

**PREVALENCE AND DETERMINANTS
OF CIGARETTE SMOKING AMONG MEDICAL STUDENTS
IN MOSUL - IRAQ**

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Introduction

The harmful consequences of smoking on health have been well documented⁽¹⁾. Tobacco is already the biggest cause of adult death in developed countries⁽²⁾. Smokers lose at least one decade of life expectancy, as compared with those who have never smoked⁽³⁾. The risk of death from cigarette smoking continues to increase among women and the increased risks are now nearly identical for men and women, as compared with persons who have never smoked⁽⁴⁾.

Tobacco use kills more than 5 million people per year. It is responsible for 1 in 10 adult deaths. Among the greatest risk factors for mortality, it is the single most preventable cause of death⁽⁵⁾.

Studies showed that 70% of smokers want to quit smoking completely, and 46% try to quit each year, more than 70% of smokers visit a health care setting each year and effective treatments of tobacco dependence now exist⁽⁶⁾.

The first step in treating tobacco use and dependence is to identify tobacco users. Brief interventions can be provided by any clinician but are most relevant to primary care clinicians. The evidence-based, updated guideline published in the USA public health service report shows that interventions as brief as three minutes can increase cessation rates significantly⁽⁶⁾. Longer advice has even greater impact and there is a strong dose-response relationship between the intensity of tobacco dependence counseling and its effectiveness.^(6, 7)

However, it is established that smoking physicians are less likely to initiate cessation interventions⁽⁸⁾.

Data on the smoking habits of medical students is of particular interest. As doctors, they will be responsible for providing health care to the population and can influence the future health policies of their country⁽⁹⁾.

Medical students are more open to suggestions while still in their training period so they seem to be a better target of anti-smoking actions than senior doctors⁽¹⁰⁾.

Because of their extreme importance, risk factors for youth smoking have been widely analyzed through studies conducted in developed countries as well as in some developing countries^(11, 12).

Among important risk factors are the environmental factors such as parents' smoking and friend's smoking and socio-economic factors such as parents' education and occupation^(13, 14). Other risk factors include personal factors such as type of personality and low self esteem and behavior factors such as lack of skills to resist offers of cigarette^(15, 16).

The aims of the present study were to estimate the prevalence of smoking among medical students in Mosul College of medicine and to assess factors that

may play role in the initiation of their smoking and to identify factors that may stand behind the failure of their attempts to quit smoking.

Methods

The department of community medicine in the Mosul college of medicine – University of Mosul, Iraq conduct a survey about cigarette smoking among medical students as part of the research–teaching course for the fourth year medical students.

The present study, with direct interview conducted with medical students, in the fourth and fifth grades using questionnaire that designed especially to collect data about cigarette smoking among medical students, was conducted between 10 May and 31 May 2007. Participants were asked about their gender, age, residence, current smoking. Students reporting current smoking were further asked about the age of initiation of smoking, duration of smoking, number of cigarettes smoked per day, presence of smoker member among family or friend, occurrence of health problems, living in the university hostels and effect of smoking on the financial status. In addition, questions were also asked about the attempts to quit smoking and the assumed causes of failure. To achieve the statistical analysis, 95% confidence intervals of proportion were used.

Results

During the study period, 292 medical students, 220 male and 72 female, answered the questionnaire of total 400 asked students, corresponding to a response rate of 73%. The overall prevalence of reported cigarette smoking was 17.9%. All females were non-smokers (and therefore not included in the further analysis), whereas 23.6% of the male students reported smoking.

The median age of the male participants was 22.5 year. The majority of male students reported urban residence (93.8%)(Table 1).

The median age for initiation of smoking was 20.2 years and the median duration of smoking was 2.3 years. Occurrence of signs of health problems that may be attributed to smoking was reported in 40.4% of smoking students, in most cases, they were minor such as bad mouth odor and tooth discoloration. Cough was also reported, however, neither chest pain nor shortness of breath were reported. Among these current smokers, 67.3% had at least one previous unsuccessful attempt to quit smoking (Table 2).

Stress in general was perceived as the reason for failure to quit smoking in 55.5%. The corresponding effect of friends and family were 16.4% and 5.7% respectively, whereas a combination of more than one factor was reported in 11.9% of failure to quit smoking. For the remaining 10.5% failures the specific cause remained unknown.

Among factors for initiation of smoking, presence of a smoking friend was seen in 98.1% of cases of current cigarette smoking. Smoking by either the

father or the brother or both was also studied and among the current cigarette smokers' students, 71.2% had a smoker male family member.

Living in the university hostel was another factor thought to be related to initiation of smoking and more than half of the currently smoking students started smoking when they lived away from their families and joined the university hostel (Table 3). On the other hand, stress of the study in the medical college had no effect on the initiation of smoking.

Table (1) Basic characteristics of the study participants (males)

Character (no.=220)	no. (%)
Age (years)	
<22	8(3.6)
22	94(42.7)
23	93(42.3)
24	16(7.3)
>25	9(4.1)
Median age = 22.5	
Residence	
Urban	206 (93.8)
Rural	14 (6.2)
Current cigarette smoking	
Yes	52 (23.6)
No	168 (76.4)

Table (2) Basic characteristics of medical students reporting current smoking

Character(no.=52)	no. (%)
Age of initiation of smoking (years)	
< 18	10 (19.2)
18-21	36 (69.2)
> 21	6 (11.6)
Median age of initiation of smoking = 20.2	
Duration of smoking (years)	
<2	9 (18.1)
2-4	38 (74.4)
>4	5 (7.5)
Median duration of smoking = 2.3	
No. of cigarettes smoked / day	
<2	15 (28.8)
2-10	35 (67.4)
>10	2 (3.8)
Is smoking affecting your health?	
Yes	21 (40.4)
No	31 (59.6)
Is smoking affecting your income?	
Yes	2 (3.8)
No	50 (96.2)
Presence of previous attempt(s) to quit smoking	
Yes	35 (67.3)
No	17 (32.7)

Table (3) Factors for initiation of smoking

Factor	no. (%)	CI*
Presence of smoker member in the Family (father or brother or both)		
Yes	37 (71.2)	57-83
No	15 (28.8)	17-43
Presence of smoking friend		
Yes	51 (98.1)	90-99
No	1 (1.9)	0.06-1.03
Living in the university hostel		
Yes	31 (59.6)	45-73
No	21 (40.4)	27-55
Stress of medical study (initiation of smoking after joining medical study)		
Yes	23 (44.2)	30-59
No	29 (55.8)	41-70

*Using the 95% confidence intervals of proportion

Discussion

Medical students are a group that should be more aware than young people of the same age about the health hazard associated with smoking ⁽¹⁷⁾. However, results of our study showed that the prevalence of current smoking among Mosul medical students was 17.9%. This rate is lower than the prevalence rate of 21% that was reported in studies about smoking among European medical students ⁽¹⁸⁾ and close to the lower limit of reported smoking prevalence among Asian medical students, which ranged between 18% and 24% ^(19,20). The prevalence of current smoking among male medical students was 23.6%. This is somewhat lower than the prevalence of 25.7% that was estimated by WHO about smoking among male population in Iraq. The prevalence of smoking among females in Iraq in 2008 was 1.9% ⁽²¹⁾. In Sweden the prevalence of smoking was 19.6 % and 24.5 % among males and females, respectively ⁽²¹⁾. Data from this study are coherent with previous reports from the same area, were reported smoking among medical students and first year students in the University of Mosul were, 20.0% and 23% respectively, ^(22, 23). A recent study

from 2013 showed that smoking prevalence among medical students was significantly higher in Warsaw (14%) and Strasbourg (14%) compared with Teheran (3.5%)⁽²⁴⁾.

Our study showed that two thirds of current smoker students gave a history of at least one attempt to quit smoking without success, whereas a study conducted in Pakistan showed that 46% of medical students had tried to quit smoking once in their lives but without success⁽¹⁷⁾.

Quitting smoking has major and immediate benefits for smokers of all ages, benefits that occur to those who already have smoking-related diseases as well as to those who do not. At any age, smoking cessation decrease the overall risk of death, however, the reduction of risk occurs more quickly for some diseases than the others^(25, 26).

Stress, whether general stress of life or stress of study, was the number one reported cause for failure of attempts to quit smoking.

Smoking friends were frequently cited as a factor associated with smoking initiation. Following the example of friends was found to be of more importance as a reason of smoking initiation than that of family members⁽²⁴⁾. The present study showed that the presence of smoking friend was associated with the initiation of smoking and reported in 98.7% of cases. Studies from United States of America showed that smoking behavior of the adolescents' best male friends was constantly associated with the transition from non-smoking to regular smoking and from experimental smoking to regular smoking⁽²⁷⁾.

It is well known that smoking among other male family member is also associated with current smoking among boys⁽²⁸⁾. Most studies have consistently shown that parental smoking is strongly associated with youth smoking^(29, 30).

Results of the present study showed the positive association between the current smoking status and presence of a smoker member in the family, primarily the father or the brother or both.

Living in the university hostel was another factor associated with current smoking in the present study.

This was also determined in a study from Pakistan, where 45% of smokers had started after they joined university studies and lived in the university hostel⁽¹⁷⁾.

Advantages and limitations of the current study

This study fulfills its purpose to estimate the prevalence of smoking among medical students. A lot of information was collected about potential factors among study group at relatively short time. It was possible to gain a broad base of knowledge about the study sample.

This study is limited, however, by the fact that it is impossible to estimate causality in this type of studies i.e. prevalence studies.

This type of estimation needs studying of the same factors, factors for initiation of smoking in Table 3, even among the non-smoking medical students.

That is why it is difficult to establish association between these factors and smoking occurrence in this study.

The level of non-response is another concern. This can be particularly a problem if those who did not answer the questions were smokers or heavy smokers.

Conclusion and recommendation

The present study focused on the fact that the knowledge of medical students about hazards of smoking on health was not helpful in control of the smoking among 17.9% of future doctors. More effort is needed to prepare those young medical students to play their role in carrying up the basic message of medicine which is saving people lives including their own lives through adopting the most recent smoking cessation programs.

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Abstract

The Department of Community Medicine in Mosul Medical college conduct a survey about cigarette smoking among male medical students in the fourth and fifth grades. The study aimed to estimate the prevalence of cigarette smoking among students and to describe factors for initiation of smoking. The study results showed that the prevalence of smoking among the 220 male participants was 23.6% whereas all females were non-smokers. Among the current smoking students, 67.3% reported at least one unsuccessful attempt to quit smoking. Friends' smoking, male family member smoking, living in the university hostel were factors associated with initiation of smoking among the current smokers.