

Smoking Intensity and its Relation to General Health of the Students of Kerman University of Medical Sciences, Iran

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Original Article

Abstract

Background: Considering the need for a better understanding of smoking among the student population and its impact on their mental health and their success, this study was conducted in Kerman Medical Sciences University.

Methods: This cross-sectional study on 772 students, chosen by random sampling, was conducted in 2007. Subjects were assessed with 28-question questionnaires that included demographic questions, questions about smoking, fagerstrom nicotine dependence test, and a general health questionnaire (GHQ).

Findings: The prevalence of smoking was 15. 8%. Records of failing in high school and conditional failures of a university semester in smokers were significantly higher than non-smokers. The average scores of the mental health questionnaires showed a significant difference between smokers and non-smokers ($P < 0.001$). Based on the results, 35.2% of smokers and 5.9% of non-smokers had mental illnesses.

Conclusion: Since cigarette dependence in teens and youth are significantly high and failures in education and mental health disorders are more common among them, it is necessary that the authorities pay more attention to the social skill training and timely diagnosis of mental disorders.

Keywords: Frequency, Cigarettes, Public health, Students, Kerman

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Introduction

Nicotine is one of the most addictive and most widely used substances in the United States and around the world. About 20% of the population of the USA is nicotine dependent, and nicotine dependence is one of the most common psychiatric disorders.¹ Nicotine involves cholinergic receptors and strengthens the release of acetylcholine, serotonin, and beta-endorphin. Smoking causes lung cancer, upper respiratory tract cancer, esophagus, bladder, pancreas cancer, and cancer in other organs, emphysema, cardiovascular diseases, and stroke. Passive cigarette smoke exposure is associated with lung cancer in adults and respiratory illnesses in children.^{1,3} Smoking is strongly associated with psychiatric disorders, but this association varies according to different age groups.^{4,6} For instance, Ford et al. reported that a third of 3432 adolescents between the ages of 15 to 14 years from New Zealand smoke, and about a third of the adolescents up to 17 years of age have tried cigarettes.⁷ Teenagers who smoke are more exposed to other drugs than non-smoker teenagers.¹ Moreover, by this exposure the risk of physical and psychological symptoms increases.^{1,6} Subsequently, the functionality of this active educating population, their work, and communication with others is affected. Therefore, examination of the frequency of smoking and its connection to the general health of the students of Kerman University of Medical Sciences, Iran, was taken into consideration.

Methods

This cross-sectional study was conducted in 1989. The research population was formed by the students of Kerman University of Medical Sciences who were selected by simple random sampling. For the purpose of collecting data a questionnaire was given to the students to complete without any records of their name and family name. First, the purpose of the project and how to complete the questionnaires were explained, and the confidentiality of the recorded information in the questionnaires and the importance of honest responses were emphasized. Then, the students were asked to complete the questionnaires if they would like to. From the 800 questionnaires that were distributed, 772

questionnaires were completed with the collaboration of the students.

The questionnaires were consisted of three sections. The first section was about the demographic characteristics of the study subjects, including age, gender, family size, birth order, whether their family members smoke or not, their household income, questions about the history of failing in school, being accepted in their field of interest, being interested in their academic field of study, and the history of conditional failure of university semesters. The second section included questions about smoking, shisha, tobacco, and the Fagerstrom test that showed the intensity of smoking among the students under study. The specificity and sensitivity of the Fagerstrom test were respectively reported to be 67.5% and 76.2%, and its reliability and validity were verified.⁷

Based on the times of smoking craving after waking up, the Fagerstrom test shows the desire to quit smoking, smoking in prohibited places, difficulty of quitting smoking, and times of smoking of cigarettes, depending on the degree of dependence on smoking, in cigarette smokers. The third section of the questionnaire includes 28 general health questions (general health questionnaire). This questionnaire consists of four subscales of physical disorders, sleep disorders and anxiety, social dysfunction, and depression each of which has 7 questions. Total scores under 23 indicate mental health, scores between 23 and 37 indicate average mental health, and higher scores indicate low mental health and having psychological problems. The reliability coefficient of this questionnaire using Cronbach's alpha for the whole test and its subscales, respectively, were 0.89, 0.76, 0.8, 0.5, and 0.85.¹ The researches done in Iran reported the validity of this questionnaire as good and excellent.² Data analysis was done with SPSS for Windows (version 14; SPSS Inc., Chicago, IL., USA) using Student's t-test.

Results

Of the 772 students who completed the questionnaire 404 were male (52.3%) and 368 were female (47.7%). The mean age of male subjects was 22.87 ± 3.7 and the mean age of female subjects was 20.9 ± 7.3 , and the average total was 21.88. 15.8% of the cases (122 cases) were smokers; 25.4% (99 people) of them were male and 6.3% ($n = 23$) were female. The difference between the two

groups was statistically significant ($P < 0.001$). The subjects under study were examined to determine the intensity of smoking by Fagerstrom test, and the results are shown in table 1.

Table 1. The results of Fagerstrom test on smoking intensity of students

Percentage	Number	Dependence	Scores
84.2	650	Non-smokers	0
1.7	13	Very little	0-2
6.7	52	Little	3-4
2.6	20	Average	5
3.2	25	High	6-7
1.6	12	Intense	8-11

The mean of the total scores of four sections of the mental health questionnaire is listed in table 2 (35.24%). 43 out of 122 smokers (5.9%) and 27 out of 452 non-smokers had low mental health.

In this study, 49 subjects had a history of failing in high school, 51% were smokers versus 13.4% smokers who did not fail in high school. In the matter of acceptance in the field of interest in university, 575 students were admitted in their desired field; of which 13.9% were smokers versus 21.1% smokers who are not accepted in their field of interest. 662 of the subjects were interested in their academic discipline of which 13.4% were smokers versus 30.9% smokers of those who were not interested in their academic discipline.

Of the 650 subject who did not have a history of failure in university 89.2% were non-smokers and 10.8% were smokers versus 48.6% smokers who failed. It should be noted that all of the mentioned cases were significant with $P < 0.001$. In 43.5% of the cases the first cigarette was shared with them by a friend and 34.8% of the cases got the first cigarette themselves. 56.8% of subjects smoked less than 10 cigarettes per day, 32.1% smoked 11-12 cigarettes per day, and 6.4%

smoked 21-40 cigarettes per day. Hookah and pipe (48.6% and 11.1%) were most commonly used among smokers. Common causes of smoking are: it makes me feel at ease (23.5%), I can't quit (16.8%), I enjoy it (17.6%), my friends smoke (16.0%), and it's a trend (14.3%).

Discussion

Although it is commonly stated that children smoke their first cigarettes in primary school, smoking often starts in adolescence.⁸ At this age, factors such as peer pressure, the influence of parenting methods and how they model themselves on their families, indoctrination of the environment of the people they know, feeling of inferiority and lack of self-confidence, and an undeveloped personality as an adolescent are the causes for a person to start smoking as a habit. In this study, the prevalence of smoking was 15.8% of which 25.4% were male and 6.3% were female. In a study, the prevalence in the country in 2011 was reported to be 26%.⁹

Moreover, in previous researches the prevalence of smoking among students was 30.8% in Medical Sciences Universities of the country in 2010, 11.0% in Kerman universities, and 6.2% in Golestan University of Medical Sciences in 2008, 21.5% in Kerman University of Medical Sciences, 5.0% in Tehran University of Medical Sciences, and 9.0% in Bandar Abbas University of Medical Sciences in 2007, 7.4% in Ardebil University of Medical Sciences in 2005, 7.0% in Gilan University of Medical Sciences in 2004, 15.6% of the male students in Yasouj University of Medical Sciences in 1999, 9.1% in Shiraz University of Medical Sciences in 1998, 22.6% of the male students in Tabriz University of Medical Sciences in 2006.¹⁰⁻²¹ This prevalence was 15.26% among the high school seniors in Kerman in 1984, and 21.2% in 2000-2001.²²

Table 2. Comparison of the mean of mental health component of both smokers and non-smokers

Measure	Variable	Mean	Standard deviation	P
Physical symptoms	Smoker	13.24	4.46	0.001
	Non-Smoker	9.25	2.20	
Anxiety and sleeping disorder	Smoker	14.90	5.02	0.001
	Non-Smoker	9.48	1.80	
Social functioning	Smoker	14.41	4.01	0.001
	Non-Smoker	9.63	1.84	
Depression	Smoker	15.41	5.60	0.001
	Non-Smoker	8.86	1.80	

A total of 122 smokers and 452 non-smokers

The high prevalence of smoking in students may be, from their own perspective, due to their attempt at acquiring a high social situation. On the other hand, smoking cessation programs emphasize on decreasing the long term risks of smoking, but these programs are less accepted by the adolescents. Furthermore, adolescents take into consideration its fast acting benefits such as mood improvements, improved concentration, and stress reduction. In this study, the overall scores of four sections of the mental health questionnaire were significantly higher for non-smokers than smokers. In total, smokers had experienced psychosomatic symptoms, anxiety, insomnia, social functioning disorders, and severe depression significantly more than non-smokers. These findings are consistent with the results of similar studies. Dudas et al. stated that the prevalence of smoking in adolescents between the ages of 14 to 17 are high and students who smoke showed higher anxiety and depression compared to non-smoker students of the same age.⁹ They also stated that smokers are more nervous and irritable than non-smokers, and so anxiety and depression had a significant correlation with smoking in boys but not in girls.⁹ The results of the study by Hojati showed that drug addicts' quality of life and mental health are lower than non-addicts.²³

A notable difference exists between the mental health components of healthy people and addicts.²⁴ Dierken et al. discovered that 53% of people with drug abuse have at least one serious mental illness.²⁵ Hoseinifar et al. found, in their study, that 31% of addicted individuals in the sample had low mental health.²⁶ In explaining the reason for this theory we can mention factors such as higher drug consumption by mental disorder patients, and reduction in skills of dealing with drug abuse due to mental disorder and thus the tendency to drugs. Drug abuse, apart from the skyrocketing costs of drugs, has many other negative consequences, such as mental disorders, that addicts have difficulty controlling. In this study, with the increase in severity of smoking dependence,

psychosomatic symptoms of anxiety and insomnia, and depression also increased; however, such a connection did not exist with social functioning disorders. Similarly, in a study by Dierken et al. there was a significant relationship between anxiety disorders and smoking, and smoker adolescents had major depression disorders, OCD, drug abuse, and other destructive disorders (confrontational behavior disorder).²⁵ In a study in Turkey, the prevalence of smoking among 323 students was 17.0%, and 26.3% of them had psychiatric disorders.²⁷

In this study, history of failing in high school, being accepted in a field of study and being interested in the academic field of study, and conditional failure of university semesters were compared in both groups of smokers and non-smokers. This comparison showed a significant difference between the two groups. It is clear that the correlation between mental disorders and nicotine is complicated and needs further studies. Smoking can affect students' academic achievements and mental health. Therefore, public health authorities must consider this matter at university level and identify the factors involved in the initiation of smoking and early signs of mental disorders. They must also take necessary educational and interventional action, such as social skills training in peer groups, to prevent adverse outcomes.

Conclusion

The high prevalence of smoking students on the one hand and higher prevalence of academic underachievement and mental health problems on the other hand necessitates that decision makers pay more attention to students' problems. It is to be hoped that social skills education and effective intervention for this group of students' mental health will result in successful academic achievement and mental health improvement in the near future.

Conflict of Interests

The Authors have no conflict of interest.

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فراوانی شدت مصرف سیگار و ارتباط آن با سلامت عمومی دانشجویان دانشگاه علوم پزشکی کرمان

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مقاله پژوهشی

چکیده

مقدمه: مطالعه حاضر با توجه به نیاز برای شناخت بهتر مسأله مصرف سیگار در قشر دانشجو و تأثیر آن بر سلامت روان و موفقیت آن‌ها در بین دانشجویان دانشگاه علوم پزشکی کرمان صورت گرفت.

روش‌ها: مطالعه توصیفی- مقطعی حاضر بر روی ۷۷۲ دانشجو با نمونه‌گیری تصادفی ساده در سال ۱۳۸۶ انجام شد. نمونه‌ها با پرسش‌نامه‌ای که شامل سؤالات دموگرافیک، سؤالات مربوط به مصرف سیگار، آزمون بررسی اعتیاد به نیکوتین Fagerstrom و پرسش‌نامه ۲۸ سؤالی سلامت عمومی (General health questionnaire یا GHQ) بود، مورد بررسی قرار گرفتند.

یافته‌ها: شیوع مصرف سیگار در دانشجویان ۱۵/۸ درصد بود. سابقه مردود شدن در دبیرستان و سابقه مشروط شدن در دانشگاه در افراد سیگاری به طور معنی‌داری بیش از افراد غیر سیگاری بود. میانگین امتیازات کسب شده در پرسش‌نامه سلامت روان اختلاف معنی‌داری را بین دو گروه سیگاری و غیر سیگاری نشان داد ($P < 0/001$) و بر اساس نتایج، ۳۵/۲ درصد افراد سیگاری و ۵/۹ درصد افراد غیر سیگاری از نظر سلامت روان بیمار بودند.

نتیجه‌گیری: از آنجایی که وابستگی به سیگار در سنین نوجوانی و جوانی به طور قابل توجهی بالا می‌باشد و ناکامی‌های تحصیلی و اختلال در سلامت روان در افراد سیگاری بیشتر دیده می‌شود؛ لازم است که متولیان سلامت جامعه، جهت آموزش مهارت‌های اجتماعی و تشخیص به موقع اختلالات روانی در این گروه توجه بیشتری را مبذول دارند.

واژگان کلیدی: فراوانی، سیگار، سلامت عمومی، دانشجویان، کرمان

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