

# Knowledge, Attitude and Practice of Cigarette Smoking among Male Students of Taibah University, Al Madinah, Saudi Arabia

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**Abstract:** *Tobacco use is one of the most common causes of cardiovascular, respiratory diseases and cancers. The aim of this study is to estimate the prevalence, knowledge and attitude toward cigarette smoking among university students of Taibah University, Madinah, Saudi Arabia. The present cross sectional study included 360 students from six faculties using a stratified random sampling procedure. The questionnaire was anonymous, self-written and adopted from Global Adult Tobacco Survey (GATS). A total of 342 out of 360 students enrolled in this study were analyzed. Seventy five students (21.9%) indicated that they smoke tobacco at the time of the study while the percent of students who had ever smoked a cigarette even once during lifetime was 33.3%. Cigarette smoking was practiced by the final years students more than first and second-year students with statistically significant difference ( $p= 0.04$ ). About 93.3% of the students indicated that smoking could cause serious diseases, and 71.1% thought that smoking should be banned in public areas. The findings of this study confirm similar smoking prevalence among University students and indicate a higher percent of good knowledge and favorable attitude of the studied students towards cigarette smoking*

**Keywords:** Attitude, Prevalence, Smoking, Students, Saudi Arabia

## 1. Introduction

Tobacco use is one of the most common causes of cardiovascular, respiratory diseases and cancers and is considered as an air pollutant which makes the rate of morbidity and mortality necessarily high among the population in all over the world. (1,2). Based on World Health Organization (WHO), Tobacco use continues to be the leading global cause of preventable death killing nearly 6 million people worldwide each year. More than five million of those deaths are the result of direct tobacco use while more than 600,000 are the result of non-smokers being exposed to second-hand smoke. If the current trends continue the same, WHO expected that by 2030 tobacco smoking will kill more than 8 million of population worldwide each year (2,3). In addition, tobacco use causes hundreds of billions of dollars of economic damage worldwide each year (2,3), knowing that, the last prevalence of smokers was 37% which was estimated in Jeddah (4). In a school-based study conducted during 2013 among 3400 intermediate and secondary schools' students (11–19 years) in Madinah, Saudi Arabia using the global tobacco youth survey (GTYS) showed that prevalence of cigarette smoking was 15.17% (5).

Unless urgent action is taken, smoking is a behavior that can be accepted during the childhood period, if the children accept it, it can persist the whole life including the adolescence and University period. Most people already know that smoking is bad for their health, but do they really understand just how dangerous smoking really is. The available literature showed a gap in Saudi, particularly in Al-Madinah City, about knowledge, attitude and prevalence of smoking among University students. From this point, the aim of this study is to estimate the prevalence of smoking among students of Taibah University and to measure the knowledge and attitude of these students towards cigarettes smoking.

## 2. Methodology

This cross-sectional study was conducted among male students of faculties in Taibah University, Madinah, Saudi Arabia, from October to December 2016.

The study was carried out in a stratified random sampling procedure. The faculties were stratified into (i) faculties of health sciences; in which two out of five faculties were selected, and (ii) non-health faculties; in which four out of eleven faculties were selected.

The chosen faculties of each stratum were sub-stratified into two levels; first and second-years students and final years (3<sup>rd</sup> and 4<sup>th</sup> years) students, in which only one class was selected of each substratum. The final sampling units of each selected stratum at both levels were selected in a simple random way.

The calculated sample size for this study was obtained, using sample size formula, to be about 340 students. Knowing that, the last prevalence of cigarette smoking in Madinah study (5) was 15.17%, an assumed precision of 0.05 and confidence interval of 99 %.

The data of the study was collected through a self-written questionnaire which was mainly adopted from Global Adult Tobacco Survey (GATS). This survey has been developed by many organizations and institutes including World Health Organization (WHO) and Centers of Disease Control and Prevention (CDC), and was designed to assess major issues related to cigarette smoking. The validity of the questions could be assumed as the same questionnaire has been used in many previous studies, in addition to the validation of the developing institutes (6,7). The questionnaire has translated into Arabic language, and had been modified according to the local culture and religion. Back translation was done by another researcher to ensure accuracy. The questionnaire included 32 core questions related to social and smoking

status, as well as the knowledge and attitude towards cigarette smoking.

Smoking prevalence was defined as the percentage of current smokers among the university students. The standard National Survey on Drug Use (NSDUH-S) defined Current smokers as students who have smoked cigarettes on one or more days during the 1-month period before the survey was administered. A student who answered "yes" to the question "Beyond the 1-month period, have you ever tried smoking a cigarette?" was defined as "ever smoked", while students answering "no" were defined as "never smoked"(8).

Both never and ever smoked, also named as "ex-smoker" were combined and defined as "non-smoker" and the current smokers were simply the "smoker" in this study.

Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive analysis was done to summarize information by calculating the number and percent for categorical variables, whereas the mean and standard deviation (SD) were calculated for continuous variables. Chi-squared test was used to measure difference in the prevalence of smoking between different groups of students. P values less than 0.05 was considered an indicator for statistically significant differences.

The survey was conducted with permission from Taibah University. We received an approval from the faculty of medicine and from the dean of each selected faculty. As there have been no invasive procedure would be used, only verbal consent was taken from the participated students after explaining the purpose of the study and highlighting that surveys would be anonymous and data would be kept confidential during handling and storage.

### 3. Results

A total number 342 out of 380 students were completed and return back the study questionnaire with an overall response rate of 90%. The mean age of the analyzed students was  $21.08 \pm 1.5$  years. All the studied students were male, of whom 329 (96.2%) were single, while 12 of them (3.5%) were married. Other characteristics of the studied students are shown in table (1).

**Table 1:** Characteristics of the studied students

Characteristics	No.	%
<b>Marital status</b>		
- Single	329	96.2%
- Married	12	3.5%
<b>Study year</b>		
- Juniors	181	52.9%
- Seniors	161	47.1%
<b>Monthly income</b>		
- Reward only	274	80.8%
- Reward and extra sources	65	19.2%
<b>Faculty</b>		
- Non-health professional	218	63.93%
- Health professional	123	36.07%

Seventy five students (21.9 %) indicated that they used to smoke tobacco in the 30-days before the time of the study.

The mean age of smoking initiation among these students was  $17.1 \pm 1.9$  years, with a range of 18 to 26 years. The mean number of cigarette smoked by daily smokers was  $18.4 \pm 7.8$  while the range was from 1 to 40 cigarettes smoked daily. The students smoked more than 20 cigarettes per day were 30 students (62.5%). More details about the prevalence of smoking in the studied students are presented in table 2.

**Table 2:** Distribution of students by smoking status

	No.	%
<b>Current Smoker</b>	75	21.9%
- Occasional	27	7.9%
- Daily	48	14%
<b>Ex-smoker</b>	39	11.4%
- Regular	17	5%
- Try-out	22	6.4%
<b>Never smoked</b>	227	66.4%

The smokers among health sciences faculties were 24 (32%) while among non-health sciences faculties were 51 students. About 96.2% of them were single, while 3.5% were married. The differences between other characteristics of smokers and non-smokers (ex-smokers + never smokers) are shown in Table (3).

**Table 3:** Comparison of smoking status by students' characteristics

Characteristics	Smokers n (%)	Non-smokers n (%)	P value
Marital status			
- Single	72 (22%)	256 (78%)	0.70
- Married	3 (25%)	9 (75%)	
Study year			
- Juniors	32 (17.7%)	149 (82.3%)	0.04*
- Seniors	43 (26.9%)	117 (73.1%)	
Monthly income			
- Reward only	61 (22.3%)	213 (77.7%)	0.07
- Reward and extra sources	13 (20.3%)	51 (79.7%)	
Faculty			
- Health sciences	24 (19.5%)	99 (80.5%)	0.40
- Non-health sciences	51 (23.4%)	167 (76.6%)	

\*Significant

Two hundred forty three students (71.1%) thought that smoking should be banned in public areas. The number of students thought that smoking could cause serious diseases was about 319 (93.3%) while 7 students (2%) thought it doesn't cause such serious health problem. As shown in table 4, studied students also indicated that the smoking could cause lung cancer and heart attack, but to lesser extent, to cerebral stroke, as 31.6% of the students did not know if smoking could cause cerebral stroke. The percentage of smokers thought that smoking causes serious diseases were about 82.7%.

**Table 4:** Students' knowledge about smoking and diseases

	Yes n (%)	No n (%)	Don't know n (%)
Serious diseases	319 (93.3%)	7 (2%)	11(3.2%)
Cerebral stroke	193 (56.4%)	36 (10.5%)	108 (31.6%)
Heart attack	253 (74%)	15 (4.4%)	69 (20.2%)
Lung cancer	305 (89.2%)	7 (2%)	25 (7.3%)

The percent of all studied students who thought that smoking makes people more attractive were about 16.4%, while the

smokers who thought that smoking makes people more attractive were about 18.7%. Also, all the studied students who thought that smokers had more friends were about 25.1%, while the smokers who thought that smokers had more friends were about 21.3%. The whole students who thought that smokers had less friends were about 34.8% while the smokers who thought that smokers had less friends were about 25.3%. About 50.6% of the studied students have negative view for smokers, while 4.5% have positive view for them and 44.8% think there is no difference between smokers and non-smokers. Most of the smokers (72.6%) thought there is no difference between themselves and non-smokers. The positive and negative view of the students as well as smokers and non smokers are presented in Table 5.

**Table 5:** Students' opinions about smokers

	Negative view %	Positive view %	No difference %
All students	50.6%	4.5%	44.8%
Smokers	19.2%	8.2%	72.6%
Non smokers	59.4%	3.5%	37.1%

The percent of smoker students that have smoking parents were about 68%. On the other hand, the non-smoker students that have smoking fathers were about 35.7% with statistically significant difference ( $p < .0001$ ) as presented in Table 6.

**Table 6:** Parental smoking status and students' smoking status

Student smoking	Smoking Father	Non-smoking Father	P value
Smokers	68%	32%	
Non-smokers	35.7%	64.3%	<.0001*

\*significant

#### 4. Discussion

Our study showed that the total percentage of students who had ever smoked a cigarette was 33.3%. The percentage of students who are currently smoking was 21.9%. The findings of this study confirm similar smoking prevalence among high schools and Universities students in other region and cities in Saudi Arabia. A high prevalence of adolescent and young adult smoking was also reported in recent Saudi studies conducted in Jeddah (4) and Riyadh (8,9). The reported prevalence rates in those studies were 37%, 29.0% and 31.0%, respectively, with a significant higher prevalence of smoking among male compared to female students in a study conducted in Riyadh study (8).

In comparison between senior year students and junior year students Tobacco smoking was found to be significantly higher among the former group. Previous studies conducted at Saudi Arabia have been reported the same findings regarding age group (10). This is probably due to increased stress faced by the students with their progression, over the years.

The present study showed that parental history of smoking was found to be a significant risk factor for tobacco use among students. Similarly in several studies, parental smoking was an important risk factor in adolescents' and

young adults' smoking (4,8,9, 11) and international studies (12,13). As most of youths look up to their parents and other close relatives in their society and attempt to mimic their demeanor , parents smoking showed to be the most important factor related to adolescents and young adults smoking in this and other studies (5) .

The smoker among the student were clearly familiar with impact of smoking on their health and the fact that the leading cause of lung cancer is smoking. Despite their awareness, about 19.5% of the medical students in this study keep on smoking.

The finding that smoking makes people more attractive reported by 16.4% of all students and by 18.7% of smokers, and to have more friends in 25.1% and 21.3% in all students and smokers, respectively, coincides with a previous study (15), that reported insignificant differences between smokers and smokers regarding their belief that smokers have more friends. The ability to form friendships, however, in community like Medina's community substantially depends on social and cultural milieu youths are living in.

This current study has also showed a substantial point about students' favorable behavior toward reducing passive smoking through their support of preventing smoking in public areas. More than two third of smokers (74.6%) reported that they wanted to quit smoking now or think about quitting in the next 6 months. The majority of students agreed that smoking would not make them look more attractive. This finding indicates that the majority of smokers have intention to quit and will not continue smoking throughout their lives. These findings motivate and encourage the University to increase the number of smoking clinics and activate them and make them more popular and attract the smoker students to come to them and advise them about the possible ways to quit smoking and this is done by getting the official administrators more aware of the size of this issue among University students and their desire and susceptibility to quit smoking.

Strengths of this study include being a university-based with a high response rate from the participated students, and according to our best knowledge, this study is the first to study smoking habit and attitudes among Taibah University students.

Limitations include using a self-administered questionnaire without validation of the collected data through biochemical tests due to financial constraints, which might underestimate the actual prevalence of smoking in the studied students.

This could underestimate the actual prevalence of smoking in the studied students . However, the previous studies (16,17)have reported high reliability of results on teenager smoking when questionnaire are administered anonymous and self-reported. Although, the attitudes of students towards smoking appeared favorable, the complex interaction of many psychosocial, traditional, cultural, and educational factors that influence such attitude was not studied. However, because these factors were beyond the aim and scope of this study, these factors could not be explained in this. The future studies should stress on these factors to explain the reasons behind the given attitudes and beliefs of the studied smokers.

In summary, this study revealed a considerable high prevalence of smoking among male students in Taibah University, Madinah City, Saudi Arabia. One of the major and important findings of this current study was the positive attitudes of all studied students and smokers in particular towards smoking. This finding has to motivate and encourage the University administrators to increase the number of smoking clinics and activate them and make them more popular and attract the smoker students to utilize helping them to quit smoking. In addition, It would be very helpful to organize an annual smoking campaigns in the various faculties at the university to increase the awareness about the dangerous of smoking.

## 5. Acknowledgment

The authors would like to thank all students participated in this study. They also acknowledge the faculty administrators of the included faculties for their help and cooperation. We would like to express our gratitude to Dr. Khaled Kasim (the supervisor of our research) for his guidance and support in this research.

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