## **ORIGINAL ARTICLE**

# Substance use and its related factors among iranian university students.

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## ABSTRACT

Aim: Substance use in students is a serious problem around the world. This study aimed to determine the status of substance use and its relationship with religious beliefs and familial support and other related factors in Iranian university students.

Study design: Cross sectional study.

**Methodology:** This study took place in Hormozgan (south of Iran) in 2016. The randomly selected sample consisted of 524 university students. A self-report questionnaire had been used examining substance use, religious beliefs and familial support. All of analysis was performed using chi-square test, binary logistic regression in SPSS 16 software. The level of significance was 0.05.

**Results:** The lifetime, last year, last month and daily or almost daily prevalence of substance use was 20.8, 14.9, 8.8 and 2.1%, respectively. After adjusting for other factors, living in single home (OR=5.02), cigarette smoking (OR=20.62), hookah smoking (OR=5.22), and score of familial support (OR=0.94) were associate with last year substance use. Among all substances, the prevalence of alcohol use was the highest (18.3% in lifetime and 6.9% in last month) and the prevalence of Amphetamine-type stimulants (ATS) was the lowest one (2.3% in lifetime and 1.9% in last month).

**Conclusion:** The prevalence of substance use among Iranian university students is relatively high. The findings of this study can be used in planning and evaluating intervention by considering risk and protective factors. **Keywords:** Substance use, University students, religiosity, familial support, illicit drug.

# INTRODUCTION

Substance use in students is a serious problem around the world<sup>1</sup>. University students face many psychological, social and educational challenges upon entering the university<sup>2</sup>. Due to the remarkable prevalence of substance use in universities and the possibility of access to it during study and away from family, students are prone to using these substances<sup>3,4</sup>.

The results of various studies showed that substance use among students can cause psychiatric problems such as delusional experience, decreased self-esteem, anxiety and depression, the possibility of severe injuries in accidents, interpersonal disputes, suicidal ideation and cognitive impairment. As a result, it can affect student's performance at university<sup>1,3,5-8</sup>.

According to the largest study among American students, the trend of substance use has been increasing up to 2018<sup>9</sup>. This increasing trend has also been reported in some European countries<sup>10</sup>. The results of studies in Iran's neighboring countries, including Kuwait, Turkey and Saudi Arabia, indicate a high prevalence of drug use among students in these countries<sup>11,12,13</sup>. Although the results of studies in Iran indicated a relatively low prevalence of substance use among students, but it is still significant and requires special interventions<sup>7,14,15</sup>.

In general, various factors such as family structure, age, gender, individual and family religious beliefs, student-teacher relationship, violence, peer diversion, and family history of substance use affect the process of substance use. Among these, high religious beliefs and family support are protective factors<sup>16,17</sup>. These two factors increase students' self-esteem and reduce stress and increase their ability to cope with life's problems and healthy behaviors<sup>18,19</sup>.

Despite various studies in this field, due to Iran being a vast country, there is a need to conduct such studies with emphasis on risk factors and protectors in different cities, and since no such study has been conducted in Hormozgan, this study aimed to determine the status of substance use and its relationship with religious beliefs and family support and other related factors among students of Hormozgan University of Medical Sciences.

# METHODOLOGY

The present cross-sectional study was conducted in 2016. In this study, we used multi-stage sampling based on the proportion of students in different colleges (stratified sampling), and the number of classes (clusters). Students were chosen based on the following strategy; in each college (strata), some classes (clusters) were randomly selected and all students in the selected classes were included in the study. To gain the students' trust before distributing the questionnaires, some explanation was presented by the research team for the purposes of the study, anonymity of the questionnaires, and the voluntary nature of participation in the survey. Furthermore, they were asked not to enter their personal information in the questionnaire. Finally, same-color pens

were distributed to the students for maintaining their confidentiality.

To obtaining information about drug use, students completed a self-report questionnaire developed earlier in another study in the classroom<sup>20,21</sup>. The content of the questionnaire had been previously validated by a group of researchers in another study, and the validity was assessed by pre-testing the questionnaire in a class of Master of Public Health (MPH) students<sup>22</sup>. The questions aimed to obtain information on cigarette smoking, hookah use, prescription-type opioids use, methylphenidate and sedative-hypnotics use, illicit drug use, having extramarital sex, as well as demographic information. For different substances and extramarital sex, the lifetime, last year and last month intervals were asked from students.

Religious beliefs were measured by 28 items derived from Kendler's general religiosity scale. A 5-point Likerttype scaling was used: 1=completely disagree, 2=disagree, 3=neutral, 4=agree, and 5=completely agree. An estimated reliability coefficient of .97, as computed by Cronbach's Coefficient Alpha, attested to the internal consistency of the 28-item scale<sup>23</sup>.

Parental support was measured by the Persian version of Aneshensel and Sucoff's 13-items questionnaire. A 5-point Likert-type scaling was used, ranging from 1 to 5 with 3 indicating a neutral point of view.

For assessing the relationship of the cigarette and hookah smoking, prescription-type drug use, having extra marital sex with other variables, the last month was used in the statistical analysis. In the case of substance use, the last year use was used. To perform simple statistical analysis, chi-square was used. For estimation crude odds ratios and adjusted ones, univariate and multiple logistic regression models were used respectively. Hosmer-Lemeshow guideline was used for variable selection in multiple model.

The study was approved by the Ethics Committee of Hormozghan University of Medical Sciences.

#### RESULTS

The mean age of the subjects was  $23.0\pm4.2$  (range: 18-47). The majority of the sample were male (58.2%) and only 19.8% of the sample were married. Table 1 shows frequency of each type of substance in the four-time intervals. Among all students, 96(18.3%), 8(13.0%), 36(6.9%) and 5(1.0%) had used alcohol in the lifetime, last year, last month and daily or almost daily in past month, respectively. The lifetime, last year, last month, and daily or almost daily use in past month prevalence of illicit drugs (including cannabis, ecstasy, amphetamine and methamphetamine, opium and heroin) was found to be 9.7, 7.1, 5.0 and 1.7% among the participants, respectively.

Table 2 shows frequency of demographic characteristics and possible risk and protective factors related to last year substance use. The results indicated that age, gender, living place, cigarette smoking, hookah smoking, prescription-type drug use, extra marital sex,

familial support and religiosity were significantly related to last year substance use.

A logistic model was used to estimate the crude ORs for all of the variables (Table 3). The crude estimations showed that having extra marital sex has the highest OR among all variables. This analysis indicated that having score of religious beliefs and familial support has a significant effect on substance use in univariate analysis

To control the possible confounding effect of other variables, we performed multiple logistic model. The result of this analysis showed that after adjustment for other factors, living in single house (OR=5.02), cigarette smoking (OR=20.62), hookah smoking (OR=5.22), and score of familial support (OR=0.94) were associated with substance use.

Table 1: Percentages of students responding "Yes" to questions about substance use by Gender.

	Female	Male	Total						
Substances	(n=305)	(n=215)	(n=524)						
Alcohol	(	(	(						
Lifetime use	28(9.2)	68(31.6)	96(18.3)						
Past year use	22(7.2)	46(21.4)	68(13.0)						
Past month use	12(3.9)	24(11.2)	36(6.9)						
Daily or almost daily in	2(0.7)	3(1.4)	5(1.0)						
past month	· · /	· · · ·	. ,						
Cannabis									
Lifetime use	12(3.9)	20(9.3)	32(6.1)						
Past year use	8(2.6)	12(5.6)	20(3.8)						
Past month use	6(2.0)	8(3.7)	14(2.7)						
Daily or almost daily in	2(0.7)	2(0.9)	4(0.8)						
past month	· · ·	. ,	. ,						
Ecstasy									
Lifetime use	7(2.3)	14(6.5)	21(4.0)						
Past year use	4(1.3)	9(4.2)	13(2.5)						
Past month use	4(1.3)	8(3.7)	12(2.3)						
Daily or almost daily in	1(0.3)	3(1.4)	4(0.8)						
past month	· · ·	. ,	. ,						
Amphetamine-type stimulants (ATS)									
Lifetime use	6(2.0)	6(2.8)	12(2.3)						
Past year use	6(2.0)	6(2.8)	12(2.3)						
Past month use	5(1.6)	5(2.3)	10(1.9)						
Daily or almost daily in	2(0.7)	0(0)	2(0.4)						
past month									
Opium									
Lifetime use	10(3.3)	20(9.3)	30(5.7)						
Past year use	8(2.6)	17(7.9)	25(4.8)						
Past month use	7(2.3)	13(6.0)	20(3.8)						
Daily or almost daily in	1(0.3)	2(0.9)	3(0.6)						
past month									
Heroin									
Lifetime use	6(2.0)	10(4.7)	16(3.1)						
Past year use	5(1.6)	9(4.2)	14(2.7)						
Past month use	5(1.6)	8(3.7)	13(2.5)						
Daily or almost daily in	1(0.3)	0(0)	1(0.2)						
past month									
illicit drug <sup>a</sup>									
Lifetime use	16(5.2)	35(16.3)	51(9.7)						
Past year use	14(4.6)	23(10.7)	37(7.1)						
Past month use	11(3.6)	15(7.0)	26(5.0)						
Daily or almost daily in	4(1.3)	5(2.3)	9(1.7)						
past month									
Substance use <sup>b</sup>	I .								
Lifetime use	30(9.8)	79(63.7)	109(20.8)						
Past year use	25(8.2)	53(24.7)	78(14.9)						
Past month use	15(4.9)	31(14.4)	46(8.8)						
Daily or almost daily in	5(1.6)	6(2.8)	11(2.1)						
past month									

<sup>a</sup> Cannabis, ecstasy, amphetamine and methamphetamine, opium and heroin

<sup>b</sup> Alcohol or illicit drugs

Characteristics	Last year substance use			
	No	Yes	p-value	N
	n(%)	n(%)	-	
Gender				
Male	280(91.8)	25(8.2)	<0.001	305
Female	162(75.3)	53(24.7)		215
Marital status	· · · · ·			
Single	357(86.2)	57(13.8)	0.163	414
Married	89(80.9)	21(19.1)		110
Living in				
Parental home	108(87.1)	16(12.9)	<0.001	124
Dormitory	323(87.8)	45(12.2)		368
Single house	12(42.9)	16(57.1)		28
Cigarette smoking (last month)	· · · · ·			
No	437(92.0)	38(8.0)	0.004	475
Yes	9(18.4)	40(81.6)	<0.001	49
Hookah use (last month)	· · · · · ·			
No	427(91.6)	39(8.4)	-0.001	466
Yes	19(32.8)	39(67.2)	<0.001	58
Prescription-type drug use (last month) <sup>a</sup>	· · · ·			
No	400(88.7)	51(11.3)	-0.001	451
Yes	46(63.0)	27(37.0)	<0.001	73
Extra marital sex(last month)	· · · · ·			
No	442(88.4)	58(11.6)	-0.001	500
Yes	4(16.7)	20(83.3)	<0.001	24
Age (mean ± SD)	22.69±4.05	24.57±5.01	0.003	513
Score of religious beliefs (mean ± SD)	119.36±17.29	111.31±21.66	0.003	495
Score of familial support (mean ± SD)	54.78±8.66	48.11±11.07	<0.001	490
Including nonmodical use of enjoid drugs codative-	hypnotics and mothylphonids	to		

<sup>a</sup> Including nonmedical use of opioid drugs, sedative-hypnotics and methylphenidate.

Table 3: Logistic regression analysis of the association between last year "substance use" and its correlated factors in a sample of Iranian students 2016

	Last year substance use					
Variables	Crude estimation			Adjusted estimation		
	OR	95%CI	Р	OR	95%CI	Р
Age	1.08	1.03-1.14	0.001	1.04	0.93-1.15	0.511
Gender	3.66	2.19-6.12	<0.001	1.61	0.69-3.75	0.265
Marital status	0.68	0.39-1.17	0.165	1.02	0.33-3.18	0.968
Living in Single house	9.33	1.22-20.65	<0.001	5.02	1.23-20.48	0.024
Cigarette smoking (last month)	51.11	23.07-113.23	<0.001	20.62	6.76-62.88	< 0.001
Hookah use (last month)	22.47	11.86-42.57	<0.001	5.22	2.07-13.17	< 0.001
Prescription-type drug use (last month) <sup>a</sup>	4.60	2.64-8.04	<0.001	1.41	0.52-3.82	0.502
Extra marital sex(last month)	38.10	12.58-115.37	<0.001	3.07	0.52-17.96	0.214
Score of religious beliefs	0.98	0.97-0.99	0.001	1.00	0.98-1.02	0.882
Score of familial support	0.93	0.91-0.96	<0.001	0.94	0.90-0.98	0.003

# DISCUSSION

The results of the present study showed that the prevalence of substance use in lifetime, last year, last month and daily and almost daily use in the last month was 20.8, 14.9, 8.8 and 2.1%, respectively. Compared to the students of Tehran University of Medical Sciences, these percentages are slightly higher<sup>20</sup>. However, in such studies, it is better to make comparisons separately for the type of substance used:

The results of the present study showed that the prevalence of illicit drug use in life time, last year, last month and daily and almost daily use in last month is 9.7, 7.1, 5 and 1.7%, respectively. The prevalence of illicit drug use has been reported in American, Czech and Kuwaiti students, as 45.2%, 37% and 14.4%, respectively (9-11). Our study reported a lower prevalence than these

studies. Due to the different definitions of illicit drug as well as different cultural attitudes towards drug use, its prevalence seems to be very different in different countries. For example, opium consumption has long been common in Iran, but heroin use is looked down upon much more. While in Western countries, opium use is not as common as in Iran<sup>24,25</sup>.

The present study showed that the prevalence of opium consumption among students of this study was 5.7, 4.8 and 3.8 during lifetime, last year and last month respectively. The prevalence of this substance in a study among Iranian and American students was reported to be 5.5% and 2.4%, respectively<sup>14,26</sup>.

Ecstasy use has been on the rise among American students between 1989 and 2018, although 5% have used it in a lifetime, but this is also significant due to its adverse effects<sup>9</sup>. The prevalence of this substance in

Iranian students was reported to be 0.3% in the last month<sup>20</sup>. Strote et al. showed that in the last decade, the use of ecstasy as a high-risk behavior in students is rapidly increasing. They believe that the first approach to prevent the use of this substance is to use advertising and disseminate important information about the risks associated with the use of ecstasy in the public media and increased focus on education in the early years of adolescence<sup>27</sup>. Given the prevalence of this substance in the present study (4%), it seems that similar programs are necessary for Iranian adolescents and students.

The results of studies in different countries show that the use of heroin and cannabis is lower than other drugs, some of which have been linked to low reporting or inaccessibility to other drugs. It has legal penalties from countries, although the rate of consumption of these substances in industrialized and developed countries has been reported more<sup>9-11,28</sup>. Consumption of heroin and cannabis in the present study was 3.1% and 6.1%, respectively.

Our study showed that alcohol consumption in Iranian students during lifetime and last year is 18.3% and 13%, respectively. The prevalence of alcohol use has been reported as 2.4% among Iranian students, 19.9% among Turkish students and 74.6% among American students in last year<sup>9,14,21</sup>. Low alcohol consumption in Iran is tied to religious restrictions, the legal prohibition in the country and the strictures of parents regarding alcohol consumption in their children<sup>30</sup>.

Findings from the present study showed that substance use was associated with many factors in univariate analysis, but in multiple logistic regression only related to living in a single home, cigarette smoking, hookah use, and family support<sup>4,15,31</sup>.

Religious beliefs, which, although not in the final model, simply cannot be overlooked, since previous studies have shown that this variable can prevent social harms, including the occurrence of high-risk behaviors<sup>32,33</sup>.

Studies have shown that family support and strong emotional relationships could prevent children from becoming prone to high-risk behaviors, norm-breakings and ultimately substance use<sup>30,34</sup>. Today's families have been shown to face many challenges, including marital conflicts, poverty, absence of one of the parents, and poor parent-child communication, which can have many negative effects on the children. Therefore, these challenges can disrupt and weaken family support<sup>35</sup>. The results of the present study showed that students who had less family support were more likely to use substances.

The present study showed that living in a single home increases the chances of students taking substances. Kabir et al. study showed that living in a single home increases the chances of drug abuse compared to living with parents<sup>36</sup>. A study in Turkey also found that young people living away from their parents were more likely to be influenced by others and more likely to engage in high-risk behaviors<sup>37</sup>. It seems that the emotional and social support of parents, as well as their supervision, can reduce the risk of high-risk behaviors<sup>37</sup>.

#### CONCLUSION

In the present study we evaluated the prevalence and pattern of substance use among university students. We also evaluated the impact of parental support, religiosity and other related factors on substance use. This study revealed that the prevalence of substance use is relatively high among university students. The findings of this study can be used in planning and evaluating intervention in this stratum by considering risk and protective factors.

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