

Prevalence of Smoking among Male Medical Students at Majmaah University, Saudi Arabia

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Abstract

Smoking is defined as burning dry tobacco leaves and inhaling smoke from the burn. This process may be done using different forms of tobacco products, including cigarettes (Cigars, Little Cigars, Cigarillos), electronic cigarettes, and hookah (shisha). Smoking can give rise to lung diseases such as chronic obstructive pulmonary disease (COPD) and has been proven to be the underlying cause in 84% of deaths in lung cancer and 83% mortalities in COPD. This study was conducted to determine the prevalence of tobacco smoking among male students of the Majmaah University, Saudi Arabia. This cross-sectional study was performed from January to February 2020 on among medical students of Majmaah University, Saudi Arabia. A pretested questionnaire was used to collect data while the SPSS was used for data analysis. From 256 male medical students, only 113 responded to the questionnaire. The prevalence of smoking was found to be 19.5% (n=22) with most smoked cigarettes (50%). Most smokers (50 %) were in the lowest age group, 19–21 years. There was an increase in smoking with an increase in income. Of the 22 respondents who smoked, 10 started smoking when they were 14 to 17 years old. In conclusion, the study shows a low prevalence of smoking among male medical students in the College of Medicine of Majmaah University. Most smokers consume cigarettes, and the majority are not considering quitting.

Keywords: Medical students, pulmonary disease, Saudi Arabia, smoking, tobacco

Introduction

Smoking is defined as burning dry leaves of tobacco plants and inhaling smoke from this burn. This process comes in different ways, including cigarettes (Cigars, Little Cigars, Cigarillos), electronic cigarettes, and hookah (shisha).¹ Tobacco contains nicotine, a highly addictive drug.² Smoke also contains many poisonous and harmful substances that cause disease and premature death. Smoking causes 84% of deaths from lung cancer and 83% from chronic obstructive pulmonary disease (COPD). It can give rise to lung diseases such as chronic obstructive pulmonary disease.³

Recently it has been observed smoking prevalence is increasing despite the education about its negative effect, which is considered a

major risk to various diseases among adolescents. The prevalence and predictors of cigarette smoking were studied among adolescents from 34 intermediate and secondary schools in Madinah city, including 3,322 participants. Most adolescent smokers (75%) reported starting smoking before the age of 14. The risk was significantly increased among adolescents having most or all friends smoking 12.5%, some friends smoking 5.70%, both parents smoking 2.95%⁴

In Jeddah, 607 male secondary school students were asked to know the prevalence of smoking among them. The study showed that (37%) currently smoked, 83.7% had started smoking at the age of 14 years or less, and the most common reason for smoking was the influence of family, especially the presence of someone at home who smoked (65.9%) followed by the influence of friends (42.5%).⁵ In addition, there was a study in Riyadh about Smoking habits among medical students in Central Saudi Arabia, and they found that 13% of male medical students were currently active smokers, 5.3%

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were ex-smokers, and 38.2% were passive smokers. The types of smoking included shisha (water pipe device used for smoking) 44.1%, cigarettes 32.2%, and 23.7%.⁶ The most common reason for smoking behaviour was the influence of friends and life stresses.⁶⁻⁸

Several studies have reported that the prevalence of smoking increases from the first to final years among university students, underlining the importance of targeting anti-smoking activities in the early university years.^{9,10}

An international review of tobacco smoking among medical students in countries where smoking rates have been well written in local journals showed that the smoking prevalence rates below 10% of the medical student population were shown to occur in Malaysia (9%) and India, the US, and Thailand (7%), Australia (4–6%) and China (6%). However, not all studies of tobacco usage among medical students demonstrated a linear trend of increasing prevalence. The United States, for example, found that tobacco smoking rates fluctuated from 3.3% in the 1st year to 2.5% in the 2nd year and then back up to 3.8% in the third and fourth years.¹¹

The study’s objective was carried to determine the prevalence of smoking among male medical students at Majmaah University, Saudi Arabia.

Methods

A cross-sectional study to determine the prevalence of smoking among medical students of Majmaah University. The study area was the college of Medicine at Majmaah University, located 170 km north of Riyadh.

Our study was conducted on 256 male medical students. Female students were not included as it is located on a separate campus. The course of medicine period is 6 years; the first year is a preparatory year. The course of medicine period is 6 years; the first year is a preparatory year, and they were located on a different campus, so they were excluded from the study. Our study was conducted on 256 male medical students, but only 113 students responded and filled out the questionnaire.

The data were collected using pretested questionnaire and also tested with a pilot study on 30 male medical students. The questionnaire consisted of two sections, with the first section on demographic details and the second part on risk factors and prevalence of smoking. The data collection was done from January 2020 to March 2020.

Data were analyzed by a computer program using SPSS version 25; Pearson Chi-square and Fisher Exact tests were applied to observe associations between qualitative variables. A p-value of <0.05 was considered statistically significant.

The ethical approval was obtained from Majmaah University with IRB.No.MUREC. Dec18/COM-2019/14-1. Informed consent was obtained from the participants. Confidentiality, respect, and dignity are maintained throughout the research process.

Results

The results were obtained from 113 medical students studying at Al-Majmaah University, College of Medicine, and conducted from January to March 2020. Distribution of the age showed that the highest number of participants, 61 (54%) students were from the age group from 22 years to 24 years, followed by the age group 19–21, 46 (40.7%) students and the lowest participants 6 (5.3) were from 25–27 years. In addition, most of the students, 52 (46%) have a Grade Point Average (GPA) of more than 4 followed by the student who has a GPA of less than 4 to 3, 46 (40.7%), and the rest of the student 15 (13.3%) have the GPA less than 3. The economic status of the student showed that most of the students have a family income of more than 10,000,

Table 1 Demographic Characteristics of Participants

Characteristics	n=113	Percentage (%)
Age (years)		
19–21	46	40.7
22–24	61	54
25–27	6	5.3
Grade Point Average (GPA)		
2-less than 3	46	40.7
3-less than 4	52	46
4 and more		
Family Income		
Less than 5,000	17	15
5,000–10,000	15	13.3
More than 10,000	81	71.7
Marital Status		
Single	110	97.3
Married	2	1.8
Divorces	1	0.9

Table 2 Distribution of Male Medical Students of Majmaah University by Type of Smoking, Desire to Quit Smoking, and Method of Quitting Smoking

Characteristics	(n=22)
Type of smoking	
Cigarettes	11
Electronic smoking	6
Shisha	3
Cigar	1
Pipe	1
Desire to quit smoking	
Yes	6
No	16
Method of quitting smoking	
Nicotine gum	8
Nicotine inhaler	3
Nicotine patch	5
Others	6

estimated to be 81 (71.7%), followed by the student who has a family income of less than 5,000, 17 (15%) than those who have family income from 5,000–10,000, were estimated to be 15 (13.3%). Most of the students were single, 110 (97.3%), followed by the married ones 2 (1.8%), and lastly the divorced student 1 (0.9%). (Table 1) The prevalence of smoking was found to be among 22 (19.5%) male medical students.

Table 2 shows that the type of smoking used was cigarette among 11 of 22 students, followed by students who used electronic smoking 6 of 22, then followed by the student who used shisha 3 of 22. The lowest type used in smoking among medical students was cigar 1 of 22 and pipe 1 of 22 students.

There were 6 of 22 students who wanted to quit smoking and 16 of 22 students who didn't want to quit smoking. According to the student reply, the most helpful method to quit smoking is nicotine gum 8 of 22, followed by other methods 6 of 22, followed by nicotine patch 5 of 22, followed by nicotine inhaler 3 of 22.

Table 3 showed that the majority of the

Table 3 Distribution of Sociodemographic Variables Between Smokers and Non-Smokers

Sociodemographic Variable	Smokers	Non-smokers	P-value
	n=22	n=91	
Age of Participant			
19–21 years	11	35	
22–24 years	9	52	0.336
25–27 years	2	4	
Grade Point Average (GPA)			
2-less than 3	6	9	
3-less than 4	7	39	0.095
4 and more	9	43	
Family Income			
Less than 5,000	2	15	
5,000–10,000	4	11	0.565
More than 10,000	16	36	
Marital Status			
Single	21	89	
Married	0	0	0.099
Divorced	1	2	
Age of starting smoking			
Less than 13 years	3	0	
14–17 years	10	0	
18–21 years	6	0	0.000
More Than 21	3	0	
Family Member Smoking			
Yes	8	6	
No	14	85	0.065

smokers (50%) were in the lowest age group, which is 19–21 years, followed by the age group 22–24 years 19 of 22 and lastly, the age group of 25–27 years 2 of 22. The difference was not statistically significant ($p=0.336$).

Most of the student who was smoking got GPAs of 4 and more, followed by the students who got 3 - less than 4, then the students who got GPAs 2 - less than 3, they estimated to be 9 of 22, 7 of 22, and 6 of 22. p -value=0.095 which is not statistically significant.

There was an increase in smoking with an increase in income; family income of more than 10000 SR had the majority of smokers 16 of 22 students; again, the association was not statistically significant, p -value=0.565. Smokers who were single were 21 of 22 participants. p -value=0.099 which shows no significant association.

A high percentage of the smokers 10 of 21 had started smoking when they were 14–17 years old, While 6 of 21 had started when they were 18–21 years, and a few of the students 3 of 21 started smoking both before 13 years old and at the age more 21 years. p -value=0.000 which was statistically significant.

Most of the smokers 14 of 21 were from non-smokers families, whereas the rest (36.4%) of student have at least one smoker in their family, p -value=0.065, which show no significant association.

Discussion

The study showed a lower prevalence of smoking among students of a medical college in Majmaah University in contrast to the previous studies done in Saudi Arabia like the study in Almadina by Abdulmohsen al Zalabany among intermediate and high secondary school students.⁴ The Jeddah study was done by Fida and Abdelmoneim,⁵ among male high secondary school students and was 37%. It is higher in prevalence than the study done in the United Arab Emirates, which showed that smoking among 13 to 15-year-olds was 18.5%.⁷

It was noted that the commonest method of smoking among medical students was cigarette smoking. In contrast with the previous studies, the commonest type of smoking was shisha⁶.

Another aspect of our study is the relation between family income and smoking, and we found that students with more than 10,000 SR family income represent the highest percentage of smokers. As we know, tobacco prices have

been increasing every year in recent years. So as expected, the students with high family incomes are much more.

About 14 of 21 student's who don't have a family member smoking were found to be smoking which is in contrast with the study done in Jeddah which reported 65.9% of the students have a family member smoking.⁵ With regards to relation between smoking and GPA which was 40% for students with a GPA of more than 4 and 31.8% for students who have between 4 and 3 GPA, which shows no significant association. It has been noted in some studies, there was higher prevalence of smoking among those with a GPA less than 4 or 3.^{5,12}

In our study students thought nicotine gum is the best and most helpful method for quitting smoking 8 of 21 students, and the nicotine inhaler was the least helpful method for quitting for 3 of 21 students.

This study has a limitation due to the possibility that some students withheld their smoking status despite being informed that their information would be kept private. As the study was done on only medical students, it is not possible to extrapolate the study finding on general population.

In conclusions, this study shows a low smoking prevalence among male medical students in the College of Medicine at Majmaah University. However, most smokers use cigarettes, and most are not considering quitting. There is a need to encourage multi-disciplinary health education activities for different age groups to prevent the students from smoking and help them quit smoking.

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