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Original Article

Alcohol Consumption and its Predictors among Medical Sciences Students in the Southeast of Iran

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Abstract

Background: There is increasing concern about the use of alcohol by medical science students in the world. This study aimed to assess the frequency and related factors of alcohol consumption among Kerman University of Medical Sciences students.

Methods: This cross-sectional survey was carried out in 2020 on students from the Kerman University of Medical Sciences using the Quota sampling method. A valid and reliable questionnaire was used in this study, which included alcohol use frequency, sociodemographic characteristics, and alcohol use behaviors. Data were analyzed using SPSS version 26, which used multiple logistic regression analysis.

Results: Lifetime, last-year, and last-month prevalence of alcohol use was 41.15%, 37.61%, and 15.91%, respectively. We found a significant association between older age (OR = 1.61, $P < 0.001$), male gender (OR = 3.12, $P = 0.001$), single marital status (OR = 5.07, $P = 0.001$), living in a dormitory (OR = 2.97, $P = 0.025$), non-governmental father's job (OR = 3.57, $P = 0.008$), mother's education level of 13 – 16 year (OR = 6.69, $P = 0.013$) and less than 13 years (OR = 6.27, $P = 0.013$), and high socioeconomic status (OR = 2.38, $P = 0.019$) with lifetime alcohol use.

Conclusion: The prevalence of alcohol use among medical sciences students was high in this study, and alcohol use prevention programs should be designed and implemented for at-risk groups, including older students, male students, those living in dormitories, single students, good socioeconomic status, students with non-governmental father's job and mothers' low-level education.

Keywords: Alcohol use, Prevalence, Behavior, Related factors

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Introduction

Although the prevalence of alcohol consumption has decreased in recent years, alcohol has remained the most widely used addictive substance globally (1,2). Alcohol use was responsible for approximately 3 million deaths and 132.6 million disability-adjusted life years (DALYs) every year (3). Furthermore, alcohol consumption ranked as the seventh leading risk factor for both deaths and DALYs in 2016 (4).

Recent evidence has shown that there is no safe level of alcohol consumption (5). Drinking alcohol is associated with several adverse health outcomes and harms such as digestive diseases, liver cirrhosis, cardiovascular diseases, infectious diseases, injuries, road traffic accidents, violence, homicide, suicide, and several types of cancers (3,4,6).

The results of a systematic review showed that the lifetime prevalence of alcohol consumption among the general population and young people was 13%, and the last-year prevalence of alcohol use was 12% for the general population and 15% for young people in Iran (7). However, alcohol remains one of the most commonly used substances in Iran, particularly among young people, and the prevalence of drinking alcohol was relatively high among Iranian college students (8,9).

The evidence shows that medical students are susceptible to alcohol consumption, largely due to the ready availability of alcohol and their social isolation. Additionally, these students are often exposed to higher levels of distress and psychological disorders, including depression, which can contribute to alcohol use (10-12).

Given the above, this study was conducted to examine the frequency of alcohol consumption and the factors associated with it among students at Kerman University of Medical Sciences to help policymakers design and implement interventions to prevent alcohol consumption among medical sciences students.

Materials and Methods

This cross-sectional survey was conducted in 2020 on

students from Kerman University of Medical Sciences, a prominent institution in the southeast region of Iran. The university comprises seven schools and has an enrollment of around 5,000 students.

Two hundred and thirty students from Kerman University of Medical Sciences were selected using the quota sampling method, which was based on proportional size among students in each faculty (medicine, dentistry, pharmacy, nursing and midwifery, paramedical, and public health). The inclusion criteria involved the individuals' satisfaction with participating in this study, and they were enrolled as students at Kerman University of Medical Sciences in 2020.

A reliable and validated questionnaire was used to evaluate alcohol use behavior. The content validity of this questionnaire was confirmed by literature review and expert judgments. The questionnaire's reliability was confirmed with a Cronbach's alpha of 0.86 (13,14). The questionnaire's first section comprised nine questions covering lifetime, last-year, and last-month prevalence of use, frequency of use in the last month, the main type of alcoholic beverage consumed, attempts to quit alcohol use in the last month, reasons for first-time use, locations of first-time use, and accompanying person during first-time use. The second section addressed sociodemographic characteristics, including age, gender, marital status, housing situation, the field of study, level of education, parents' occupations, parents' education levels, and socioeconomic status. The researchers first explained the research objectives to students, and after obtaining verbal consent, they were given the questionnaire to complete.

Data analysis was conducted using SPSS version 26, employing using multiple logistic regression analysis to assess the relationship between independent variables and lifetime alcohol use. A significant level was set at lower than 0.05.

Results

The response rate in this study was 98%. The mean age of the participants was 23.62 (±2.24) years, with an age range of 19 to 29. Most participants were female (57.5%) and single (77.4%). Table 1 outlines additional sociodemographic details of the participants.

Lifetime, last-year, and last-month prevalence of alcohol use was 41.15%, 37.61%, and 15.91%, respectively. The mean age of lifetime alcohol use was 24.31 (±2.21) years with an age range of 20 to 29 years, and the mean age of alcohol use initiation was 20.47 (±2.22) years with an age range of 14 to 27 years.

Based on our findings, the most common reason for first-time alcohol use was peer pressure, and the most common place for first-time use was a dormitory. Also, the most common type of alcoholic beverage used was homemade distillate in this research. The characteristics of lifetime alcohol consumption patterns among the participants are shown in Table 2.

Table 1. Sociodemographic characteristics of the students (n=226)

Variable	No. (%)
Gender	
Male	95 (42.5)
Female	130 (57.5)
Marital status	
Single	175 (77.4)
Married	51 (22.6)
Field of study	
Medicine	56 (24.8)
Dentistry	19 (8.4)
Pharmacy	34 (15)
Nursing and midwifery	59 (26.1)
Para medicine	32 (14.2)
Public health	26 (11.5)
Level of education	
Doctor	110 (48.7)
Masters	26 (11)
Bachelor	91 (40.3)
Housing status	
Dormitory	138 (61.1)
With family	48 (21.2)
Private house	40 (17.7)
Father's job	
Governmental	97 (42.9)
Non-governmental	64 (28.3)
Retired	65 (28.8)
Mother's job	
Housewife	86 (38.1)
Governmental	75 (33.2)
Non-governmental	23 (10.2)
Retired	42 (18.6)
Father's level of education (years)	
Less than 13	29 (12.8)
13-16	141 (62.4)
More than 16	56 (24.8)
Mother's level of education (years)	
Less than 13	89 (39.4)
13-16	115 (50.9)
More than 16	22 (9.7)
Socioeconomic status	
Middle	121 (53.5)
High	105 (46.5)

The results of univariate logistic regression analysis showed that there was a significant association between older age (OR=1.30, CI: 1.14–1.48), male gender rather than female (OR=3.24, CI: 1.86-5.64), dentistry

Table 2. Characteristics of life time alcohol consumption pattern among the individuals participating in the study (n = 93)

Variable	No. (%)
Reasons for first-time use	
Recreation	19 (20.4)
Relaxation	1 (1.1)
Curiosity	43 (46.2)
Followed by peer pressure	28 (30.1)
Other	2 (2.2)
Place for first-time use	
Family house	10 (10.8)
Private house	18 (19.4)
Dormitory	37 (39.8)
Park or street	14 (15)
Other	14 (15)
Accompanying person during first-time use	
Alone	1 (1.1)
Family	5 (5.3)
Friends	66 (71)
Partner	21 (22.6)
Frequency of alcohol consumption in the last month (n = 36)	
Daily (one to four times a day)	1 (2.8)
Weekly (more than five days a week)	2 (5.5)
Sometimes (one to three times a month)	33 (91.7)
Type of main alcoholic beverage used in the last month (n = 36)	
Homemade distillate	24 (66.7)
Beer	6 (16.7)
Vodka	1 (2.8)
Whiskey	1 (2.8)
Wine	4 (11)
Trying to quit alcohol use in the last month (n = 36)	
Yes	5 (13.9)
No	31 (86.1)

educational field rather than medicine (OR = 0.37, CI: 0.14–0.97), non-governmental father's job rather than retired (OR = 2.23, CI: 1.09–4.55), non-governmental (OR = 3.25, CI: 1.12-9.39) and housewife mother's job rather than retired (OR = 2.50, CI: 1.13-5.51), mother's education 13 – 16 year (OR = 4.07, CI: 1.13-14.55) and less than 13 years rather more than 16 years (OR = 6.47, CI: 1.79-23.45) with lifetime alcohol use.

In the backward multivariable logistic regression, we found a significant association between older age (OR = 1.61, CI: 1.33–1.96), male gender rather than female (OR = 3.12, CI: 1.60-6.09), single marital status rather than married (OR = 5.07, CI: 1.94–13.21), living in dormitory rather than a private house (OR = 2.97, CI: 1.14-7.72), non-governmental father's job rather than retired (OR = 3.57, CI: 1.39–9.13), mother's education 13 – 16 year (OR = 6.69, CI: 1.50-29.76) and less than 13 years rather more than 16 years (OR = 6.27, CI: 1.46-26.94), and middle socioeconomic status rather than high (OR = 0.42, CI: 0.21, 0.86) with lifetime alcohol use. The results of univariate and multivariate logistic regression analysis are presented in Table 3.

Discussion

In the present study, lifetime, last-year, and last-month prevalence of alcohol use among medical sciences students was 41.15%, 37.61%, and 15.91%, respectively.

The last World Health Organization (WHO) report showed that the last-year prevalence of alcohol use among the population 20–24 years of age in the world and East Mediterranean Region (EMR) was 40.7% and 2.7%, respectively (3). The results of other studies showed that the prevalence of alcohol use was 16.6% for undergraduate and 31.5% for postgraduate medical students in India (11), lifetime and past year prevalence of alcohol use was 31% and 22% among undergraduate medical students in Ethiopia respectively (15) and 91.3% of medical students consumed alcohol in the past year in the United States (16). One study indicated the prevalence of last year alcohol use among medical sciences students was 6.9% in Iran (17). The results of a study from Tehran University of Medical Sciences showed that lifetime and past year prevalence of alcohol use was 19.9% and 2.4% among medical sciences students (9). The prevalence of alcohol consumption was 11.62% among medical students in Tabriz (18). Kazemzadeh et al estimated the prevalence of alcohol use among Iranian college students at 16.8% and 8.1% using the crosswise and network scale-up methods, respectively (19). The increasing trend of alcohol consumption in Iran, particularly among younger age groups, including college students, and the relatively high prevalence of alcohol use in Kerman province can be one of the reasons for the higher prevalence of alcohol consumption in this study compared to other older studies conducted in Iran (8,20,21).

Based on our findings, the most common type of alcoholic beverage used was homemade distillate, similar to the results of a study in Kerman, Iran (22). Lower prices and more access seem to be the main reasons for this issue.

The most common reason for first-time alcohol use was peer pressure in this research. Several studies showed that peer pressure is the most common motivator for high-risk behaviors, such as alcohol consumption among medical students (12,17,18). It seems that friends have an important role in alcohol use among medical sciences students in Iran.

There was a significant and positive relationship between age and alcohol use in this study. Goel et al. revealed that the prevalence of alcohol use among postgraduate medical students was higher than among undergraduate medical students (11).

Table 3. Multiple logistic regression analysis for socio-demographic characteristics related to lifetime alcohol use

Variables	Crude OR (95% CI)	*P* value	Adjusted OR (95% CI)	*P* value
Age	1.30 (1.14, 1.48)	<0.001	1.61 (1.33, 1.96)	<0.001
Gender				
Female (Reference)				
Male	3.24 (1.86, 5.64)	<0.001	3.12 (1.60, 6.09)	0.001
Marital status				
Married (Reference)				
Single	1.53 (0.79, 2.95)	0.199	5.07 (1.94, 13.21)	0.001
Educational field				
Medicine (Reference)				
Dentistry	0.37 (0.14, 0.97)	0.044	-	-
Pharmacy	1.17 (0.35, 3.88)	0.787	-	-
Nursing and midwifery	0.96 (0.34, 2.68)	0.944	-	-
Para medicine	0.51 (0.20, 1.29)	0.157	-	-
Public health	0.44 (0.15, 1.29)	0.139	-	-
Educational level				
Doctor (Reference)				
Masters	1.55 (0.87, 2.76)	0.132	-	-
Bachelor	2.09 (0.85, 5.13)	0.105	-	-
Housing status				
Private house (Reference)				
Dormitory	1.26 (0.61, 2.57)	0.527	2.97 (1.14, 7.72)	0.025
With family	0.62 (0.25, 1.50)	0.287	1.02 (0.32, 3.20)	0.972
Father's job				
Retired (Reference)				
Governmental	1.41 (0.73, 2.72)	0.308	2.18 (0.94, 5.04)	0.068
Non-governmental	2.23 (1.09, 4.55)	0.028	3.57 (1.39, 9.13)	0.008
Mother's job				
Retired (Reference)				
Housewife	2.50 (1.13, 5.51)	0.023	-	-
Governmental	1.25 (0.54, 2.84)	0.595	-	-
Non-governmental	3.25 (1.12, 9.39)	0.030	-	-
Father's level of education (years)				
More than 16 (Reference)				
13 - 16	1.25 (0.66, 2.39)	0.483	-	-
Less than 13	1.92 (0.77, 4.79)	0.157	-	-
Mother's level of education (year)				
More than 16 (Reference)				
13 - 16	4.07 (1.13, 14.55)	0.031	6.69 (1.50, 29.76)	0.013
Less than 13	6.47 (1.79, 23.45)	0.004	6.27 (1.46, 26.94)	0.013
Socioeconomic status				
High (Reference)				
Middle	0.60 (0.35, 1.03)	0.066	0.42 (0.21, 0.86)	0.019

This study showed that there was a higher frequency of alcohol use in males than in females. Most studies show that high-risk behaviors, including alcohol consumption, are more common in males than females among medical sciences students (12,17,23).

There was a higher frequency of alcohol use among single individuals compared to married individuals in the present study. It has been reported by several studies that

single individuals tend to consume more than married individuals (24,25).

Lifetime use of alcohol was significantly correlated with living in the dormitory. Living apart from family is linked to high-risk behaviors, such as alcohol use, among medical students, according to certain studies (26). Medical sciences students are more likely to consume alcohol when lacking family supervision and changing their place of living.

This study showed that low-level mothers' education was the most influential predictive factor in alcohol use. The results of a study showed that the mother's high education level is a protective factor against alcohol consumption in medical sciences students (26). The most important reason for this issue is the effective role of mothers in training their children to prevent alcohol consumption.

To the best of our knowledge, no study has been conducted about the prevalence, related factors, and behaviors of alcohol use among medical sciences students in the southeast of Iran in recent years. Due to the cross-sectional nature of this study, we could not investigate the trend of alcohol use over time. Also, social desirability and recall biases threatened this study, and these biases underestimated alcohol use prevalence. One of the most important limitations of this study was access to students of different fields.

The authors recommend conducting further research with an appropriate sample size to study the knowledge and attitudes of medical science students toward alcohol consumption.

Conclusion

According to this study, there is a significant rate of alcohol consumption among students studying medical sciences. The current study has identified several groups that should be targeted for alcohol prevention and intervention, such as older students, male students, students living in dormitories, single students, individuals with a higher socioeconomic status, students whose fathers work in non-governmental positions, and those with lower levels of maternal education.

Alcohol use prevention programs, such as life skills training, should be designed and implemented in primary schools to reduce alcohol use in youth.

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Authors' Contribution

Conceptualization: Mohsen Momeni, Mina Danaei.
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Competing Interests

The authors declare that they have no competing interests.

Ethical Approval

The research protocol was approved by the Ethical Committee of Kerman University of Medical Sciences (IR.KMU.AH.REC.1398.176).

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