Profile of Injection Drug Users in Kermanshah, Iran

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Abstract
Background and aims: Injection drug use is considered as an international public health threat that can lead to serious health-related outcomes. The aim of this study was to obtain a profile of injection drug users (IDUs) in Kermanshah, Iran, in 2017.

Methods: This cross-sectional study was carried out on 606 male IDUs who were recruited from 2 drop-in centers in Kermanshah using a snowball sampling method. Continuous and categorical variables are expressed as the mean and standard deviation, as well as frequency and percentage, respectively.

Results: The mean age of participants in this study was 36.7 ± 8.51 years and at first drug injection was 29.35 ± 8.04 years. In addition, the highest frequency of injection drugs belonged to heroin (99.00%), methamphetamine (86.00%), and opium (85.00%), respectively. However, the lowest injection drugs were opium syrup (0.50%), ecstasy (0.30%), and amphetamine (0.20%).

Conclusion: Based on the findings of this study, heroin, methamphetamine, and opium had the highest frequency injection among male IDUs in Kermanshah, and the age of the first drug injection was low among these individuals. Accordingly, wider coverage prevention programs are highly recommended, including harm reduction programs, counseling centers with improved quality of services, treatment programs, and greater attention to human resource development-based counseling and education.

Keywords: Risk behaviors, Injection drug users, Profile, Opium

Introduction
Injecting drug use is considered as an international public health threat that can cause serious health-related outcomes such as the transmission of blood-borne viruses resulting from risky behaviors among people who inject drugs (PWIDs).1 PWIDs are at a higher risk for infectious diseases such as hepatitis C virus (HCV), human immune deficiency virus, and hepatitis B virus,2 and more than a second of drug injectors are infected with HCV in some parts of the world.3 According to the annual World Health Organization report for 2008, approximately 200 million people in the world were addicted to opiates and the highest prevalence rate of opiate abuse (2.8%) was observed in the Iranian population aged 15-46 years.4 In addition, the injection has increased in two past decades in Iran and has become a major medical concern.5 It is estimated that there are approximately 200-300,000 injectors in Iran.6 The pattern of drug use is different in the world and hashish has the largest number of consumers, most of whom are in the United States and Western Europe.

Amphetamines in South Asia, cocaine in North America and the West and the Center for Europe, and opium in Afghanistan have the highest levels of use.7 Further, opium and its derivatives are the most consumed drugs in Iran.8 It seems that the pattern of drug abuse in Iran has changed extensively and the younger generation has been pushed into industrial and semi-industrial materials with higher degradation effects, including glass and heroin.9 Therefore, this study investigated the pattern of drug abuse and their hazardous behaviors among the males who inject drugs in Kermanshah. Relevant authorities can be guided for fundamental policy-making and planning through this research in addition to gaining knowledge of the epidemiological situation and pattern of drug use in Kermanshah.

Materials and Methods
Design and Participants
This cross-sectional study was conducted from September to November 2017. A convenience sample including
606 male injection drug users (IDUs) from Kermanshah, within the age range of 18 and over and self-reporting at least 1 drug injection in the month before the interview were recruited from 2 drop-in centers affiliated to Kermanshah University of Medical Sciences, as well as related community outreach sites in Kermanshah (west of Iran). In this study “Drug” refers to any illicit substance except for cannabis. All participants provided a written consent form.

Sampling Method and Data Collection Instrument
Data were collected by trained interviewers during face-to-face interviews. Snowball sampling, estimating the size of hidden populations using a snowball sampling technique, was performed and data were collected using a questionnaire. The applied instrument consisted of demographic information on participants’ age, marital status, occupation, educational level, and the kind of abused drugs, the route of abuse, age at first injection and use, along with the duration of injection and use.

Statistical Analysis
Continuous variables are expressed as the mean ± standard deviation (SD), and categorical variables are presented as the number and percentage. All data were analyzed using SPSS software, version 21 (IBM Corp, Armonk, NY).

Results
Socio-demographic Profile
A total of 606 male IDUs participated in the study. Table 1 presents the socio-demographic characteristics of the sample population. Although the participants’ ages ranged from 18 to 65 years, the mean ± SD was 36.7 ± 8.51 years, and 51.30% of participants aged over 35 years. Furthermore, the mean ± SD years of education was 8.4 ± 3.89. In this study, 372 participants (61.5%) were single while 135 of them (22.3%) were divorced and 98 (16.2%) of them had more than 3 years of injection drug experience. In this study “Drug” refers to any illicit substance except for cannabis. All participants provided a written consent form.

Pattern of Drug Use
In this study, the age of the first drug use was under 20 years among 408 (67.3%) of participants and 466 (76.9%) of participants had a history of drug use above 10 years. In addition, the highest age range of the first drug injection of participants was related to the age group of over 30 years and 299 (37.8%) of participants had under 3 years of the injection drug experience while 377 (62.2%) of them had more than 3 years of injection drug experience.

Profile of Injecting Drugs in Kermanshah
In this study, heroin was the highest used drug. In general, 600 (99%) out of a total of 606 participants used heroin with a mean age of first use (MAFU), a mean year of drug use (MYDU), a mean number of drug use days in the last month (MNDUDLM), and a mean number of drug injection days in the last month (MNDIDLM) of 25.81 ± 7.35 years, 8.91 ± 7.51 years, 29 ± 5.00 times, and 66.87 ± 44.75 times, respectively (Table 3).

In the next step, methamphetamine was the highest used drug among participants (86%) with a MAFU, MYDU, MNDUDLM, and MNDIDLM of 29.40 ± 7.88 years.
The high preponderance of addiction in northern and central Iran), the participants in Mazandaran and Tehran (two industrial cities located in the North Africa region. This demonstrates that around 61% of male IDUs were singles, which is in line with the results of a study done by Eskandarieh et al in Birjand. The average age at the first drug use reported in another study was 22 years.14

In the present study, most male IDUs had secondary school education and 28.7% of them had primary school level of education. The high preponderance of addiction cases in those with high school or lower education is corroborated with the findings of other studies in Iran.12,15

However, around 22% of participants in this study did not have any history of imprisonment, about half of them had fixed residence and lived with their parents and spouses, and finally, around 47% of them had work and received legal incomes. These characteristics of participants showed that there are some groups of male IDUs who have better socioeconomic status, have a stable life, and are integrated in the society while not having illegal activities. The results of this study and two other studies in Iran demonstrated that PWIDs had different characteristics and may require different services.6,16 In the present study, individuals most commonly used drugs such as heroin, methamphetamine, and opium. In the study of Behdani in Mashhad, methamphetamine and opium were commonly used among individuals. Compared to previous studies, the age pattern of our sample (mean = 36.8 years) demonstrated a stable trend of the population who had injected drugs in Iran within the past decades.17,18 Despite the increase in the prevalence of injecting drug use in Iran, the age pattern of the population who inject drugs has remained stable.19

In this study, 26.1% of participants were reported as homeless, which has been recognized as a major determinant of poor health among IDUs.20 Eventually, the majority of these PWIDs had prison history (77.6%), showing that men with a history of imprisonment are much more likely to inject drugs compared to those men without a history of imprisonment.

**Discussion**

The present study assessed the demographic characteristics, patterns of drug use, and risky behaviors among male IDUs in Kermanshah.

The assessment of the socioeconomic indicators of male IDUs showed that about half of them have education less than eight years and about one-third of these individuals had no stable residence. Thus, PWIDs are considered as a disadvantaged population throughout the Middle East and North Africa region.10 The majority of participants in this study were over 35 years old. In another study conducted in Mazandaran and Tehran (two industrial cities located in northern and central Iran), the participants’ maximum age range was 30-34 years.11 This suggests that the geographical area and access to drugs have a significant role in reducing the initiation of illicit drug use. In the present study, the mean age of drug injectors was 36 years and the mean age at the first drug use was 19.56 years, which is consistent with the findings of an earlier study where the corresponding numbers were 35 and 20 years, respectively.12 The study demonstrated that around 61% of male IDUs were singles, which is in line with the results of a study done by Eskandarieh et al in Birjand.13 The average age at the first drug use reported in another study was 22 years.14

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of drug use (606)</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>&gt;10</td>
</tr>
<tr>
<td>Age at first drug injection (606)</td>
<td>&lt;20</td>
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<tr>
<td></td>
<td>21-25</td>
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<tr>
<td></td>
<td>26-30</td>
</tr>
<tr>
<td></td>
<td>&gt;30</td>
</tr>
<tr>
<td>Mean age ± SD at first injection</td>
<td>29.35 (8.04)</td>
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<tr>
<td>Years of injection drug use</td>
<td>≤3</td>
</tr>
<tr>
<td></td>
<td>&gt;3</td>
</tr>
<tr>
<td>Frequency of any drug injection per day (604)</td>
<td>Almost one daily</td>
</tr>
<tr>
<td></td>
<td>Almost 2 times a day</td>
</tr>
<tr>
<td></td>
<td>3 to 8 times a day</td>
</tr>
<tr>
<td>Sharing equipment in the last month (606)</td>
<td>Home</td>
</tr>
<tr>
<td></td>
<td>Street/parks</td>
</tr>
<tr>
<td></td>
<td>Hangout/ruin</td>
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<tr>
<td></td>
<td>Shelter/residential center</td>
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<tr>
<td>Place of the first injection (600)</td>
<td>Home</td>
</tr>
<tr>
<td></td>
<td>Park/ruin</td>
</tr>
</tbody>
</table>

Note: IDUs: Injection drug users; “Drug” refers to any illicit substance except for cannabis.

4.83 ± 3.23 years, 25.88 ± 9.30 times, and 0.88 ± 0.34 times, respectively. Subsequently, opium, crack, methadone, hashish, norjisaq, alcohol, tramadol, benzo, buprenorphine, opium syrup, ecstasy, and amphetamine were the most commonly used drugs while the lowest drug use was related to amphorphine, ecstasy, and opium syrup.

**Conclusion**

Based on the findings of this study, heroin, methamphetamine, and opium had the highest frequency of injection among male IDUs in Kermanshah, and the age of the first drug injection was low among them. According to the results of the present study, single, educated, and young individuals, those with a history of imprisonment, and those whose age range was low at the first drug use are at the risk of drug injectors and are considered as vulnerable.
people in society. Therefore, these people should receive more attention, and thus further prevention programs are highly recommended, including harm reduction programs, counseling centers with improved quality of services, and treatment programs.

Conflict of Interest Disclosures
The authors declare that they have no conflicts of interests.

Ethical Approval
This study was obtained from a master's thesis in epidemiology, which was conducted by a grant (No. IR.SBMU.PHNS.REC.No,95519,) given by Sahid Behesti University of Medical Sciences. The Ethics Committee of Sahid Behesti University of Medical Sciences approved the study.

Authors' Contributions
All authors equally contributed to this project and read and approved the final manuscript.

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References