Illicit Drug Use and its Correlations Among Hookah Users in Khalil Abad, Northeast of Iran

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Abstract

Background and aims: One of the most important problems of public health is illicit drug use. The aim of this study was to assess the status of illicit drug use and associated factors among hookah smokers in Khalil Abad city in 2015.
Methods: The cross-sectional study was conducted in Khalil Abad city (northeast of Iran) in 2015. A sample of 161 hookah users was selected using 2-stage sampling. Structured questionnaires were distributed among the subjects and participants were included in the study after completing informed consent form. To analyze the data, we used chi-square, *t* test and logistic regression model.
Results: The prevalence of illicit drug use was 36%. The result of final logistic regression model, with inclusion of confounders, showed that job status (odds ratio [OR] = 4.13), smoking in the last year (OR = 3.84) and prescription opioid drug use (OR = 3.77), were associated with illicit drug use.
Conclusion: Our results showed high prevalence of illicit drug use, which was strongly associated with unemployment and other substances use. The results of this study can be used for planning for epidemiological studies in national scale in order to implement and evaluating interventions by considering the risk factors of hookah smoking in this type of individuals.
Keywords: Illicit drug, Hookah, Hookah bar.

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Introduction

Illicit drug use is a major public health problem. Prior research stressed that using of illicit drug could increase the likelihood of some personal and social problems like failures in academic educations, problems of establishing and continuing relationship and being caught in unwanted sexual relationships, crime, accidents and injuries.[1]

For adults, illegal drug use is associated with many disease and disorders such as acquired immune deficiency syndrome (AIDS), coronary heart disease (CHD), lung cancer, child abuse, violent crime, and unemployment.[2]

Along with the entire world, the importance of using illegal drug has increased in Asian countries. This increased importance covers both mood-altering or psychoactive drugs and many illicit drugs.[3]

In 2010, globally it was estimated that among 15- to 64-year-old-people, the number of past year illicit substance users (at least once) was between 153 and 300 million people. It was also estimated that globally, between 99 000 and 253 000 deaths can be attributed to the illicit drug use in 2010, with 0.5%-1.3% of proportional mortality rate for drug-related deaths among 15-to 64-year-old people.[4]

In general, due to the domestic reasons and neighboring Afghanistan, the availability of opium is high in the Iran. With regards to these points the opium use is most common among Iranian people.[5] Thus, it is expected that the prevalence rate of illicit drug use and also the pattern of illicit drug use in Iran differ from those in Western societies.[6]

The findings of 2 national health and disease evaluations among Iranian population in 1991 and

1999 indicated that hookah smoking had an increasing trend among youth.[7]

In addition, the prevalence rate of hookah smoking was reported 5.3% across the entire country and 8.2% in the southern cities.[8,9]

There is limited information about illicit drug use and associated factors in hookah smokers in Iran. So, the aim of this study was to assess the status of illicit drug use and associated factors among hookah smokers of Khalil Abad city in 2015.

Methods

A sample of 161 people from Khalil Abad city (northeast of Iran) hookah users was selected. A self-administrated questionnaire was distributed to participants. For data collection we used 2 stage schemes. First, we used snowball sampling to find hookah bars. With question of ordinary people we found first bar. After collecting data from this bar, with question of hookah users of this bar the research team found the latter bar and so on. In each bar, all hookah users were included in our study.

With regards to situation of substance use in Iran, the questionnaire was developed by taking the cues from the World Health Organization (WHO) Core Questionnaires and WHO Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). This questionnaire was used in previous researches and its validity and reliability were assessed in this study.[10] This questionnaire includes questions about a wide range of substances and their usage time. These substances are cigarette, alcohol, prescription drugs, cannabis, ecstasy, stimulants (like amphetamine and methamphetamine), opium and its burnt, heroin and cocaine. In the last section of questionnaire there are some questions about the status of each substance usage among family members and close friends. The questions and selected variables like age, gender, marital status and other factors were included in the final questionnaire of this study.

To enhance the validity of participants self-reports, the participants were ensured about the voluntary nature of the participation in our study and confidentiality of the information before distribution of the questionnaires. The participants had the right to refuse participation in the study or skip any questions of questionnaire.

Previous illicit drug use included ever use of opium, cannabis, ecstasy, amphetamine, or cocaine. For cigarette smoking and alcohol, the last month use was considered the criterion.

To analyze the data, we used chi-square, *t* test and logistic regression model. The data analysis was conducted by SPSS-16.

Results

The mean age of the subjects was 31.60±10.54 (range 15 to 74) years. The majority of the samples were male (89.4%). Only 63.6 % of the samples were single. Among 161 participant 58 (36.0%, 95% CI: 28.5-43.5) had history of illicit drug use.

The results showed that among all participants, 41 (25.5%), 125 (22.4%), 2 (1.2%), 5 (3.1%) and 5 (3.1%) participants had used opium, cannabis, ecstasy, amphetamine and cocaine, respectively (Figure 1).

Demographic characteristics and high risk behaviours of the participants and the relationship of these variables with illicit drug use of the hookah smokers are shown in Table 1. Also, this table represents the mean age of the participants and relationship of age with illicit drug use.

The bivariate analysis was used to evaluate the crude relationship of all variables listed in Table 1 with ever use of illicit drug. The results of these analyses showed that, unemployment (odds ratio [OR] = 3.64), cigarette smoking (OR = 6.88), alcohol use (OR = 2.24), prescription opioid drugs (OR = 7.01), friends' alcohol use in the last year (OR = 6.58) and illegal drug use in friends in the last year (OR = 5.02) were factors associated with participants drug use (Table 2). After adjusting for other factors in multivariate logistic model, unemployment (OR = 4.13), cigarette smoking (OR = 3.84) and prescription opioid drugs (OR = 3.77) were derived risk factors for history of illicit drug use.

Discussion

The prevalence of illicit drug use in this study was 36%. The results showed that among all participants, 41 (25.5%), 125 (22.4%), 2 (1.2%), 5 (3.1%) and 5 (3.1%) participants had used opium, cannabis, ecstasy, amphetamine and cocaine, respectively.

According to the report of United Nations Office on Drugs and Crime (UNODC) in 2016, it was estimated
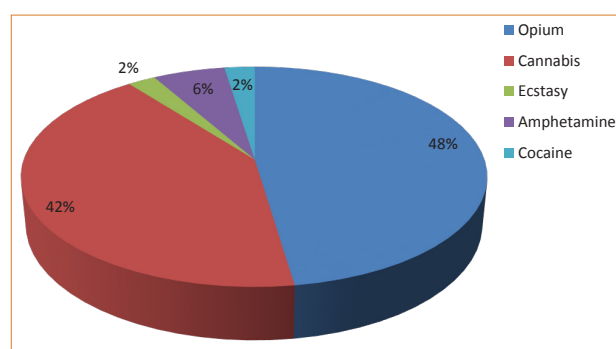

Figure 1. Prevalence of Illicit Drug Use.

Table 1. Demographic Characteristics of the Participants by Illicit Drug Use

| Characteristics | Illicit Drug Use | | P Value |
	No No. (%)	Yes No. (%)	
Age	31.68±11.44	31.45±8.83	0.894
Gender			
Male	90 (62.5)	54 (37.5)	0.256
Female	13)76.5)	4 (23.5)	
Marital status			
Single	63 (61.8)	39 (38.2)	0.442
Married	40 (67.8)	19 (32.2)	
Job status			
Unemployed	47 (52.8)	42 (47.2)	<0.01
Employed	49 (80.3)	12 (19.7)	
Education			
Illiterate	13 (72.2)	5 (27.8)	0.302
Primary education	10 (55.6)	8 (44.4)	
Secondary education	28 (58.3)	20 (41.7)	
Diploma	44 (72.1)	17 (27.9)	
Academic education	8 (50.0)	8 (50.0)	
Order of birth			
First	45 (72.6)	17 (27.4)	0.072
Other than first	58 (58.6)	41 (41.4)	
Smoking (last month)			
No	82 (79.6)	21 (20.4)	<0.01
Yes	21 (36.2)	37 (63.8)	
Alcohol use (last month)			
No	77 (70.0)	33 (30.0)	0.019
Yes	26 (51.0)	25 (49.0)	
Prescription opioid drugs use (life time)			
No	92 (74.8)	31 (25.2)	<0.01
Yes	11 (29.7)	26 (70.3)	
Alcohol use among friends (last year)			
Yes	62 (54.9)	51 (45.1)	<0.01
No	16 (88.9)	2 (11.1)	
Don't know	24 (82.8)	5 (17.2)	
Prescription opioid drugs use among friends (last year)			
Yes	40 (52.6)	36 (47.4)	0.011
No	26 (81.3)	6 (18.8)	
Don't know	36 (69.2)	16 (30.8)	
Illicit drug use among friends (last year)			
Yes	23 (41.1)	33 (58.9)	<0.01
No	42 (77.8)	12 (22.2)	
Don't know	37 (74.0)	13 (26.0)	

that 1 in 20 adults, or a quarter of a billion people aged 15 to 64 years, used at least one drug in 2014. Almost 12% of the total number of people who use drugs, or over 29 million people, are estimated to suffer from drug use disorders.[11]

The result of a study in Iran indicated that only 11% of the participants had ever used any drug. Opium predominated and only hashish and heroin were the other reported drugs.[12]

Our results showed that gender had no significant relationship with illicit drug use. A study in Iran concluded that males were at greater risk of ever using opium and other drugs.[13] Our result is consistent with finding in the Western countries.[14] Probably due to the small number of female participants in our study, this relationship is not real.

The result of this study showed that unemployment had significant relationship with ever use of illicit

Table 2. Logistic Regression Analysis of the Association Between Illicit Drug Use and High Risk Variables

Variables	Illicit Drug Use					
	Crude Estimates			Adjusted Estimates		
	OR	95% CI	*P*	OR	95% CI	*P*
Age	0.99	0.96-1.02	0.893	1.02	0.94-1.09	0.576
Education						
Illiterate	Reference	-	-	Reference	-	-
Primary education	0.38	0.12-1.19	0.099	1.15	0.23-5.70	0.859
Secondary education	0.71	0.22-2.22	0.561	1.82	0.37-8.91	0.457
Diploma	0.80	0.20-3.08	0.746	2.61	0.39-17.18	0.316
Academic education	0.38	0.09-1.59	0.188	2.41	0.20-28.30	0.482
Gender(being male)	0.513	0.159-1.65	0.263	2.27	0.43-12.01	0.332
Job status (Unemployed)	3.64	1.71-7.77	<0.01	4.13	1.48-11.51	<0.01
Order of birth(first)	0.534	0.269-1.06	0.074	0.64	0.24-1.67	0.370
Marital status (Single)	0.767	0.390-1.50	0.443	1.03	0.34-3.08	0.955
Smoking(last month)	6.88	3.35-14.11	<0.01	3.84	1.40-10.52	<0.01
Alcohol (last month)	2.24	1.13-4.44	0.021	1.43	0.50-4.10	0.504
Prescription opioid drugs use(life time)	7.01	3.10-15.83	<0.01	3.77	1.30-10.87	0.014
Alcohol use among friends (last year)						
No	Reference	-	-	Reference	-	-
Don't know	1.66	0.28-9.66	0.569	1.94	0.17-21.25	0.587
Yes	6.58	1.44-29.96	0.015	3.63	0.47-27.93	0.215
Prescription opioid drugs use among friends (last year)						
No	Reference	-	-	Reference	-	-
Don't know	0.51	0.17-1.50	0.228	0.42	0.07-2.36	0.327
Yes	2.02	0.96-4.25	0.062	0.67	0.20-2.21	0.519
Illicit drug use among friends (last year)						
No	Reference	-	-	Reference	-	-
Don't know	1.23	0.50-3.02	0.653	1.72	0.44-6.70	0.433
Yes	5.02	2.18-11.55	<0.01	2.20	0.66-7.36	0.198

drug. After adjusting for other factors in multivariate logistic model, unemployment (OR = 4.13), was a risk factor for illicit drug use. The literature suggests that the employment status (e.g. being unemployment) enhances the chance of engaging in the trade and using of illicit drug.[15] Several studies show that illicit drug use is more prevalent among unemployed people than among the general population.[16,17] For example, a national survey in the Philippines indicated that nearly 33% of the drug users were unemployed.[18]

Our results showed that smoking in the last year (OR = 3.84), and life time prescription opioid drugs use (OR = 3.77) had significant relationship with illicit drug use. One of the most important approaches in preventive programs of drug use is considering of co-occurrence. A great deal of researches emphasized on the co-occurrence of illicit drug use and other high risk behaviors.[6,19-21]

Positive peer and friends effects on engaging in high risk behaviours like binge drinking, smoking and illicit drug use were shown in different studies.[22-24] In our study in crude estimates, we saw the relationship of friends' alcohol and illicit drug use with illicit drug use of study samples. However, these variables did

not remain significant in the final logistic regression model.

Most of hookah users smoke hookah with their friends and this pattern has been demonstrated in Iranian and some Arabic countries.[25-28] Our findings showed that 134 (83.2%) of the participants stated that one of the reasons for which they smoke hookah is having hookah smokers friends. This friendly relationship causes group consumption of hookah. Thus, it seems necessary to conduct epidemiologic studies, especially case-control ones, about the effect of hookah smoking on diseases in hookah bars.

Conclusion

This study reported the prevalence of illicit drug use and determined some of its associated factors among hookah users. With regards to our results, it seems necessary to design epidemiologic studies in order to determine and monitor the incidence rate of illicit drug use and its correlates at national scale among the individuals with such risky behaviors.

Ethical Approval

This study was approved by the committee of ethics

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