JRHS 2010; 10(2): 104-109

JRHS

Journal of Research in Health Sciences

Original Article

# Drug Abuse Pattern and High Risk Behaviors among Addicts in Shahroud County of Semnan Province, Northeast Iran in 2009

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## ARTICLE INFORMATION

***Article history:***

***Received:*** *7 September 2010*

***Revised:*** *22 October 2010*

***Accepted:*** *13 December 2010*

***Available online:*** *18 December 2010*

***Keywords:***

*Substance abuse*

*Drug treatment center*

*High-risk behavior*

*Iran*

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## ABSTRACT

**Background:** This study aimed at determining the drug abuse pattern and the frequency of high-risk behaviors among the clients of Methadone Maintenance Treatment Centers and Drop-in Centers in Shahroud County of Semnan Province.

**Methods:** In this cross-sectional study, the data collection tool was a questionnaire including 10 general and 32 specific items about drug abuse pattern and high-risk behaviors. The data were collected via interview.

**Results:** The mean age of the subjects was 34.8 year. The patterns of opium consumption among the subjects before coming to treatment center were inhalation (44.4%), ingestion (25.7%), and injection (12.7%). The subjects abused different types of opium before referring to the treatment centers including opium 88.42%, opium extract 65.5%, crack 48.0%, alcohol 30.3%, cannabis 19.8%, heroin 16.7%, and other substances 6.5%. Almost 42.4% of subjects had positive family history of drug abuse. There was not statistically significant correlation between the form of substance abuse and gender, education level, occupation and marital status. However the correlation between form of substance abuse and place of residence ($P$=0.014), income ($P$=0.03) and tobacco smoking ($P$=0.001) was statistically significant.

**Conclusion:** The most prevalent pattern of drug consumption was inhalation. Opium and crack were the most frequent kind of drugs among study subjects. These results need serious attention in providing services through Methadone Maintenance Treatment Centers as well as Drop-in Centers. In addition, due to highly positive family history among addicts, family participation will play an important role in prevention.

**Citation:** Amiri M, Khosravi A, Chaman R, Drug abuse pattern and high risk behaviors among addicts in Shahroud County of Semnan Province, Northeast Iran in 2009. *JRHS*. 2010;10(2):104-109.

## Introduction

The annual report of WHO in 2008 indicated that about 200 million people in the world were addicted to opiates. According to this report, the highest prevalence rate of opiate abuse (2.8 %) was observed in Iranian people aged 15-64 years. Mauritania with prevalence rate of 2% (according to WHO report in 2003) and Belarus with prevalence rate of 1.6% (according to WHO report in 2006) were the second and third countries worldwide with highest prevalence of substance abuse [1]. Almost 60% of prisoners in Iran are incarcerated for the sake of drug-related–activities [2].

Drug dependence is more prevalent among men than women are and some studies

estimated the prevalence rate of addiction in men 14.97 as much as that in women [3]. Addiction has also been reported more in the unemployed than the employed [4].

Although, for years, opium inhalation was the dominant form of drug abuse in Iran, the availability of heroin increased the prevalence rate of intravenous drug abuse in the past two decades [5]. Surveys on addiction indicated that the frequency distribution of addiction is highest among adults aged 20-35 years. Almost 60 to 70 percent of addicts were illiterate. Addiction is becoming more common among the youths and the onset age of addiction is consistently decreasing [6]. It is estimated that the number of addicts is much more than 2 million people in Iran [6]. Accordingly, if we assume the average family size to be five people, at least 10 million people are at the risk of inclination towards drug abuse [7].

Over the last decade, various drug abuse risk factors have been recognized. Some of these include the high rate of family disagreements, school problems, simultaneous occurrence of psychological disorders such as mood change and depression, using drugs by peers and parents and early beginning of tobacco smoking [8].

The initial step for the community based intervention against an unfavorable social phenomenon or a disease is to improve our knowledge about the problem. To treat the addicts in Iran, various programs were conducted and several treatment centers such as drop-in centers (DIC) and methadone maintenance treatment centers (MMTC) were established.

In this study, we aimed at investigating the demographic features, drug abuse patterns and the frequency of high risk behaviors in the addicts who referred to these treatment centers to provide the required information for better planning against the substance abuse.

## Materials and Methods

This cross-sectional study was conducted in Semnan Province, Northeast of Iran in 2009. We enrolled all the clients who referred to one of the treatment centers of Shahroud County including Saman, Aftab, Pardis and Novin. The data collection tool was a 42-item questionnaire including 10 general and 32 specific items related to addiction and high-risk behaviors. The questionnaire was developed and its validity was approved by experts. The reliability of the questionnaire was checked using Cronbach's alpha ($\alpha$=0.875).

We interviewed with all subjects who participated voluntarily in this survey. Then the collected data were checked and compared with the clients' documents in the Methadone Maintenance Treatment Centers (MMTC) and Drop-in Centers (DIC).

The data were coded and were analyzed using SPSS version 16 and Excel softwares. The relationships between variables were examined using chi-square test and one-way ANOVA at 0.05 significance level.

## Results

Of 384 subjects referred to DIC and MMTC centers in Shahroud County, 30 people refused to participate in the survey (response rate= 92.2%). The mean age of the volunteers was 34.8 (SD = 11.1) ranging from 18 to 68 years. The frequency of the 18-30-years age group was the highest (40.1%). The education level in most of the subjects was under diploma. Majority of the clients were men (97.5%). The demographic characteristics of the subjects are presented in Table 1.

Most of the subjects (88.4%) were smokers. The mean onset age of smoking was 18.7 years. The mean onset age of drug abuse was 20.1 years. Figure 1 displays the distribution of substances abused by the subjects in their addiction period.

Inhalation was the major form of substance abuse (44.4%) by the subjects before referring to MMTC and DIC centers. Ingestion (25.7%) and injection (12.7%) were the other forms of drug abuse. About 38.7% of the subjects spent less than 7 dollars for substance abuse per week. Opium with the frequency of 65.3% was the first drug being abused by the subjects, and then were cannabis and alcohol.

Most of the subjects (55.1%) had started drugs abuse during a party where substance

was offered to them by their friends. Almost 42.4% of the subjects had a positive history of addiction in at least one of their family members. About 75.1% (266/354) subjects had attempted at least once for withdrawal once, and 81.1% (301/354 people) attempted more than once to withdraw substance abuse. The longest withdrawal period was 193 months. Almost 53.8% (143) of the subjects had decided to withdraw the substance abuse themselves. Drug abuse related risk factors are illustrated in Table 2.

**Table 1**: Frequency and relative distribution of the subjects based on demographic characteristics

| Variable | Level | Frequency | Percent |
|---|---|---|---|
| **Gender** | Male | 345 | 97.5 |
| | Female | 9 | 2.5 |
| **Age (yr)** | 18-29 | 142 | 40.1 |
| | 30-39 | 113 | 31.9 |
| | 40-49 | 54 | 15.2 |
| | 50-59 | 31 | 8.8 |
| | ≥60 | 14 | 4.0 |
| **Education** | Illiterate | 12 | 3.4 |
| | Primary school | 56 | 15.8 |
| | Middle school | 140 | 39.6 |
| | High school | 111 | 31.5 |
| | Academic | 35 | 9.7 |
| **Income ($)** | <100 | 99 | 28.0 |
| | 100-250 | 155 | 43.8 |
| | >250 | 82 | 23.2 |
| | Unknown | 18 | 5.0 |
| **Region** | Urban | 328 | 92.7 |
| | Rural | 26 | 7.3 |
| **Occupation** | Unemployed / Housewife | 57 | 16.1 |
| | Working | 278 | 78.5 |
| | Student and Soldier | 19 | 5.4 |
| **Marital Status** | Married | 237 | 67 |
| | Single | 111 | 31.4 |
| | Divorced | 1 | 0.2 |
| | Separated | 3 | 0.8 |
| | Temporarily married | 2 | 0.6 |

Of 354 subjects, 32.8% (116/354) had already been in prison at least once and 57.8% (49/354) had been imprisoned more than once. It is interesting to say that 8.1% (9 people) had abused drugs intravenously in prison.

No statistically significant correlation was observed between the kind of substance and age, gender, marital status, education level, occupation, and family history. However, there was a statistically significant relationship between place of residence and the form of abuse so that all subjects who abused drugs intravenously (63 people) lived in urban regions ($P$=0.014). The Pearson test also showed a significant correlation between the form of substance abuse and income so that most of the people who used drugs intravenously (91.5%) had income less than 250 dollars per month ($P$=0.03). Moreover, There was a significant correlation between the form of substance abuse and the history of tobacco smoking ($P$=0.001).

## Discussion

The mean age of onset of drug consumption was 20.1 years. 42.4% of subjects had positive family history of drug abuse. Opium was the most common drug abused. No significant

relationship was observed between the abused drug and age, level of education, income, family history, and marital status. The present results indicate that 57.8% of the subjects who had an imprisonment history were incarcerated more than once and 8.1% of them had abused injected drugs in prison.

**Table 2**: Frequency and relative distribution of drug-abuse-related risk factors and high-risk behaviors in subjects

| Risk factors/High risk behaviors | Frequency | Percent |
|---|---|---|
| History of drug abuse in family | 150 | 42.4 |
| History of tobacco smoking | 313 | 88.4 |
| History of substance abuse withdrawal in the past | 266 | 75.1 |
| History of intravenous drug abuse | 85 | 24.0 |
| History of sharing syringes | 12 | 3.4 |
| History of being imprisoned | 116 | 32.8 |
| History of sexual promiscuity | 305 | 87.9 |
| History of relations with intravenous drug abusers | 12 | 3.9 |
| History of sexually transmitted diseases | 9 | 2.5 |
| History of illegal sexual relations | 55 | 18.0 |
| History of escape from house | 58 | 16.4 |

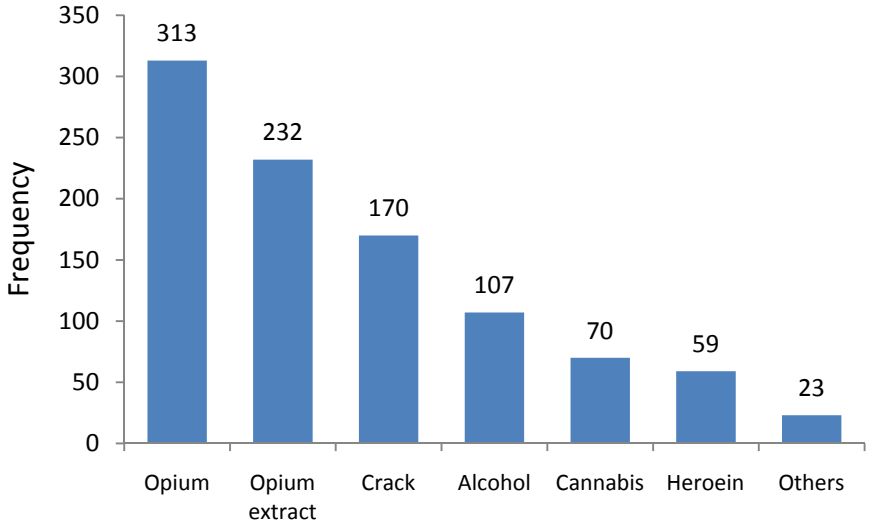


**Figure 1**: The frequency distribution of substances abuse by the subjects during addiction period.

Abbasi et al. [3] conducted a cross-sectional study of the pattern of drug abuse based on demographical factors in self-introducing addicts in Gorgan and enrolled 3005 addicts referred to treatment centers from 2000 to 2004. The mean age of the subjects in their study was 36.9 years, which was similar to the results of the present study. However, other studies [9, 10] reported the age range of 18-28 in their studies, which was dissimilar to our results. Behdani et al. studied the demographic features of 180 patients during 2004-5 who received methadone maintenance treatment in Hejazi Hospital in Mashhad. They indicated that 63.3% of the patients aged 18-28 years, which is dissimilar to the results of the present study. The distribution of sex among addicts was confirmed by similar studies [3, 5].

Abbasi et al. [3] stated that 15% of the subjects were unemployed while the rate of unemployment was 24.4% in the study conducted by Behadni et al. [5]. Based on previous studies [3, 5], 68.5% and 82.4% of the subjects were married respectively. A retrospective analytic study evaluated the changes in the patterns of drug abuse in 684 clients of addiction withdrawal centers and

stated that 66% of the subjects were married [11]. This finding confirmed our results. Only a few subjects (11.6%) in that study had no history of tobacco smoking. Another study [3] stated that 75.2% of the subjects had a history of tobacco smoking which was less than our findings. In the present study, crack was the most common drug abused by the subjects before referring to the treatment centers followed by opium and opium extract. These results were dissimilar to the results of study which was conducted by Amani et al. [11] which reported opium and heroin as the most common drugs abused. Behdani et al. stated that 52.6% of the subjects inhaled the drugs, 19.5% ingested and 8.6% injected the drugs [5]. They also stated that 77.7% of the subjects abused the drugs more than twice per day. Abbasi et al. [3] stated that inhalation (40.2%) was the most common form of drug abuse among the addicts followed by ingestion (30.9%) and injection (1%). Another study [11] showed the same results including inhalation (41.7%), ingestion (30.5%), and injection (6.7%). These results confirmed the results of the present study. Accordingly, inhalation was the most prevalent method for drug abuse.

In a study [5], 45.7% of the subjects had a family history of drug abuse, which was similar to the results of the present study. Another study [2] stated that 10.7% of the subjects had a history of drug abuse in close relatives, which was less than what was found in our study. These results were confirmed by the results of a similar study [11].

In a study [3], opium (66.7%) was the most frequently abused drug followed by opium extract (16.8%). This finding confirmed the results of the present study. Abbasi et al. [3] stated that 1% of his subjects not only ingested but also injected drugs. Amani at al. stated that 3.6% of the subjects with injection history shared syringes as stated in the present study [11]. However, Abbasi's et al. reported that 13.5% of the subjects had an imprisonment history, which was dissimilar to the results of the present study [3].

Our findings are prone to selection bias due to enrolling a defined group of addicts who referred to MMTC and DIC in a specific region. Therefore, we cannot generalize the results of the present study to all addicts in the general population.

## Conclusion

We concluded that the age and sex pattern of addicts those who refer to MMTC and DIC are similar in different regions of our country. According to our findings, the most prevalent pattern of drug consumption was inhalation. Opium and crack were the most frequent kind of drugs abused by the addicts. Majority of addicts had history of attempts for withdrawal. These results need serious attention in providing DIC and MMTC services. Furthermore, due to high prevalence of positive family history among addicts, family participation will play an important role in prevention.

## Acknowledgments

We wish to thank Dr Shirin Farshchi, Dr Ahmad Mahdavi, Dr Hassan Khoshghadam, Dr Mohammad Reza Khorsand and all the staffs in Saman, Novin, Aftab and Pardis centers collaborated with this research.

## Conflict of interest statement

The authors declare that they have no conflicts of interest.

## Funding

The financial support was provided by Vice-chancellorship for Research Affairs of Shahroud University of Medical Sciences (project No.8746).

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