (62.5)
Ever make a serious attempt to quit smoking?	
Yes	4 (50.0)
No	4 (50.0)
Reasons for failure to quit smoking	
Inability to refuse cigarettes	4 (50.0)
Smoking helps to work better	1 (12.5)
Smoking relieve boredom/tension	1 (12.5)
Other reasons	2 (25.0)

Table III: Mean total knowledge score among respondents

Variable	Mean (S.D)	p-value
Sex		
Male	4.90 (1.53)	≤ 0.01
Female	5.31 (1.17)	
Year of study		
Pre-clinical	5.04 (1.31)	0.01
Clinical	5.36 (1.38)	
Smoking status		
Smoker	4.30 (2.17)	≤ 0.01
Never smoke	5.19 (1.28)	

Six tobacco used knowledge items, total items score ranged from 0 - 6

Table IV: Mean total attitude scores among respondents

Variable	Mean (S.D)	p-value
Sex		
Male	42.72 (7.90)	≤ 0.01
Female	44.99 (5.94)	
Year of study		
Pre-clinical	43.97 (6.48)	0.62
Clinical	44.30 (7.66)	
Smoking status		
Smoker	39.86 (10.93)	≤ 0.01
Never smoke	44.30 (6.54)	

Ten tobacco used attitude items, total items score ranged from 10 to 50.

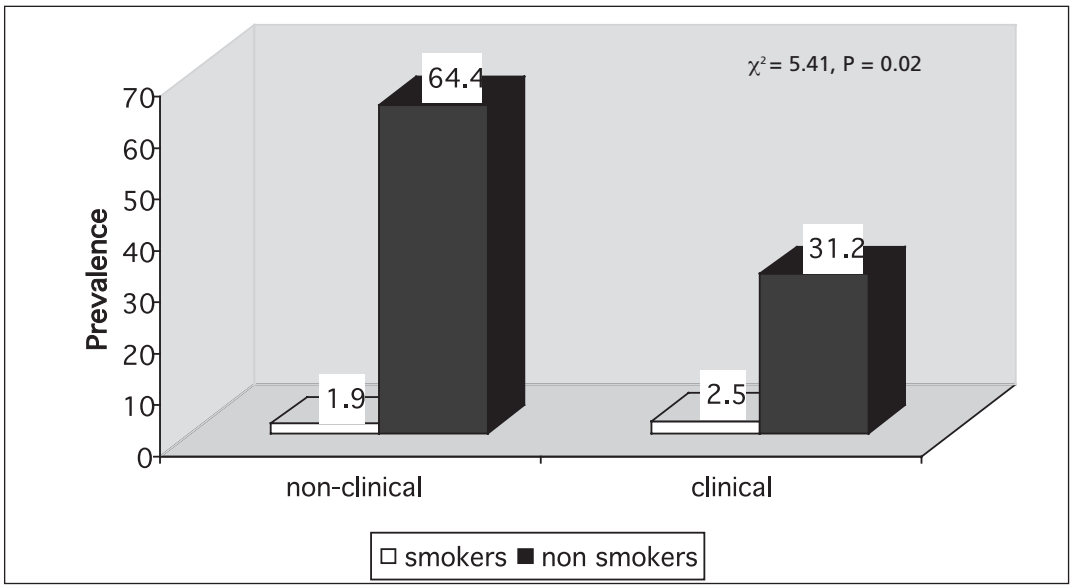

Fig. 1: Smoking status among clinical and non-clinical students

responsible for much of the pleasure and satisfaction obtained by tobacco users. Nicotine can produce dependence through the activation of nicotine receptors in the central nervous system[13,14,15]. Tobacco use is woven into everyday life, and can be physiologically, psychologically, and socially reinforcing. Many factors combine with tobacco's addictive capacity to make quitting difficult, including media depictions, cultural and societal acceptance of tobacco use[15]. Once started, a smoker often becomes pharmacologically dependent on smoking and may progress along the continuum from habit to psychological dependence[14].

Patterns of smoking among male and female medical students differ. The lower smoking prevalence among female medical students was similar to the findings of other similar studies in Malaysia and elsewhere[2,4,9,16,17,18,19]. This difference is mainly

due to traditional, social, and cultural factors. In our society, it is still considered improper and indecent for females to be seen smoking in public. Other factors associated with cigarette smoking include smoking behaviour of friends[8,20,21]. This was shown in our study whereby among the current smokers, friends were identified as the first source of cigarette. Being curious and to relieve stress were some of the reasons that medical students smoked. Similar factors were noted in studies conducted elsewhere[8,20,22].

Attitude towards smoking illustrate people's acceptance towards smoking[23,24]. Measuring attitudes of future physicians enables us to understand the social acceptance of smoking among them. Our results revealed that smokers scored lower or had a more favourable attitude towards smoking than the never smokers. Males reported more tolerance towards smokers than their female counterparts. Similar findings were reported by studies done among college students in China and USA[24]. This concurs with the fact that majority of smokers in our population are males.

The findings of this study must be interpreted with the consideration of possible limitations and errors. This survey relied on self-reports of smoking behaviour without objective biochemical measurements such as by testing for cotinine in the saliva. With various healthy lifestyle campaigns carried out in Malaysia, those respondents who are knowledgeable about the health effects of smoking and the awareness of societal expectations, may likely to under report smoking. Smoking among females is still considered improper in Malaysian community. Due to these negative socio-cultural connotations; female respondents might underreport their smoking habit if they were smokers. To minimise non-response and under reporting, respondents were assured that the information obtain would be confidential. This survey applied only to cigarette smoking and not to total tobacco use such as cigars or smokeless tobacco, e.g. chewing tobacco, snuff which can be in dry form of nasal snuff or moist form of oral snuff as well as other smokeless tobacco product.

In conclusion, smoking prevalence among future physicians is lower compared to previous studies done in Malaysia. However, more needs to be done to ensure that our future physicians are knowledgeable, have adequate skills and proper attitude in tobacco control measures.

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