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Socio-Demographic Characteristics Associated with Cigarettes Smoking, Drug Abuse and Alcohol Drinking among Male Medical University Students in Iran

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ABSTRACT

Background: Substance abuse is one of the most complicated social problems. Understanding socio-demographic characteristics of those who abuse substances could help deal with this problem more efficiently. The main objective of this study was to determine socio-demographic characteristics associated with alcohol drinking, cigarettes smoking and drug abuse among a sample of male medical university students in Iran.

Methods: This cross-sectional study was conducted in 2014 among 425 male medical college students randomly selected with the proportional to size among different faculties in Isfahan and Kermanshah medical universities in Iran. A self-report written questionnaire was applied to collect data. Data were analyzed by the SPSS-20.

Results: Mean age of the respondents was 19.9 yr (ranging from 18 to 22 yr). About 19.4%, 3.9%, and 10.1% of the respondents had a history of cigarette smoking, drug use, and alcohol drinking during the past three months, respectively. Logistic regression showed that mother's educational level, living place, economic status, and parents' divorce was the most influential predictive factors in substance abuse.

Conclusions: Considering the high prevalence of substance abuse (especially smoking and alcohol drinking), it seems essential to design educational interventions to prevent substance abuse, paying attention to predictive factors mentioned above, among college students.

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Introduction

Substance abuse is one of the most complicated human phenomena[1]. Considering cultural norms, wrong believes and geographical conditions (sharing boarders with a main producer of substances), Iran seems to have the conditions for being a significant place for substance abuse. In addition, based on official statistics, there are more than two million addicts in Iran, while 11 million are affected by their or other substance abuse in different ways[2-3], which leads to several sanitary, psychological and social problems like suicide, murder, violence and many illnesses[4]. Furthermore, smoking is one of the common leading causes of preventable deaths and introduced as one of the main risk factors to develop different types of diseases around the world, especially in relation to non-contagious diseases (like cardiovascular and respiratory diseases, cancer and stroke) [5-6]. Nevertheless, there are about one billion smokers around the world and it is estimated that one billion more people may start smoking by 2030[7].

More than 3 million people died yearly due to smoking at the end of the 20th century and it is predicted that it would increase to 10 million a year by 2020, where the highest mortality rate is reported in developing countries[8]. On the other hand, alcohol drink is one of the main reasons of mortality and disabilities; also, alcohol drink not only has negative physical outcomes, but also leads to invasion and aggression, dangerous sexual behavior, accidents and academic failure[9-12].

Despite the several side effects of substance abuse, it seems that substance abuse is increasing in developed countries especially among the youth[13]. Among all populations, college students are one of the groups in danger of substance abuse. Spread of psychological problems among students before attending universities and collage was similar to other coevals, but it increases after attending university because of stress and prepare the path for college students to abuse substances[14-16]. Prevalence of substance abuse among Iranian

college students were reported between 4.8 to 33% in previous studies[16, 17]. In this regards, 37.2% of male college students in Northern Ireland, Wales and England had a history of substance abuse in their life time[18]. Substance abuse and its consequences among college student populations (like; lack of intention and educational problems, psychological and physical illnesses, suicide, aggressive behavior, failing own identity and risky sexual behaviors) reminds the importance of planning and offering preventive intervention programs in universities. Therefore, investigating the situation and knowing present conditions of substance abuse among students is necessary in all steps of planning. In this regard, experts believe that epidemiological studies are the first step to design preventive programs[16]. For example, male students are in higher risk of experiencing and abusing drugs and alcohol drinks or smoking than female students[19, 20].

The main objective of this study was to determine socio-demographic characteristics associated with cigarettes smoking, drug abuse and alcohol drinking among a sample of male medical university students in Iran.

Methods

Participants and procedure

This cross-sectional study was conducted in 2014 on a sample of Iranian male students in Isfahan and Kermanshah medical universities in Iran. The sample size was calculated at 95% significant level [17], where considering the 20% attrition rate (rate of dropout among participants); a sample of 425 was estimated. To enroll the participants and collect data the following stages were done. First, each faculty in two medical universities was considered as a class (category); then based on proportional to size among male students in each faculty (medical, dentist, pharmacy, health and nutrition, paramedical, and nursing) participants were randomly enrolled into this study. Finally, the volunteers were given the self-questionnaire. Freshman and sophomore male students were considered as inclusion criteria in the study, while lack of interest to participate and incomplete questionnaires were introduced as extinction.

The sample size consisted of 425 persons; since incomplete questionnaires were excluded, the result of the response rate was 84% (N=355). The study protocol was approved by the institutional review board and Ethics Committee of the Isfahan University of Medical Sciences, Isfahan, Iran.

Measures

The participants were instructed about how to fill out the designed self-report questioner before gathering the required information. The questionnaire used here included two sections and comprised eighteen questions.

Socio-demographic characteristics

Background data inquired included age, marital status (single/married), faculty (medicine, dentistry, pharmacy, health and nutrition, paramedical, nursing), parents' educational level (primary school, secondary school, high school diploma, and academic education), having friends who had history of drug use (yes, no), having family who had history of drug use (yes, no), parents' divorce (yes, no), living place (with parents, dormitory, others), history of persuasion due to drug use (yes, no), economic status of family - is defined as describing someone's equipment's such as owning a house, furniture, car, etc.- (very weak, weak, average, good very good), initiation age for drug use, cigarette smoking, and alcohol drinking.

Alcohol drinking, cigarettes smoking and drug abuse

To assess whether or not the respondents had history of alcohol drinking, cigarettes smoking, or drug abuse (opium, crack, heroin), a question for each category was asked: "Have you consumed alcoholic drinks during the past three months?", "Have you smoked cigarettes during the past three months?", and "Have you abused illicit drug during the past three months?". The reply options for each question was "Yes" or "No".

Statistical analysis

Quantitative variables were expressed as means with SDs, and qualitative/categorical ones as frequencies and percentages. Multivariable logistic regression models were performed to predict study outcomes of alcohol drinking, cigarette smoking and substance use in the past three months. A stepwise backward approach was used to select the independent variables for the final models. Results of logistic models were expressed as ORs with 95% CIs. The level of significance was $P<0.05$. Data were analyzed by the SPSS software for Windows, ver. 20.0 (Chicago, IL, USA).

Results

Mean age of the subjects was 19.9 (SD: 1.1) yr (range, 18-22 yr). Table 1 presents more details of demographic characteristics of the participants.

44.5% of the respondents (158/355) were freshman students and 55.5% (197/355) were sophomore students. 3.9% (14/355), 19.4% (69/355), and 10.1% (36/355) of the respondents had history of cigarette smoking, drug use, and alcohol drinking during the past three months, respectively. Furthermore, 12.7% (45/355) of the respondents stated that they had received suggestions from others to use drugs. 23.7% (84/355) and 14.9% (53/355) of the respondents reported that their friends and family had history of drug abuse, respectively.

Furthermore, mean initiation age for cigarette smoking, drug abuse, and alcohol drinking was 14.8, 15.5 and 17.3 yr, respectively.

Logistic regression (backward stepwise method) building procedure was conducted and finally on 9th step (for cigarette smoking, and alcohol drinking) and 10th step (for drug abuse) the procedure was stopped and the best model was selected. Among the socio-demographic characteristics, level of mother's education, living place, economic status, and parents' divorce were the most influential predictive factors for substance abuse (Table 2).

Discussion

The present study aimed to determine the rate of smoking, drug abuse, and alcoholic drink, during recall period of three months and associated with socio-demographic characteristics among sample of Iranian medical college male students. 19.4%, 3.9% and 10.1% of the students reported cigarette smoking, drug abuse, and alcohol drinking respectively during the preceding three-month period of the study. In addition, since the alcoholic drink and narcotics are illegal in Iran

we thought that fear of confrontation with legal authorities may affect the study participation rate [21]. In our study 16% of participants did not complete their questionnaires, so were omitted from the study, a reason to that could be the fear to express drug abuse.

Table 1: Demographic Characteristics of the Participants

Variables	Number	Percent
Age (yr)		
18	53	14.9
19	79	22.3
20	100	28.2
21	91	25.6
22	32	9.0
Marital Status		
Married	17	4.8
Single	338	95.2
Faculty		
Medical	102	28.7
Dentist	58	16.3
Pharmacy	47	13.2
Health and Nutrition	33	9.3
Paramedical	54	15.2
Nursing	61	17.2
Father's educational level		
Primary School (5 Grades)	90	25.4
Secondary School (8 Grades)	42	11.8
High School (12 Grades)	126	35.5
Academic Education	97	27.3
Mother's Educational Level		
Primary School (5 Grades)	69	19.4
Secondary School (8 Grades)	56	15.8
High School (12 Grades)	170	47.9
Academic Education	60	16.9
Parents' Divorce		
Yes	12	3.4
No	343	96.6
Living Places		
With Parents	132	37.2
Dormitory	215	60.6
Others	8	2.3
Economic Status		
Very Weak	12	3.4
Weak	25	7
Average	201	56.6
Good	98	27.6
Very Good	19	5.4
Year of Study		
1st Year	158	44.5
2nd Year	197	55.5
Degree of Education		
BSc	148	41.7
MD	207	58.3
Native and Nonnative Status		
Native	203	57.2
Nonnative	152	42.8

Iran is one of many countries in which the prevalence of the substance abuse has been increasing; and substance abuse is one of the serious public health problem[22]; on the other hand, epidemiological studies are the first step to design preventive programs[16]. In this regards, recent studies of the college students reported high prevalence of the substance abuse. Serajzadeh et al.[23] in their study among 2531 Iranian college students reported that 20% and 10% of college students had experience of alcohol drinking and opium use at least once in their life, respectively. Furthermore, similar studies reported a rate of 4.8 to 33% for substance abuse among Iranian students[16, 17]. These reports as well as ours represent a relatively high rate of substance abuse among Iranians students, which necessitates administration of preventive interventions in this regard.

Webb et al. carried out a research on 3699 second year students in ten UK universities and reported that there were considerable differences in lifestyles between students in different university faculties[24]. Lifestyle could be various in different higher education fields of study; however, the present study was conducted on a small group of male medical care students, which may not be the representative of different student groups in Iran.

The results of the present study also showed that the average age of cigarette smoking, drug abuse and alcohol drink for the first time was 14.83, 15.5 and 17.34 yr, respectively. There was a significant decrease in the age of substance abuse initiation during the last two decades to less than twenty and even eight[3]. Most young adults who experienced using substances at their early years of their adolescence continued substance abuse while their intake amount and its related consequences increased accordingly[25]. Considering that substance abuse, especially at young ages, could result in several problems for people, their families and finally society, it is suggested to plan and implement drug abuse prevention programs at young ages.

Table 2: Multiple logistic regression analysis for socio-demographic characteristics related to cigarette smoking, drug abuse and alcohol drinking

Variables	Crude OR (95% CI)	*P* value	Adjusted OR (95% CI)	*P* value
Socio-demographic characteristics related to cigarette smoking				
Mother Education level				
Primary School	1.00	---	1.00	---
Secondary School	0.31 (0.13, 0.75)	0.009	0.33 (0.13, 0.80)	0.014
High School	0.36 (0.19, 0.68)	0.002	0.35 (0.18, 0.67)	0.002
Academic	0.08 (0.02, 0.30)	0.001	0.07 (0.02, 0.28)	0.001
Living Places				
With Parents	1.00	---	1.00	---
Dormitory	2.99 (1.56, 5.74)	0.001	2.89 (1.48, 5.66)	0.002
Others	5.49 (1.17, 25.66)	0.030	10.42 (1.81, 59.82)	0.009
Socio-demographic characteristics related to drug abuse				
Economic Status				
Very Weak	1.00	---	1.00	---
Weak	0.68 (0.09, 4.74)	0.699	0.68 (0.09, 4.74)	0.699
Average	0.15 (0.02, 0.86)	0.033	0.15 (0.02, 0.86)	0.033
Good	0.10 (0.01, 0.82)	0.032	0.10 (0.01, 0.82)	0.032
Very Good	0.27 (0.02, 3.45)	0.319	0.27 (0.02, 3.45)	0.319
Socio-demographic characteristics related to alcohol drinking				
Parent Divorce				
No	1.00	---	1.00	---
Yes	4.85 (1.38, 17.03)	0.013	3.70 (1.03, 13.23)	0.044
Living Places				
With Parents	1.00	---	1.00	---
Dormitory	4.11 (1.55, 10.90)	0.004	3.80 (1.42, 10.12)	0.008
Others	3.62 (0.37, 35.40)	0.267	3.69 (0.37, 36.07)	0.261

Results from regression analysis showed that mothers' educational level and living place were the most significant predicators for cigarette smoking. The higher the mothers' education level, the less the probability of smoking and living without parents increased the risk of smoking. Furthermore, economic conditions, also, were strong factors to predict drug abuse, where weaker economic conditions increased the chance of drug abuse. In addition, divorced parents, and living without parents were some of predictive factors for alcohol drinks among the college students. Buu et al.[26], mentioned the relation between low income and maladaptive behaviors among teens and young adults. Studies in the US also

showed that weak economic levels led to higher illicit use of nicotine and marijuana[27]. Furthermore, several studies showed the associated between living in the unstable neighborhood, and parents' divorce with drug abuse and alcohol drinking[28-30].

The findings reported in this study have certain limitations. First, the information is based on self-reporting, which always faces the risk of recall bias and we do not know how it could have affected the results. Second, data collection only among sample of Iranian male medical college students and due to non-probability nature of sampling, results cannot be generalized to other population of college students. Third, the present study investigated substance abuse history during last three month using yes-no scale, which was the main limitations of the present study and asks for more attention. Finally, the high rejection rate is another limitation of our study.

Conclusions

Living without family is a risk factor for smoking and drinking alcohol among the university students. It seems that students turn to become a serious in danger group for substance abuse as the result of changing their living place and being separated from their families. In addition, mothers' education level was a protective factor against smoking in the present study, which showed the effective role of mothers in introducing training issues to their children that could be considered as an opportunity in training plans targeted to this group.

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Conflict of interest statement

Authors declare that there is no conflict of interest.

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