

## ORIGINAL ARTICLE

# Exploration of the Factors Associated with Initiation of Methamphetamine Use in Khomein County, Iran

Mehran Akbari<sup>1</sup>, Mohammad Ali Orouji<sup>1</sup>, Najmeh Shahini<sup>2</sup>, Hadiseh Rostami<sup>1</sup>, Karim Mohammadi<sup>1</sup>, Abdurrahman Charkazi<sup>3</sup>

<sup>1</sup>Department of Nursing, Khomein University of Medical Sciences, Khomein, Iran

<sup>2</sup>Golestan Research Center of Psychiatry (GRCP), Golestan University of Medical Sciences, Gorgan, Iran

<sup>3</sup>Golestan University of Medical Sciences Faculty of Health, Environmental Health Research Center, Gorgan, Iran

**ORCID iDs of the authors:** M.A. 000-0002-1699-1051, M.A.O. 0000-0002-9475-9311, N.S. 0000-0001-7781-6014, H.R. 0000-0001-7509-9322, K.M. 000-00025358-9109, A.C. 0000-0003-4770-2002.

## Main Points

- Peer pressure and curiosity are the main initial causes of methamphetamine use initiation.
- The misconceptions that methamphetamine is not addictive and can ease the quitting of other addictive substances are the other main reasons for methamphetamine consumption.
- Its effects in forgetting sorrow and grief, and its stimulatory effects in warding off sleep for long periods are also reasons for methamphetamine consumption.

## Abstract

Methamphetamine is one of the most addictive stimulants, and its consumption has increased in Iran over the last decade. There are different factors related to a user's first trial of illegal drugs such as methamphetamine. This qualitative study aimed to explore factors associated with the initiation of methamphetamine consumption among 12 methamphetamine consumers who were invited to the study through purposeful sampling, using the snowball technique, in Khomein city, Iran, in 2019. Data were collected through semi-structured interviews and analyzed through content analysis in MAXQDA Version 10 software. Four main categories were extracted from the qualitative data, including (i) Curiosity and encouragement by friends; (ii) Misconception that methamphetamine is not addictive, and its effect on quitting other substances; (iii) Forgetting sorrow and grief; and (iv) The effects of methamphetamine in warding off sleep. Designing public health interventions to increase awareness on the addictive nature and the negative side effects of methamphetamine is necessary. Besides, we suggest efforts to increase public awareness and knowledge regarding the health risks of methamphetamine and to modify the related misconceptions.

**Keywords:** Addiction, methamphetamine, qualitative study, illegal drugs, illegal substances, substance abuse

**Corresponding Author:**  
Abdurrahman Charkazi  
**E-mail:**  
rcharkazi@yahoo.com

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## Introduction

Narcotic drugs are substances that change the mental state of the consumer via their effect on the nervous system (Jalali & Rastineh, 2019). Addiction is a strong desire to use a substance or drug, and is associated with withdrawal symptoms and the development of tolerance (Richards et al., 2017). Methamphetamine is a drug that attracts high level

of negative attention internationally (Deen et al., 2021).

An individual begins to use drugs mainly to escape from discomfort, whether physical or mental, and to experience pleasure; and its continuation is mainly due to the failure and inability to control the behavior despite the harmful and uncontrollable consequences. In other words, addiction equals

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dependence plus coercion, and deaddiction requires positive and negative reinforcement or psychotherapeutic medication, or other combination therapies (Falahi, 2016).

Based on the available data, the statistics of the spread of addiction in Iran show an increase from 800 000 to 1 700 000 in 2007 to 2 880 000 people in 2017, which is undeniable progress (Bakhtiyari, 2020). Despite all this, the evidence suggests that with careful study and time, its spread can be prevented (Falahi & Khayatan, 2016).

Amphetamines and their derivatives were first used as bronchodilators in the early 20th century (Richards et al., 2017). Methamphetamine is a potent stimulant addictive that affects the central nervous system and is easily produced illegally in underground laboratories (Baskin-Sommers & Sommers, 2006; Herman-Stahl et al., 2007). The acute effects of methamphetamine use are shown as increased energy and attention, increased positive mood, and decreased appetite (Rawson et al., 2002). As a stimulant of the central nervous system, it facilitates the release of norepinephrine and dopamine from the nerve endings and delays their reabsorption to some extent (King & Ellinwood, 1997).

Methamphetamine also causes vasoconstriction, depriving the tissues of oxygen; and excessive circulation of norepinephrine can lead to tissue damage (Karch et al., 2001). The continued use of methamphetamine damages various organs of the body. Cardiac risks, including chest pain, arrhythmia, hypertension, cardiomyopathy, and even heart attack have been observed in young consumers (Kaye et al., 2007; Ujike & Sato, 2004). In general, the effects of drug use include analgesia, physical dependence, respiratory depression, anticonvulsive, hallucinations, frequent urination, decreased gastrointestinal motility, dysphoria, euphoria, sedation meiosis, mitosis, vasodilation, and withdrawal symptoms (Azadfarid et al., 2020).

In Iran, in recent years, the pattern of consumption has changed from the use of traditional substances to industrial substances, and the mode of consumption has changed from smoking to using injectable forms. In Iran, "Glass," "Shabo," "Door," "Window," "Plaster," "Elastic," "Ice," and "Crystal" are the colloquial names of methamphetamine. Statistics from the Anti-Narcotics Headquarters show a rapid increase in methamphetamine consumption among adolescents. In 2008, more than 6% of addicts over the age of 12 in Iran consumed methamphetamine, most of them young people (Doaghoyan & Habibzadeh Maleki, 2011).

The results of a study in the country showed that 15% of Iranian addicts consume methamphetamine (Shekarchizadeh et al., 2012). A quick look at the available statistics on drug use shows a significant rise in the number of addicts, with the youth forming a large proportion of drug users (Bakhtiyari, 2020). The criminal action against the use of drugs, that are on the agenda to date, have not only prevented the increase in demand but have also led to some progress (Jalali & Rastineh, 2019) in efforts to control abuse.

To achieve the goals of addiction prevention programs, recognizing the causes of people's tendency to use drugs, and their underlying factors, is crucial (Woods, 2006).

Various studies have been conducted on the causes of drug addiction, the results of which have been varied according to the study population and geographical area. Some researchers have stated that the lack of parental supervision of their children's friends is the main cause of drug addiction in young people (Vitaro et al., 2001). Some other researchers have cited stress relief as the main cause of drugs (Dejman et al., 2015).

In general, the factors involved in creating addiction can be considered as belonging to several general categories, such as family factors, individual factors, social factors, and geographic and economic factors (Moddabernia et al., 2013; Morley et al., 2017; Jha & Singh, 2020; Afkar et al., 2017).

The results of research on the pathology of addiction show that if the causes of drug addiction can be identified, it is possible to predict practical and effective solutions to prevent this social problem and its destructive consequences (Ahmadi & Arabi, 2016). Therefore, this qualitative study was conducted to explain in detail and depth the factors related to the onset of methamphetamine consumption among its consumers in Khomein city, Iran.

## Methods

The present study is a qualitative exploratory study that was conducted in 2019 on 12 crystal consumers in Khomein city. In this study, purposive sampling was performed with maximum variety using the snowball technique. The sampling in the present study was continued to the point of data saturation. We tried to select people with sufficient variation in terms of age, gender, level of education, and other demographic information, to achieve a good representation of our target community. Therefore, the individuals who comprised the research sample were recruited from DIC centers.

The data collection was field-based, and the data collection method was an in-depth semi-structured interview, during which the participants were asked to express their understanding and experiences about the reasons for their tendency to start consuming crystals. They were then asked to focus on their experiences and on the reasons that led them to their desire to consume methamphetamine. The next questions were asked based on the initial answers by the participants. The interviews were recorded with the participants' consent.

The contractual qualitative content analysis method was used for data analysis. To analyze the data, the audio file of the interviews was first transcribed into manuscripts, and then by carefully studying the manuscripts that formed the comparable units of analysis, the researchers tried to obtain a general sense of them. The transcripts of the interviews were then organized with open coding. The extracted codes were managed through the MAXQDA10 text data organization software.

Repeated study of the extraction codes helped to identify the similarities and differences between them and to classify them. Finally, they were analyzed as the process progressed. After each interview, the text of the interview was analyzed based on the method of contractual content analysis. First, in the text of each interview, which constituted the unit of analysis for our study, semantic units were identified. Then the units of meaning, that is,

Table 1.  
*Demographic Characteristics of Study Participants*

Consumption of Other Substances	Age at Onset of Use	Job	Age	Sex	Age
Opium	24	Worker	39	Male	1
Opium	26	Student	37	Male	2
-	47	Unemployed	48	Male	3
-	18	Housewife	46	Female	4
Cannabis, Grass	17	Unemployed	35	Male	5
Opium	20	Unemployed	37	Male	6
Opium, Alcohol	30	Worker	32	Male	7
Heroin, Opium, Cannabis	25	Retired	35	Male	8
Opium, Cannabis	34	Unemployed	36	Male	9
Opium, Heroin	30	Worker	42	Male	10
Opium	30	Worker	42	Male	11
Opium, Heroin	30	Marketing	43	Male	12

the sentence or sentences that had the same content and context, were summarized, and shortened as much as possible without losing the original content. The abbreviated meanings of these units were labeled as "category." The different categories based on the similarities and differences were then compared with each other and classified.

## Results

The age range of participants was 32-48 years, with a mean and standard deviation of  $29.23 \pm 5.86$  years. The age range at onset of methamphetamine use was 17-47 years, with a mean and standard deviation of  $27.58 \pm 8.11$  years. Except for two participants, all of them (10 individuals) were using other substances along with methamphetamine. The most frequently using drug was opium. The demographic characteristics of the study participants are shown in Table 1. The codes extracted from all analysis units were organized into categories, which are specified in Table 2.

### Category 1. Curiosity and Encouragement by Friends

Of the reasons for starting to consume methamphetamine, curiosity and encouragement by friends addicted to glass were the first. Five participants mentioned the reason for consuming glass as curiosity and being encouraged by friends to consume it. According to them:

Participant 5: "My friends used to say that there are substances that are energizing and invigorating, and I was interested to know how it is."

Participant 3: "I went somewhere for a worker. People were taking drugs there, and I wanted to know what kind of drugs they were taking. I was somehow deceived by my friend."

Table 2.  
*Categories of Methamphetamine Use Factors Extracted from Data Analysis*

Extracted Categories
1. Curiosity and encouragement by friends
2. Misconception that Methamphetamine is not addictive and its effect on quitting other substances
3. Forgetting sorrow and grief
4. Anti-sleep effects of methamphetamine

### Category 2. Misconception that Methamphetamine Is Not Addictive, and Its Effect on Quitting Other Substances

The lack of knowledge about the addictive power of methamphetamine, the misconception that there is no hangover, and that it helps in quitting other substances, were the other set of reasons for its consumption, as mentioned by three participants.

Participant 8: "I used methamphetamine to quit heroin, but to no avail. I was told that the methamphetamine did not contain morphine and was not as addictive as other substances, and I liked to consume it."

### Category 3. Forgetting Sorrow and Grief

Two participants stated that the reason for consuming methamphetamine was to forget and relieve their grief:

Participant 1: "The main reason for my brother's death was an accident, and I was looking for something to anesthetize me and I do not remember or understand anything about my brother's death. I wanted to have a phase of sadness that the consumption of methamphetamine gave me."

### Category 4. Anti-sleep Effects of Methamphetamine

Two participants cited the effects of methamphetamine on sleep, and being able to stay awake to get things done quickly:

Participant 7: "I was working in Shiraz and I saw glass for the first time there, and one of my friends suggested it to me and said that if you consume this, you will not sleep for two to three days and you can finish the building work sooner. After consuming, I just wanted to work and clean everywhere."

## Discussion

The main purpose of this study was to explain the reasons for the onset of methamphetamine consumption in crystal consumers in the city of Khomein, Iran. The results of this study showed four main reasons for methamphetamine consumption, which are evaluated and discussed below.

*Curiosity and persuasion:* Of the many reasons for starting to consume methamphetamine, the individual's curiosity and encouragement from friends have been cited as the most important. The complementary effects of an individual's curiosity in trying a new substance, and the encouragement from friends who are already using it and who magnify its effect, leads to the initiation or trial of methamphetamine use.

The results of the study by Shahbazi Sighaldehy et al. showed that the individual's curiosity and persuasion by friends were the

reasons for starting to consume glass (Shahbazi Sighaldehy et al., 2020). The results of other studies also showed that these factors are the most important in glass consumption (Boostani & Karamizadeh, 2017; Sahami & Khezri, 2014).

*The misconceptions that methamphetamine is not addictive and that it helps in quitting the use of other substances:* The results of other studies show that the misconceptions that methamphetamine is not addictive, and that it can help in quitting the use of other substances, have been the other main reasons for its consumption in Iran. Of course, it should be noted that most participants were addicted to opioids such as opium, heroin, and crack before consuming methamphetamine, and due to the tolerance developed by years of use of these substances to achieve intoxication, began to use other drugs, including methamphetamine – a point that has also been emphasized by Shahbazi Sighaldehy et al. (Shahbazi Sighaldehy et al., 2020). On the other hand, due to the ignorance of the effects of methamphetamine abuse, it is necessary to appropriately train those who are addicted, especially to opioid substances, so that they do not fall into the trap of using methamphetamine, and to raise awareness that methamphetamine consumption has no effect on reducing or quitting the use of these other addictive substances.

*To cope with grief and stress:* The need to forget grief was cited as another reason to start consuming methamphetamine. It seems that people want to escape from some of their problems and the stressful events of their lives by consuming methamphetamine and other substances. In other words, because people have not learned problem-solving skills and positive skills to cope with stress, they consume methamphetamine and other substances as a way to escape their situation, which is a negative coping habit. The results of a study in Tehran showed street children using drugs to cope with stress, and to escape their physical and psychological stressors and problems (Dejman et al., 2015).

*To avoid sleep:* Methamphetamine's anti-sleep effects were another reason for starting to use the substance, which was mentioned by two participants. This effect is seen during the first trial consumption of crystal, and the consumer may not need to sleep for several days because methamphetamine is a stimulant which causes insomnia and increased activity in consumers. This is why some people who have to do physical work to the best of their ability or have to deliver their work at a certain time are encouraged by others to do so and turn to methamphetamine to increase their work efficiency. This factor is also mentioned in the study by Sighaldehy et al. (2020) and Noori et al. (2016).

In conclusion, the results of this study showed that the factors related to the first use of methamphetamine, include the *curiosity and encouragement by friends, the misconceptions that methamphetamine is not addictive and has an effect on quitting other substances, to forget sorrow and grief, and its anti-sleep effects*. Designing public health interventions to increase public knowledge on the addictive nature and negative side effects of methamphetamine use is necessary. Besides, we suggest measures to raise public awareness and knowledge regarding the health risks of methamphetamine and to modify related misconceptions.

## Limitations and Directions/Suggestions for Future Research

This study is limited in terms of its generalizability. We used the snowball method due to the difficulties associated with the topic of the study, which has its own limitations. The small sample size is another limitation. We suggest designing public health programs to promote awareness about the health risks of crystal meth and modifying misconceptions about crystal meth use through different communication channels like social media and school-based education. Future research should be conducted using a mixed method design in a nationwide program to raise awareness and to better our understanding of methamphetamine use initiation in Iran.

**Ethics Committee Approval:** Ethics committee approval was received for this study from the Ethics Committee of the Deputy for research and Technology of Khomein University of Medical Sciences; IR.KHOMEIN.REC.1398.005.

**Informed Consent:** Informed consent was obtained from the participants in this study.

**Peer Review:** Externally peer-reviewed.

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