Cigarette Smoking among Iranian University Students: Reasons and Attitudes

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Objective: According to the fact that university students are role models for the whole society, this study was performed to evaluate reasons of and attitudes toward cigarette smoking among Iranian university students.

Methods: This study was performed as a cross-sectional self-reported questionnaire based study among university students of Kerman city of Iran. Our questionnaire was attributed to 1750 university students who were selected randomly. Current smoking was defined as using cigarette within the last 30 days. Participants' demographic data in addition to their reasons for and attitudes toward smoking were obtained. Frequency, distribution and factor analysis of attitude items followed by a varimax rotation was used to evaluate the attitudinal statements.

Results: From 1750 university students, who filled our questionnaire, 31% were ever smokers (51% males and 15% females) and 11% were current smokers (21.5% males and 2% females). Avoiding depression and taking pleasure were the reasons mentioned as important reasons the most frequently. Besides, the most frequently attitudinal statements were as follows:" My parents upset knowing my habit" and "Cigarette causes disease". Furthermore, the mean score of encouraging attitudes was significantly higher among males, current smokers and those with a tendency toward cigarette smoking.

Conclusion: This study confirmed that addressing attitudes toward smoking while developing preventive strategies against it among university students is an obvious necessity.

Declaration of interest: None.

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Introduction

Tobacco use is one of the major preventable causes of death in the world and is one of the most prevalent public health problems in Iran. The rate of cigarette smoking among Iranian adults with 19 to 49 years of age was reported to be 21% in men and 7% in women (1). On the other hand, prevalence of cigarette smoking is shown to have an increasing trend in developing countries in recent years (2,3). According to role- modeling of university students for children and adolescents, their tobacco use may increase the cigarette consumption in whole society consequently (4,5). Indeed, cigarette smoking of university students can even be considered as a useful index of tobacco use among adults (5).

In spite of different studies which investigated the prevalence and risk factors of smoking among youths in Iran (1,3,6-10), limited information is available regarding this issue in Iranian university students compared with other developing countries (11). Thus, underlining the role modeling of university students, this study intends to evaluate reasons of and attitudes toward cigarette smoking among Iranian university students.

Materials and Methods

In this cross- sectional study, which was performed in 2006, data were gathered from 1750 randomly selected students of two universities of Kerman. Kerman city is located

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in the south west of Iran, 1000 kilometer far from the capital, and has a population of more than half million. This study was approved by ethical research committee of Kerman University of medical sciences.

A self- reported questionnaire including questions on demographic data such as age, gender and marital status, six questions on frequency of cigarette smoking, seven questions on reasons and ten questions on attitudes toward smoking was used in the present study. Current smoking was defined as cigarette use during the last 30 days (12).

The questionnaire was distributed to volunteer participants by research personnel during university classes on general courses, and after a brief explanation of aim and scope of the present study. Anonymous filled in questionnaires were gathered in the same section. The content validity of our questionnaire was confirmed based on literature review and an expert panel. For evaluating its reliability the test- retest method was used in a pilot study where interclass correlation coefficient was less than 0.8.

Data analysis was carried out using Statistical package for social sciences (SPSS) software, version 17. Statistical analysis included frequency, distribution and factor analysis of attitude items. Principal axis factor analysis followed by a varimax rotation was used to identify key dimensions of the attitudinal statements. T-test was then used to compare the mean score of attitudes between the two groups of smoker and non-smoker university students.

Results

From 1750 students of Kerman University who were invited to participate in this study, 1719 students completed the questionnaires, with a response rate of 98%. Forty two of these filled in questionnaires were excluded due to their incomplete data and 1677 questionnaires were finally enrolled.

The mean age of participants was 21.2±2.1 years, most of whom were single (92%) and females constituted 52% of participants. Five hundred and nineteen of participants (41%) were intended to smoke, while 516 of them (31%) were experienced cigarette smoking during their lifetime. A total number of 184 (11%) were current smokers, from whom 88 percent were male. Approximately 2% of current smokers consumed more than 10 cigarettes per day.

The frequency of agreement with each of attitudinal statements is shown in Table 1. More than 90% of participants believed that their parents would be upset knowing cigarette smoking habit of them, and believed that cigarette smoking causes diseases.

Table 1: University students' attitudes toward cigarette smoking

Phrases	Agree	Disagree
Cigarette smoking is a normal habit	26%(445)	74%(1205)
I accept a cigarette from my close friend	11.8%(206)	88.2%(1444)
Cigarette smoking develops social personality	3.6%(63)	96.4%(1684)
I tolerate who smoke near me	38%(665)	62%(985)
Cigarette smoking is expensive	73.2%(1281)	26.8%(469)
Cigarette smoking causes diseases	92.6%(1620)	7.4%(130)
Even smoking one cigarette might lead to addiction	44.2%(773)	55.8%(977)
Cigarette smoking destroys the beauty	55.3%(968)	44.7%(782)
My parents upset knowing my smoking habit	94.7%(1657)	5.3%(93)

"Encouraging" attitudes are in italic while "Discouraging" attitudes are in bold.

On the other hand, avoiding depression (42.4%) and taking pleasure (41.8%) were considered as the most important reasons of smoking by university students (Table 2).

Table 2: The frequency of importance of reasons toward smoking in university students

Reasons	Important
Avoiding depression	42.4%(742)
Taking pleasure	41.8%(732)
To relief stress	13.6%(238)
To relief anger	0.5(9)
Easier problem solving	0

Principal axis factor analysis of attitude items followed by a varimax rotation indicated that attitudes could be categorized into two types. One category which includes positive attitudes is named as encouraging, whereas another category containing negative attitudes is named discouraging. The Cronbach's alpha for both dimensions was approximately 0.60. The mean score of encouraging attitude was significantly higher in males, current smokers, ever smokers and those with a tendency toward cigarette smoking compared with those who have discouraging ones (Table 3).

Table 3: Mean of encouraging and discouraging attitude scores in different group of university students

	Discouraging Scores	Encouraging Scores
Non Current smokers	3.13 ± 0.01	1.55 ± 0.01
Current smokers	2.66 ± 0.04	2.42 ± 0.04*
Male	2.93 ± 0.02	1.81 ± 0.02*
Female	3.19 ± 0.02	1.52 ± 0.02
Tendency to cigarette smoking	2.88 ± 0.04	1.92 ± 0.02*
No Tendency to cigarette smoking	3.21 ± 0.01	1.46 ± 0.01
Ever smoker	2.81 ± 0.02	2.01 ± 0.03*
Never smoker	3.20 ± 0.01	1.50 ± 0.01

Data are expressed as Mean ± SE of scores.
*p<0.001 indicates a statistically significant difference between discouraging and encouraging attitudes.

Discussion

This study was performed to assess the reasons of and attitudes toward cigarette smoking among university students of Kerman city of Iran. Confidentiality and autonomy of participants were respected to ensure the validity of data.

One hundred and eighty four (11%) of 1677 enrolled questionnaires were filled by current smokers, with a mean age of 21.2 ± 2.1 years. Besides, the mean age of first smoking experience which was shown to be 14.5±2.4 and 13.2±2.5 years among Iranian adolescents in 2006 and 2007 respectively has been confirmed in this study (13,14). On the other hand, this variable was shown to be 17.94±1.64 in another study among Iranian university students in 2008 (6). The mean age of smoking initiation is reported to be 19 years in Syria, 17 years in Brazil and 14 years in USA (15,16).

As mentioned before, prevalence of smoking was reported to be approximately 11% in the present study. This result is the same as the prevalence of smokeless tobacco use among students in Belucestan, which is a neighbor province of Kerman (6). This observation is in accordance to the obtained data of Iran's general population (1). In contrast, this prevalence was markedly fewer than the results of similar studies among university students of Syria (18.6%), Turkey (49.4%), and USA (28.5%) (15-17).

Moreover, a relation was found between cigarette smoking and gender in the present study (1,13,18). Similar results have been obtained in previous studies in Iran and its neighbors. It means that male students were more likely to be life time smokers than females (3,6). Controversially, in an international study conducted in 23 countries, the prevalence of current smoking in males (34%) was similar to females (27%). This prevalence was even shown to be the same in both genders in some studies (5).

Most of participants declared that smoking makes smokers ugly, leads to addiction and causes diseases. These statements were similar to Karachi students' beliefs (18). It was encouraging to see that students thought that smoking was injurious to health. Indeed, it means that students' knowledge of smoking's side effects and the probability of its dependency was high (table 1). From the other side, 38% of participants tolerated breathing in someone else's secondhand smoke and 26% considered smoking as a normal habit. It can be claimed that in spite of good level of students' knowledge, a social tolerance with positive attitudes toward smoking still exists. This positive attitude was seen in another study conducted among adolescents in Iran (8).

According to the fact that frequency and development of cigarette smoking is significantly predictable through attitudes (19), it is important to understand the factors that might influence students' smoking behaviors. Regarding our findings increasing discouraging factors along with decreasing encouraging factors might change subsequent behaviors of university students in future, while increasing the cost of cigarette would not influence their future smoking behaviors. As most of university students in Iran are financially dependent on their parents, the cost of cigarettes could be only a limiting factor until they become independent and find a job in future. Increasing students' level of knowledge would not be effective either because the number of smoker students increases during studying years at university (20). Moreover, people with higher level of education have shown to smoke more (7). It is paradoxical that students begin and continue cigarette smoking in spite of their increased knowledge of its risk factors (20). This may reflect that the important determinant for smoking is the social acceptance of

smoking. Hence, social personality was one of our encouraging factors on which in dept studies should be performed.

Parental pressure was another important item that can discourage students from smoking habit. This might also lead to adolescents' hiding of tobacco use (3). There is a significant positive correlation between parental beliefs and risk of smoking among students (21). From the other side, a significant association has been found between students' having a smoker family member or a smoker friend with prevalence of smoking in them (3). Furthermore, although parental smoking might influence the initial stage of smoking attempts, the following social conformation is more dependent on smoking habits of peers, siblings and best friends (22,23).

University students' attitudes toward encouraging and discouraging factors are summarized in Table 1. Personal characteristics such as self presentation and social behaviors in addition to their beliefs were confirmed as smoking initiative risk factors in a previously performed qualitative study (24). In this regard, "having social personality" and considering smoking as an acceptable and tolerable behavior, especially when it was offered from a "close friend", leads to exclusive group formation. Peer group identity has been mentioned as an important developmental issue previously. The influence of role modeling on development of personal traits and formation of personal habits was cited in previous studies as well (14,25). Additionally, "strain theory" might influence cigarette smoking culturally (26). Hence, we suggest more social skills training approaches rather than providing university students with more information.

In conclusion, university period appeared to have critical influences on the development of social personality and identity formation. A strong association has been confirmed between youths' smoking and adult's substance use which impacts inevitably on future social health (27). Hence, some investigators suggested school based prevention programs (28) or limitation of direct and indirect tobacco use promotion through introducing tough rules against smoking in public areas (12,18,28,29). However, we suggest more social skills training approaches rather than providing information about harmful effects of cigarette smoking or forbidding it.

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