

An Investigation into the Factors Affecting Medical Students' Attitude Towards Smoking

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Abstract

Background: Tobacco consumption is controlled by various factors including individual, family and social factors. Students, especially those studying medical subjects, as role models for other members in a community, can play a major role in reducing the rate of cigarette smoking. The purpose of this study is, therefore, to determine the factors affecting medical students' attitude towards smoking.

Methods: Survey method was used in this study using questionnaire as the tool for data collection. The statistical population of the study included all students of Tehran University of Medical Sciences, Shahid Beheshti University of Medical Sciences and Iran University of Medical Sciences in 2017, of whom 300 were selected by systematic sampling method.

Results: The results showed smoking tendency among students, higher number of male smokers (M=2.89) compared to girls (M=2.66 and p value <0.05), an effect of dormitory environment on the positive attitude towards smoking, and a high rate of smoking among students who live in dormitory (M=2.71) or bachelor pads (M=3.23) (F=9.359 and p value <0.05).

Conclusion: The results of this study indicate an increased tendency among medical students to smoke cigarettes plus a positive attitude towards hookah smoking. This research suggest a dire need to educate students in terms of preventing and/or reducing smoking attitude among students.

Keywords: Abuse, Attitude, Cigarette smoking, Knowledge, Tobacco, Universities

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Introduction

Cigarette smoking is a behavior that generally starts from adolescence. Studies showed that about 80% of smokers experienced their first cigarette smoking before the age of 18¹. In a number of Western countries, the onset of smoking is between 13 and 19 years of age, and the age at which first experience of cigarette smoking takes place is between 12 and 13 years of age². According to a report by Centers for Disease Control and Outbreak in the United States, 80% of adults begin smoking from the age of 18, and every day more than 3000 people younger than 18 smoke their first tobacco³. In Iran, research indicates that 17.5% of 13-15 year old Iranian children, 23.7% of boys and 11% of girls, smoked at least once in 2007, while this rate had been 14.2% in 2003. Also, 36.1% of these people experienced their first cigarette ever under the age of ten, which was reported as 17.6% in 2003⁴.

Tobacco use has long been the leading cause of premature death and disability, which has led to around four million deaths throughout the year in the world⁵. Now, one tenth of the causes of death in the world are related to the complications of smoking, which is suggested to increase to one sixth by 2030⁶. Research has shown that the starting age of drug abuse has globally declined. This is important when it comes to this fact that smoking is an important predictor of drug abuse. This noticeable drop in the starting age of smoking and drug abusing has caused widespread concern in all communities⁷.

Smoking behavior is under effects of various factors including individual, family and social factors⁸. Individuals from different generations and decades of demography may have conflicts with social and personal experiences. These attitudinal conflicts (positive or negative) are due to the combination of knowledge, incoming information, beliefs and adolescent events on one hand and the value they attach to them on the other hand. Moreover, psychologically, individuals tend to behave in reference groups where they belong to. Therefore, behavior is usually carried out in accordance with social norms. The more the individual is obedient to the views of others, the more the likelihood of

behaviors in accordance with those norms⁹.

The present study tries to investigate the causes of smoking tendency among medical students. Given the alarming prevalence of cigarette and hookah smoking, especially in dormitory settings, determining the factors that affect this tendency can be useful in preventing tobacco abuse. From previous studies, we can refer to a study conducted by Heidari *et al* at Shahid Beheshti University, which evaluated tobacco controlling habits in male and female medical students. They concluded that students at higher academic years had a significantly higher rate of smoking. Considering the widespread experiences of smoking in this particular population, they claimed that preventive programs before entering the university would be strongly suggested, and due to the increase in the rate of smoking among students through their academic years, educational interventions at the university might be a solution¹⁰. In another study, Jafari and Aminzadeh studied the prevalence of and the factors associated with cigarette smoking among students at the Tehran Art University. They concluded that the prevalence of cigarette smoking among students at this university was higher than that reported by other countries in the world. Implementation of awareness-raising methods can be effective in reduction of the prevalence of smoking among students¹¹. Habib Emami *et al* studied smoking patterns in a municipal district in Tehran. They showed that, overall, 10.6% of the adult population smoked on a daily basis, of whom 8% smoked 20 or more cigarettes per day. Also, 5.1% of the subjects in their study were occasional smokers, 1.6% had already quit smoking and 81.8% were absolute non-smokers¹². It can be argued that since students, especially those studying at medical science universities, are role models for other members in a community, particularly for young people and adolescents, can play a pivotal role in preventing and reducing cigarette smoking in their communities.

Patients and Methods

The present study used a survey method. The original population of the study was all medical students of Tehran University of Medical Sciences, Shahid Beheshti University of Medical Sciences and Iran University of

Medical Sciences in 2017, of whom 300 were selected using systematic sampling method. Cochran formula was used to determine the sample size in this study, and confidence interval was considered 95%. Also, in order to obtain acceptable samples, the percentage of population distribution was 0.5. Data collection regarding students' attitude towards smoking cigarettes and hookahs was done using a researcher-made questionnaire with 33 items, which involved emotional, cognitive (awareness) and behavioral dimensions. Each question represents one of the three factors mentioned in the aspect of attitude. 5-point Likert-type item are used where response categories are "Strongly in disagreement".

Cognitive dimension with 14, emotional dimension with 10, and then behavior dimension was measured with 9 questions. Their attitudes and effects on behavior are very complicated. Social psychologists usually look at the attitude in relation to its three components. Attitude towards smoking as the final dependent variable in the present study was not statistically significant with smoking reagents, positive rejection of tobacco and hookah. Measuring independent variables through introducing and then designing multiple choices questions were made. The questions in this section are mainly based on sources that have already been approved and validated.

In this research, face validity was used to measure validity. The aim of face validity is to identify the validity of indicators or research references by referring to judges. The benefit of this method is that the research achieves proper indicators, which are realistic as far as possible, irrespective of the particular values attached by the researcher, and it measures the reality as it is. The questionnaire was reviewed by experts in the field whose comments were used to corrections and modifications. The reliability of the questionnaire was also assessed based on Cronbach's alpha test. Alpha should be at least 0.70 according to empirical evidence so that the scale can be considered as reliable (it was 89, 87 and 73% for emotional dimension, behavioral dimension, and cognitive dimension, respectively). All dimensions of the attitude towards tobacco had an alpha value of higher than 0.70. Data were analyzed by SPSS using descriptive statistics, t-test, ANOVA, and Pearson test.

Results

According to descriptive statistics, attitude towards tobacco in the three dimensions has a mean of 2.77, a median of 2.46, and a standard deviation of 0.49 (Table 1).

Table 1. Descriptive statistics of the research indicators

Awareness	Behavioral	Emotional	Attitude	Statistics
3.78	2.58	2.52	2.77	Mean
3.83	2.56	2.67	2.46	Median
0.97	0.72	1.03	0.94	Standard deviation

Pearson test was used to measure the relationship between smoking between family members and the positive attitude towards smoking. The relationship between these two variables was 0.27, at a confidence level of 99% showing a significant relationship. The correlation between these two variables was moderate and positive. There was a significant relationship between having smoker friends and a positive attitude towards smoking among study subjects, with a confidence level of 99%. The relationship between these two variables was relatively high and positive.

The relationship between parents' social control over their children and their attitude towards tobacco. Results show a correlation coefficient of -0.39. There was a significant relationship between the two variables of parents' social control and smoking attitude at a confidence level of 99%. The relationship between these two variables was moderate and negative (Table 2).

Table 2. Correlation between variables and attitude towards tobacco consumption

Variables	Sig (2 tailed)	Coefficient
Tobacco consumption by family members	0.0001	0.27
Tobacco consumption by friends	0.0001	0.51
Parental control	0.0001	-0.39

In order to measure the attitude of people towards smoking according to their living environment, we found a significant difference between the

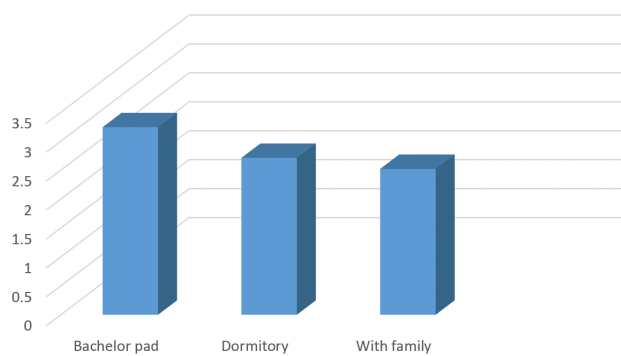


Figure 1. Attitude towards smoking in terms of living place.

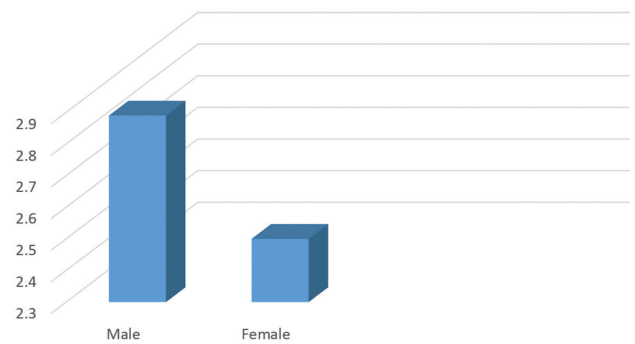


Figure 2. Mean of attitude towards drug abuse in terms of gender.

dormitory students (M=2.71), students living in bachelor pads (M=3.23) and those living with their family (M=2.52) (p value<0.05 and $F=9.359$). Students living in a bachelor pad have more positive attitude toward smoking whereas those who live with their family had more negative attitude towards tobacco (Figure 1).

For measuring the relationship between students' gender and tendency to tobacco throughout the independent t-test, the mean of attitude toward drugs among females (M=2.66) was compared with that of males (M=2.89), which statistically showed a significant difference between the two groups (p value<0.05 and $t=4.936$). This means that attitudes toward drugs are higher among men compared with women (Figure 2).

The table below shows the differences in dimensions of attitude towards smoking (awareness, emotion and behavior) according to gender and living environment based on the related tests (Table 3).

Discussion

This study used a sample of 300 students in

2017 from three universities of medical sciences in Tehran to evaluate the attitude of students towards smoking. A score of 5 was considered as the highest inclination rate for tobacco, while 1 and below represented the lowest rate of tendency, and a score of 3 was considered to be the average. Dimensions of attitude toward tobacco (awareness, emotion and behavior) were measured in terms of the students' gender and their living place using statistical tests. Results showed that the awareness dimension of female students was 3.11, while it was 3.34 for male students generally indicating a lower awareness among students of the complications of smoking which can be attributed to various factors. In the emotional dimension, both girls and boys had a negative attitude toward tobacco, with girls having a more negative attitude towards and more unpleasant feeling about smoking. Our results for girls and boys were 2.68 and 2.87, respectively. Behavioral elements, or intent and readiness for action show that male students are more likely to be tobacco-oriented than female students. But in

Table 3. Differences among attitude dimensions based on demographic questions

Attitude dimension	Demographic characteristic*		Living place**			p value
	Male	Female	Dormitory	Bachelor pad	With family	
Cognitive (awareness)	3.11	3.34	3.27	2.78	0.31	0.0001
Emotional	2.68	2.87	2.69	3.19	2.5	0.0001
Behavioral	2.64	2.91	2.75	3.26	2.56	0.0001

*T test

**ANOVA Test

comparison with the dimension of awareness and emotion, this dimension has a lower rate of 2.64 for girls and 2.91 for boys. Accordingly, there is a significant fraction of students who are ready to begin smoking. Considering the first dimension, it is essential to take more measures regarding awareness and follow-up of tobacco use. This is consistent with the study conducted by Jafari and Aminzadeh who studied the prevalence of and factors relating to smoking among students of Art University of Tehran. They agreed that compared to the published statistics from other countries in the world, the prevalence of smoking among students seems to be high, so using awareness raising methods can be effective in reduction of the prevalence of smoking among students¹¹. It should also be noted that students living in a dormitory are more likely to be involved in tobacco use compared with those who live in bachelor pads.

In this study, students living in rental houses had a negative attitude toward smoking, while those who lived with their families had the most negative attitudes toward tobacco use. Accordingly, as stated earlier, the attitudes of people are shaped based on their past and different experiences of life. Similar to the development of personality, distinguished individuals or those having a special role in the lives of individuals (such as parents, friends, members of social and professional groups, etc.) have a great influence on the formation of attitudes¹³.

Many studies claimed a higher incidence of cigarette smoking among men compared with women, which is consistent with the results of our study. However, unlike the present study and similar Asian studies, this difference is not significant in Western countries¹⁴. Flay *et al* also showed that smoker friends and smoker parents are predictors of smoking experience¹⁵. In line with previous research, it can be argued that the tendency toward tobacco consumption has grown significantly among students, especially those studying at medical universities, which should be carefully investigated and planned in order to prevent its devastating consequences.

Determining the students' position towards smoking and smoking strategies is essential for appropriate planning and informed decision making. Based on this hypothesis, various studies have been conducted to determine the prevalence and causes of the tendency for smoking among students¹⁶.

The use of cigarettes among young people and adolescents is now increasing and the age of smoking onset is becoming smaller across the world¹⁷. Students have more positive attitude towards hookahs than any other types of tobacco uses. The present study calls for the need of education and prevention at all levels amongst students. It warns against any optimism saying "since students from medical universities are studying in the field of medicine, there is a little need for educational programs which have a preventive role in tobacco smoking because they themselves have a high degree of awareness of the side effects". Other factors contributing to the smoking tendency among these students can be mentioned as longer course of their academic trajectory and the presence of a smoker in the family. Student life is far from parental supervision without any family control that may lead to some dramatic changes in student's life, especially those students who are less knowledgeable.

Conclusion

The results of this study show that the positive attitude toward tobacco smoking whether hookahs or cigarettes, is relatively high among students, which is under influence of various variables such as family factors, students' living environments and presence of smoker friends. Descriptive statistics of the main variables of the research (attitude towards tobacco and its dimensions) show that smoking attitude in terms of its three dimensions has a mean of 2.77. This is a serious warning to establish preventive interventions. It is also a precaution to revisit the naively of the belief saying "medical students do not need any intervention or training when it comes to health and sanitation".

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