

Survey of the Prevalence and Factors Related to Smoking Among University Students in Kerman

Fatemeh Balali Meybodi^{1*}, Sadollah Rezazade¹, Mohammad Samari², Mina Sharafi¹, Azadeh Sadeghi³

¹Deputy of Health, Department of Health Education and Promotion, Kerman University of Medical Sciences, Kerman, Iran

²Social Determinants of Health Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran

³Deputy of Health, Department of Communicable Diseases, Kerman University of Medical Sciences, Kerman, Iran

*Corresponding Author: Fatemeh Balali Meybodi, Email: f.balali@yahoo.com

Abstract

Background: Tobacco use is risky behavior that causes numerous health issues in addition to threatening cultural and social foundations. Due to its availability and lesser social stigma compared to other addictive substances, many students in Kerman universities have taken up smoking. This study examines the factors related to smoking among these university students.

Methods: This cross-sectional descriptive study used multistage sampling with a sample size of 1052 students from Kerman universities in 2023. Data were collected via a questionnaire covering background information, smoking status, and factors influencing smoking behavior and prevention. Data were analyzed by SPSS 25 software using the chi-square test and Pearson correlation coefficient, with $P < 0.05$ considered statistically significant.

Results: Participants had an average age of 21.67 ± 2.86 years. Their self-reports indicated that 19.8% smoked cigarettes, 17.0% used hookah in the past 30 days, 30.4% had ever smoked cigarettes, and 41.3% had ever used hookah. Smoking rates were significantly higher among male students ($P < 0.001$). Key reasons for smoking included entertainment (53.7%), stress reduction (50.8%), and peer pressure (50.5%). Key prevention factors were awareness of smoking's harmful effects (54.0%), mental peace in the family (50.7%), and adherence to moral principles (46.4%).

Conclusion: Smoking prevalence among students is on the rise, with a third of the students having smoked and about half having used hookah. Preventive educational interventions and stress-reducing recreational activities are recommended to mitigate this trend.

Keywords: Prevalence, Tobacco, Smoking, Hookah, University students

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Introduction

Tobacco use is among the factors most threatening to health (1), and it is the leading cause of preventable deaths worldwide (2). Annually, tobacco use brings about the death of millions directly or indirectly (3). On average, one individual dies every six seconds due to smoking (4). Over 30% of cancer-related deaths are caused by smoking (5). Also, many social problems and issues are related to tobacco in some way (6).

Tobacco use is the cause of many diseases, among which the most important are cardiovascular diseases, neurological diseases, respiratory and digestive diseases, and various cancers. In addition to physical harm, smoking cigarettes threatens the individual's mental health (7). Smoking cessation can potentially increase life expectancy by up to a decade (8).

Although tobacco use prevalence is decreasing in

developed countries, it is increasing in developing or low-income countries (1,9). The decrease in smoking initiation age in Iran and the world is significant (10–13). Various studies conducted in Iran have shown an increasing prevalence of tobacco use in universities. Smoking prevalence among Iranian university students is 3.5% in women and 47.46% in men (3,12,14–16).

It is necessary to identify its associated factors in order to be able to design intervention programs based on them to prevent tobacco use. Different studies have mentioned many factors affecting youth's tendency toward cigarettes. Nazemi et al investigated tobacco use prevalence and its contributing factors among students of Shahrood universities, concluding that having smoker friends, having stress, being away from family, and lacking entertainment are among the most critical factors in a student's tendency towards tobacco use (17).



Investigating predictors of tobacco use based on the theory of planned behavior, Araban et al stated that abstract norms and smoker friends are major predictors of tobacco use among students of Ahvaz University of Medical Sciences (12).

Another study used quantitative methods (survey) and qualitative methods (qualitative content analysis) with a convergent design to identify the smoking pattern among Tehran citizens. It found that the major causes of tobacco use are multi-cultural (harmful culture of smoking to forget problems, especially in adults and lacking / inadequate awareness of the dangers of smoking), social (social pressure), mental (relieving fatigue or stress, avoiding sadness, tobacco addictiveness, and feeling like they are grown-ups or have character), and individual (experimentation and attractiveness) factors (18).

In an investigation of the prevalence and causes of the smoking tendency among students of Kordestan Islamic Azad University, it was reported that the main motivation for students to start and keep smoking was entertainment (14). The results of Khodadost et al also showed in a meta-analysis of hookah smoking frequency that entertainment and curiosity are major causes of smoking cigarettes and hookah among students of Iran's universities (11). The main reason for smoking among students in Varamin was reported to be a sense of curiosity (3). Also, the results of a meta-analysis of four decades of research about motivations and causes of smoking in Iran showed that contextual variables, smoking relatives, easy access to tobacco products, leisure activities, patterns, social changes, environmental stressors, beliefs, attitudes, awareness of the individual, and weak social and religious commitment are among factors in the tendency towards tobacco use (19).

A meta-analysis of thirty essays from countries that were culturally similar to Britain via a systematic meta-ethnography showed that causes for smoking initiation and cessation among the youth aged 16 to 25 were stress reduction, identity change, and dealing with the transition in their studies. The reason for most cases of smoking habits was reported to be the facilitation of new relationships among peers (20). The results of a study on youth in Samoa and Pacific Island Countries pointed to gender, age, friendship, smoking parents, and family arguments as major factors in smoking initiation (21). Having a smoker friend, the offering of cigarettes by friends, and easy access to cigarettes were also reported to be among the influential factors in tobacco use among Brazilian adolescents (22).

Despite the adverse effects of smoking on human health, tobacco use is still increasing in our country. The easy access to tobacco, the socially less stigmatized tobacco use compared to substance use, and the particular circumstances of university student life have led to an upward trend of tobacco use among university students.

This problem must be taken very seriously because tobacco use is the gateway to drug addiction, and a university student is seen as a role model for society (23). It is necessary to identify the factors influencing tobacco use among this population, and there is a lack of research about the prevalence of and the reasons for the tendency towards cigarettes and hookah and the preventive factors in smoking among Kerman's university students. Thus, this study investigated related factors in tobacco use while assessing the frequencies of smoking cigarettes and hookah separately in order to provide results that would be used to design intervention programs and to select suitable strategies to prevent the onset and prevalence of smoking among university students.

Materials and Methods

One thousand and fifty-two university students participated in this cross-sectional descriptive-analytical study. They were selected via multistage sampling from Kerman University of Medical Sciences, Bahonar University, and Farhangian University. This sample was selected among students studying in these universities in 2023.

First, each university's student population was acquired from the Vice-Chancelleries of Education to estimate the sample size. Then, the sample size for each university was determined via the Morgan Table. Samples were selected randomly according to the departments in each university. The inclusion criteria were being a university student and willingness to enter the study. The exclusion criteria were failing to complete the questionnaire and willingness to exit the study.

The data-gathering tool was a questionnaire with previously approved validity and reliability (24, 25). It was slightly adapted to the time and place, and its validity was again approved by community-oriented epidemiologists, medical professors, and experts.

The questionnaire included three major parts. The first part involved demographic and contextual information such as age, gender, marital status, place of residence, and grade level. The second part involved two separate sections about cigarettes and hookah with yes or no questions such as even once-in-a-lifetime experience during the recent 30 days and a question about their tobacco use initiation age. The third part included 17 statements about tendency factors and 8 statements about preventive factors in youth smoking with two choices of yes and no. At the end of this section, the students were asked if other unmentioned factors came to mind.

Data were gathered from universities with the previous approval of the vice-chancellery of education in each university. The students completed the questionnaires after education experts provided the necessary explanations. Research units were assured of the anonymity of their information. Due to the importance of ethical principles,

the questionnaires were designed to be anonymous.

Data were processed via SPSS version 25 after codification and analyzed using descriptive statistics, tables, chi-square inferential statistics, and the Pearson coefficient. For questionnaires, a significance level of 5% was assumed.

Results

One thousand fifty-two university students studying in 2023 at KMU, Bahonar University, and Farhangian University participated in this study, with an average age of 21.67 ± 2.86 . Of these, 51.9% were women, and 12.3% were married. Regarding accommodation, 56.1 were living in dormitories, and 38.4% were from Kerman and living with their families. Regarding education, 83.2 % were undergraduate, and 15.4% were graduate students (Table 1).

According to the students' self-report, 30.4% and 41.3% had used cigarettes and hookah at least once, respectively. The data shows that 9.5% of cigarette smokers were under 18 when they smoked their first cigarette for the first time, and 21.2% of hookah smokers were under 18 when they used hookah for the first time. According to the participants, 19.8% and 17.0% had used cigarettes and hookah in the previous 30 days, respectively. Statistical analysis showed that tobacco use among male students was significantly higher than among female students ($P=0.001$).

The most mentioned reasons for students' tendency towards smoking were entertainment (53.7%), alleviating stress (50.8%), and peer pressure (50.5%). It was reported that the most effective factors that prevent students from substance use were awareness of the harmful effects of drugs (54.0%), a peaceful family environment (50.7%), and a commitment to ethical principles (46.4%) (Table 2).

Discussion

In this study, the main cause of students' tendency

towards tobacco use was entertainment (53.7%), followed by alleviating stress (50.8%) and peer pressure (50.5%). Khayati et al considered entertainment as the main reason for the continued use of tobacco, followed by dependence and emotional problems (14). Khodadost et al also stated that entertainment and curiosity were significant reasons for smoking cigarettes and hookah (11). Meanwhile, the findings of Hosseini et al considered contextual variables, smoker relatives, and easy access as the factors for the tendency towards smoking in Iran (19). Also, according to Habibpour, social pressure, fashion, and attractiveness of smoking were major social reasons for smoking among Tehrani citizens. Most participants in this study mentioned psychological reasons for using tobacco, especially cigarettes, such as fatigue relief, avoiding sadness, and alleviating stress (18). The main reason why students from Varamin smoke was reported to be curiosity (3); however, in the current study, these reasons ranked lower, which might be the result of different target groups. Also, in foreign studies, entertainment is not the first reason for tobacco use (20-22), whereas, in the current study and similar studies in Iran, entertainment has been the first reason for the initiation and continuation of tobacco use (11,14). This could be the result of the lack of entertainment in Iran. Also, because of various psychological problems and social and individual entanglements, the youth need entertainment. Since the youth have various needs such as power, pleasure, peace, and entertainment, they must be addressed by designing leisure activities and managing their free time (19). Therefore, vice-chancelleries of universities and other concerned parties are recommended to design various leisure activities and physical exercises to fill students' free time.

In the current study, 19.8% and 17.0% of students smoked cigarettes and hookah in the previous 30 days, respectively. In the study by Khayati et al, the prevalence was 15.6% for using cigarettes and 14.7% for using hookah

Table 1. The frequency of smoking cigarettes according to participants' demographic variables

Variables	Frequency	Using cigarettes at least once		P value	Using cigarettes in the previous month		P value
		Yes n (%)	No n (%)		Yes n (%)	No n (%)	
Gender	Male	505	195 (35.6)	0.000	134 (26.5)	371 (73.5)	0.000
	Female	544	125 (23.0)		72 (13.2)	472 (86.8)	
Marital status	Single	916	283 (30.9)	0.610	187 (20.4)	729 (79.6)	0.129
	Married	129	37 (28.7)		19 (14.7)	110 (85.03)	
Education level	Associate	15	6 (40.0)	0.149	5 (33.3)	10 (66.7)	0.178
	Undergraduate	854	247 (28.9)		161 (18.9)	693 (81.1)	
	Postgraduate	54	19 (35.2)		10 (18.5)	44 (81.5)	
	Doctorate	106	42 (41.3)		28 (28.7)	78 (71.3)	
residence status	Dormitory resident	584	155 (26.5)	0.000	95 (16.3)	489 (83.7)	0.002
	Student house	57	28 (49.1)		18 (31.6)	39 (68.4)	
	With family	400	134 (33.5)		92 (23.0)	308 (77.1)	

Table 2. The effective factors in students' tendency towards tobacco use and its prevention in research units

Effective factors in a tendency toward tobacco use	Number	Percent
Entertainment	565	53.7
Alleviating stress (psychological and mental pressure)	534	50.8
Peer pressure	531	50.5
Curiosity	455	43.3
Family problems	436	41.4
Being trendy	432	41.1
Reducing anger	421	40
Accessibility	406	38.6
Smoker relatives	372	35.4
Refreshing	284	27
Dormitory life	255	24.2
Following celebrities' behaviors	229	21.8
Stubbornness	221	21
Fear of being rejected from the group	217	20.6
Low-cost substance	214	20.3
Lack of family control	190	18.1
Sleeping peacefully	137	13
Effective factors in tobacco use prevention	Number	Percent
Awareness of the harmful effects of smoking	565	54
Peaceful family environment	533	50.7
Commitment to ethical principles	488	46.4
Timely personal problem-solving	381	36.2
No user in family	370	35.2
Parental supervision	329	31.3
Inaccessibility of substances	328	31.2
Religious beliefs	226	21.5

(14). Also, Khodadost et al reported that 22% smoked cigarettes and 23.3% smoked hookah (11). It was stated that among the students of Varamin, 6.9% and 23.6% smoked cigarettes and hookah, respectively (3), and the statistics were 15.3% and 24.2%, respectively, among students of Hamedan (10).

According to the self-report of the samples in the current study, 30.4% had experienced smoking cigarettes at least once, and 41.3% had used hookah at least once. In Khayati et al, 47.46% of students had experienced cigarettes at least once, and 51.04% had smoked hookah at least once (14). Among students living in the dormitory of Tehran Shahid Beheshti University, 23.8% had a cigarette smoking habit (15), and 23.7% of students in Turkey were smokers in another study (26). In Great Britain, among the youth aged 11 to 18 years, one in ten have tried hookah (27), which suggests that hookah has become popular and prevalent among the young even more than cigarettes in some places. For example, hookah smoking among 18- to 26-year-old students in one town of KSA is reported to be

63.46% (28). This phenomenon is rising among Iranian adolescents (2, 16).

Among the research population of Hemayatkhah et al, cigarette smoking was more socially stigmatized than hookah; in other words, smoking hookah has become a familiar and expected behavior (3). It might be because of this belief that hookah is less harmful than cigarettes and more accessible and low-cost. The wrong notion that hookah is not addictive and the fear of losing friends could be other reasons (16). These observations show the necessity of education about its dangers and addictiveness in society, and in policymaking about tobacco use, it should be treated the same as cigarettes (1). It is recommended that responsible parties consider this problem as a healthcare urgency and priority. It is also recommended that comprehensive tobacco control programs be implemented to end this epidemic.

The findings of this study showed that among those who have experienced smoking cigarettes and hookah, 9.5% had experienced cigarettes for the first time before 18, and 21.2% experienced hookah for the first time before 18. Of these students, 11.4% initiated smoking cigarettes before 13, and 6.5% smoked hookah for the first time before 13 (14). In Hemayatkhah et al, 50% of students had initiated smoking cigarettes or hookah between 12 and 13 (3). In another study, 14.5% of Brazilian adolescents had started smoking cigarettes before 12 (22). Also, the average age of smoking initiation among Asian smoking men has decreased in successive birth groups (29). The decrease in the age of smoking initiation is considerable in Iran and the world (11,13). An early initiation of smoking creates problems for many reasons (15). Considering smoking cigarettes and hookah, age is a crucial factor in such a way that the lower the age of initiation, the higher the chance of becoming a permanent smoker (1). Experiencing smoking at lower ages might lead to a permanent habit and make it harder to quit in the following years because nicotine dependence is more severe in those who start smoking at earlier ages, lowering the chance of cessation (15). Since it is crucial to prevent tobacco use escalation and spread at lower ages in order to reduce its long-term health side-effects (30) and the school-based prevention programs have been relatively effective among African youth (31), it seems necessary to design and implement preventive interventions in schools and universities. Using trained peers could play a great role in reducing tobacco use.

Another finding of this study was a significant difference in tobacco use between male and female students, with higher use reported among male students ($P=0.001$). Similar studies have shown this significant relationship between gender and tobacco use (10,21,26,27,32); however, Habibpour found no significant difference in tobacco use between men and women. Generally, men smoke cigarettes to relieve fatigue and social pressure and

to avoid sadness, and women use tobacco to experience something new because of social pressure and trends (18). Most studies have not studied men and women separately, so separate studies based on gender are needed to determine the frequency of and influential factors in tobacco use.

Study Limitations

Since the third part of the questionnaire was designed by the researcher, there might be some other effective factors in different circumstances. Therefore, it is recommended that further studies conduct a systematic review before selecting the effective factors.

The other limitation of this study was the result of the self-reporting data-gathering method. Participants may hide their smoking habits or practice self-censorships and underreport their use. Considering the lower social stigmatization of hookah compared to cigarettes, this limitation could be less definite in the case of reporting hookah smoking.

Conclusions

The increase in tobacco use among young people is alarming, and comprehensive efforts are needed to control it. However, before any action, it is necessary to identify factors and motivations of the tendency towards smoking in order to be able to plan and make decisions accordingly. In this study, entertainment was a major reason for young people's tendency toward tobacco use. Since young people and students are the country's future leaders, it seems essential to address the problem of filling their leisure time with various entertainment programs and healthy physical activities. Also, training life skills emphasized self-control, self-efficacy, problem-solving, elevating self-esteem, and the ability to say no.

The accessibility and low cost of hookah and the widespread misconception about its addictiveness and low risk make it an accepted social behavior, which means that education about its harms and addictiveness is needed in society. It is recommended that concerned authorities consider this problem a healthcare priority and an emergency. It is better to remember the importance of family as a safe environment and the commitment to ethical principles while using effective methods to educate and inform people about the consequences of tobacco use.

Authors' Contribution

Conceptualization: Fatemeh Balali Meybodi, Sadollah Rezazade.

Data curation: Fatemeh Balali Meybodi, Sadollah Rezazade.

Formal analysis: Fatemeh Balali Meybodi, Azadeh Sadeghi.

Funding acquisition: Fatemeh Balali Meybodi, Sadollah Rezazade, Mohammad Samari, Mina SHarafi, Azadeh Sadeghi.

Investigation: Fatemeh Balali Meybodi.

Methodology: Fatemeh Balali Meybodi, Sadollah Rezazade, Azadeh Sadeghi.

Project administration: fatemeh Balali Meybodi.

Software: Fatemeh Balali Meybodi, Azadeh Sadeghi.

Supervision: Fatemeh Balali Meybodi.

Validation: Fatemeh Balali Meybodi, Sadollah Rezazade, Mohammad Samari.

Visualization: Fatemeh Balali Meybodi.

Writing-original draft: Fatemeh Balali Meybodi.

Writing-review & editing: Fatemeh Balali Meybodi, Azadeh Sadeghi.

Competing Interests

The authors did not report any conflict of interest.

Ethical Approval

This study was approved by the Ethics Committee of Kerman University of Medical Sciences with the code of IR.KMU.REC.1402.427.

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