Smoking Prevalence and Its Related Factors Among Dormitory Students of Shahid Beheshti University of Medical Sciences, Tehran, Iran

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Abstract

Background: Smoking causes premature and preventable death of millions of educated people.

Objectives: Given the role model for medical students in the future of the country, the current study aimed at determining the smoking prevalence and its related factors among dormitory students of Shahid Beheshti University of Medical Sciences in Tehran, Iran.

Methods: The current cross sectional study was conducted with descriptive-analytical approach on 355 dormitory students selected by single-stage random cluster sampling method. Data were collected using a researcher-made questionnaire including demographic and background information and smoking features. Then, data were analyzed with SPSS version. 21, using descriptive statistics and Chi-square test.

Results: The current study findings indicated that 23.8% (n = 81) of the subjects were current smokers; smoking had a significant relationship with gender variables, history of probation, close friends that smoked, and employment ($P < 0.05$).

Conclusions: In comparison to other studies, the smoking prevalence was relatively high. Therefore, the necessity of proper education about the harms and health effects of smoking are felt more than ever.

Keywords: Prevalence, Smoking, Students, University

1. Background

Smoking, especially cigarette smoking, leads to many preventable deaths worldwide (1). It is estimated that the number of smokers increases from 1.3 billion to 1.6 billion people in 2025, and its associated mortality is estimated to increase from 4.8 million persons in 2006 to 8.3 million persons in 2030 (2). The tobacco-related deaths around the world tripled over the past decade. If the trend continues, one billion people die of using and being exposed to tobacco during the 21st century; one every six seconds (3). In Iran, the rate of smoking did not increase in the past two decades, but with regard to warning reports of smoking among adolescents and young adults, this subject is of great concern in this age group (4). In addition, many non-smokers have involuntary exposure to tobacco smoke and the risk of developing the disease (5). There are no safe levels of smoke exposure for non-smokers (6). Despite the known complications of smoking for health, many young people have these high-risk behaviors, and they continue smoking. The high prevalence of smoking among young people results in the risk of dependence and negative consequences for health (7). Although addiction to smoking is one of the problems of human society that is observed in all social classes, from the uneducated to the educated, its presence among the educated people in the healthcare system is one of the problems with adverse effects on this system. In some studies, 28.7% of smokers were 18 - 24 years old and the highest student population is in the same age group (8).

Several studies were conducted on the prevalence of smoking among students and different results were ob-

tained. This rate was 23% in the studies by Ghodsi et al. conducted on male students (8) and Reza Khani Mogaddam et al. (9) but the studies by Divsalar and Nakhaei (10) and Shamsipoor et al. (11) reported 6.2%, 11%, and 8.9%, respectively. In a study conducted in Saudi Arabia, 19% of medical students were smokers (12). A review of previous studies shows that low age (2, 13), male gender (9, 10, 13), lack of knowledge about smoking and its complications (14, 15), low economic status (2, 10), familial conflicts and disintegration (2, 13), friends and peers that smoke (8, 13), smoking history in the family (4, 13, 14), and living alone and far from the family (13, 16) are risk factors to initiate and continue smoking. Given that medical students play important roles in the health care system as role models in the future (8), the current study aimed at determining the smoking prevalence and its related factors among dormitory students of SBMU in Tehran.

2. Methods

The current cross sectional study with a descriptive-analytic approach was conducted on 355 dormitory students of SBMU in Tehran in 2016 selected by single-stage random cluster sampling method. At first, a list of all dormitories that students of different medical sciences lived in was prepared. Then two dormitories for females and two dormitories for males were randomly selected and the residing students were enrolled based on the inclusion criteria.

According to the results of the study by Jafari and Aminzadeh (17) considering P = 0.3 for the prevalence of smoking, as well as using Cochran formula, 95% internal confidence, and accuracy of d = 0.05, the sample size was calculated 322 that for more precision and also considering 10% probable drop outs, the maximum sample size was calculated as 355 subjects.

Inclusion criteria were willingness to participate, second or third year undergraduate student, and residence in SBMU dormitories. Unwillingness to participate in the study and not completing the questionnaire were considered as exclusion criteria.

After evaluation of the available questionnaires (8, 9), the questionnaire was revised and after a few expert reviews, the final questionnaire was set up and used, and to determine the scientific validity of the method, content validity was used. The questionnaire was then checked in a panel of 10 experts, and after considering their comments and suggestions, the final questionnaire was prepared. To determine the reliability of the questionnaire, internal consistency was assessed, and a pilot study was conducted among 30 students in dormitories. The data were analyzed and the Cronbach's alpha coefficient of 85% was obtained.

The developed questionnaire was a two-part tool: The first part included demographic information, and the second part determined the smoking or non-smoking status of subjects. In the current study, subjects were considered as smokers if they smoked daily or occasionally during the study. Non-smokers were the subjects with no history of smoking until the time of the study. In the present study, students who already smoke placed in the group of smokers and the ones who had just experienced smoking along with current non-smokers were placed in the non-smokers group.

The current study protocol was approved by the institutional Ethics Committee (ethical code: IR.TMU.REC.1394.172), and the subjects were assured of the confidentiality of their information; the self-report questionnaires were distributed among the subjects following the signing the written consent forms. The questionnaires were completed at the dormitories. The collected data were analyzed with SPSS version 21, using descriptive statistics and Chi-square test. The significance level was considered less than 0.05.

3. Results

A total of 340 students were studied with the mean $\pm$ standard deviation (SD) age of 22.93 $\pm$ 4.05 years. The results of the current study showed that 23.8% (n = 81) of the subjects were current smokers, 17.1% (n = 58) experienced smoking, and 59.1% (n = 201) were non-smokers. Among the current smokers and the subjects that experienced smoking, the mean age of smoking onset was 17.26 $\pm$ 1.14 years and only 17.2% (n = 23) reported that they had their first smoking offered by their friends; also 60.4% (n = 81) reported that no one offered them to smoke for the first time. Table 1 shows all the demographic characteristics and their relationship with the smoking among students. The results of Table 1 showed that smoking had a significant relationship with gender variables (P < 0.001), a history of probation (P < 0.05), having a close friend who smoked (P < 0.001) and their employment (P < 0.05); therefore, the rate of smoking was higher among male students with a history of probation and more close friends that smoked, and the ones that were employed.

4. Discussion

The current study aimed at determining the smoking prevalence and its related factors among dormitory students of SBMU in Tehran. In the present study, about 23.8% of the students were smokers during the study. These findings were consistent with the results of various studies (8,

Table 1. The Demographic Characteristics and Their Relationship with Smoking[a]

Variable	Yes	No	P Value
Age, y			0.914
Under 20	19 (23.5)	65 (25.1)	
20 - 29	56 (69.1)	178 (68.7)	
30 and above	6 (7.4)	16 (6.2)	
Gender			< 0.001
Female	35 (43.2)	170 (65.6)	
Male	46 (56.8)	89 (34.4)	
Marital status			0.461
Single	69 (85.2)	226 (87.2)	
Married	10 (12.3)	31 (12)	
Divorced or widowed	2 (2.5)	2 (0.8)	
Years of education			0.339
Sophomore	31 (38.3)	108 (41.7)	
Third-year student	50 (61.7)	151 (58.3)	
History of probation			0.029
Yes	7 (8.6)	5 (1.9)	
No	74 (91.4)	254 (98.1)	
Father's education level			0.312
Under the diploma	27 (33.3)	88 (34.1)	
High school diploma	37 (45.7)	89 (34.5)	
Associate degree and bachelor's degree	13 (16)	62 (24)	
Master degree and PhD	4 (4.9)	19 (7.4)	
Mother's education level			0.685
Under the diploma	43 (53.1)	135 (52.2)	
High school diploma	24 (29.6)	73 (28.2)	
Associate degree and bachelor's degree	13 (16)	45 (17.4)	
Master degree and PhD	1 (1.2)	6 (2.3)	
Having close friends who smoked			< 0.001
Yes	54 (66.6)	87 (33.7)	
No	27 (33.3)	171 (66.3)	
Having a smoker in the family			0.065
Yes	37 (45.7)	84 (36.3)	
No	44 (54.3)	165 (63.7)	

[a]Values are expressed as No. (%).

9), but inconsistent with results of some other studies (10, 17). Although the prevalence of smoking in the current study was less than those reported from some European and American countries, according to the results of studies conducted in other cities of Iran, the prevalence was higher in Tehran. Also, the tendency toward smoking is higher in big cities. Another possible reason for this difference can be the high speed of lifestyle change toward Western patterns among students, especially in big cities. Also, in different countries, different rates of smoking prevalence are reported among students. The prevalence in Turkey, the USA and China were reported 40% and 35.3% (18, 19) respectively, and the result of the current study was lower than those of abovementioned studies.

The current study findings showed that the mean age at onset of smoking was 17.26 years. The result was consistent with the findings of various studies (9-11), where the mean age at onset of smoking were 17, 15.9, and 16.61 years, respectively. Similarly, in the study conducted by Jalilian et al. (20) the mean age at onset of smoking was 17.26 years; consistent with the findings of the current study but not with those of the studies by Pirdehghan et al. (21) that reported the smoking started at 12.9 years old in average. This discrepancy can have two possible reasons: different sample size and mean age of the studied subjects. According to the mean age at onset of smoking in the current study, it can be concluded that if the training is given prior to the vulnerable age range, in addition to families help in this regard, smoking prevalence can be reduced.

The unpredictable findings of the current study, unlike many other studies (8, 13), was a negligible role of smoker friends in so few students that smoked for the first time with their friends and most students experienced their first smoking when they were alone. These findings indicate the fact that other factors than companionship and friendship with smokers are effective in tendency of the youth towards smoking and they should be considered in smoking prevention programs for students.

In the current study, smoking had a significant relationship with gender. These findings were consistent with the results of various studies (9-11, 13, 17). According to the results of all these studies, it can be concluded that males are more prone to smoking than females and continuing it is more probable among male students than female ones since smoking by females is usually considered as antisocial behavior. Accordingly, lower prevalence of smoking among Iranian female students could be due to the social evils of smoking among females in Islamic countries (22).

In the current study, smoking had a significant relationship with history of probation. These findings were consistent with the results of the study by Divsalar et al. (10) where students with better scores were less likely to smoke and also with the results of the study by Taraghijah et al. (23) where the low average increased the risk of smoking; but not consistent with the results of the study by Ghodsi et al. (8) since there was no significant relationship between total average and smoking among targeted students in the study, although the rate of smoking among students was higher than other groups. Possible reason for the statistically significant relationship between history of probation and smoking is likely the stress caused due to educational failure that may increase the tendency of students toward smoking.

In the current study, there was a significant relationship between having close friends that smoked and smoking. These results were consistent with the results of various studies (8, 10, 13, 17). Due to the modeling of young people in this age group, parents should pay more attention to the socialization of their children and fully recognition of their friendly relationships.

In the current study, smoking had a significant relationship with employment. These results were consistent with the results of the study by Kassiri et al. (24) that reported more prevalence of smoking among students that also had a job than unemployed ones. It seems that their employment is likely to create more interactions with the environment outside the university in which smoking is higher, can increase smoking prevalence among college students.

Since in the current study only the second- and third-year undergraduate students living in dormitories were studied, the results cannot be generalized to other age and student groups. Therefore, it is recommended to conduct studies on postgraduate students. Also, qualitative studies suggested possible mechanisms for smoking in the dormitory students. Due to the increase of university admission in the country and the high prevalence of smoking in students, special attention should be paid to training programs to prevent smoking. Data collection was self-report and it was one of the most important limitations of the study along with small sample size.

Acknowledgments

Footnotes

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