

# Personality and Mental Disorders in Patients with Substance-Related Disorders Admitted to Addiction Clinics in Hamadan in 2014

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## Abstract

**Objectives:** This study aimed to assess and compare the mental and personality disorders among people with substance-related disorder.

**Methods:** This cross sectional study was performed from September 2014 to March 2015 in Hamadan city, Iran. The population of this study was all people who referred to the addiction clinics and were consumers of opioids or methamphetamine. Each client was examined in biaxial axis and patients with mental health were studied in the first axis using the SCID test. Also, in the second axis, the personality disorders were evaluated in the patients using the Minnesota multiphasic personality inventory (MMPI) test.

**Results:** All the 103 patients participated in this study were males. The mean age of the patients was  $9.13 \pm 9.41$  years. The results of the MMPI test revealed that schizoid, paranoid, and passive aggressive personality disorders were significantly higher in people with an opioid use disorder compared with the people who taking methamphetamine. However, an antisocial personality disorder in patients taking methamphetamine was more common than in patients who taking opioid. In patients taking opioids, based on the results of the SCID, depression with or without psychotic features, major depressive disorder (MDD) and panic disorder were significantly higher compared with patients taking methamphetamine.

**Conclusions:** The Bipolar mood disorder, panic disorder, paranoid personality disorder, MDD with psychotic features and passive aggressive personality disorder were more prevalent in patient who taking opiate and the antisocial personality disorder, schizoid personality disorder, substance-induced mood disorder and somatoform disorder were more prevalent in patients taking methamphetamine.

**Keywords:** Personality and Mental Disorders, Methamphetamine, Opiate

## 1. Background

Problems related to substance abuse can cause significant disabilities in a high percentage of people. Illegal drug abuse affects people on multiple functional areas and the simultaneous detection of other diseases in 60 to 75 percent of patients with drug-related disorders has been seen. About 40% of America's population have used illegal substances at least once and in more than 15% of the population over 18 years, diagnosis given. A syndrome caused by substances can be a spectrum of all psychiatric disorders, including mood disorders, psychosis, anxiety and mimic (1-4).

Many people with substance abuse, especially young men that use the nonprescription drugs, seems to be people who abused the drug before and had been suffering from different degrees of vulnerability of personality (5, 6).

Research has shown that in American society, disorders such as antisocial personality disorders, a variety of

phobias and anxiety disorders, major depressive disorder and dysthymia have the strongest relationship with drug abuse and drug dependence and compared with the general population, depressive symptoms in patients with substance abuse or substance dependence are more common (1). Also, various studies in other communities have shown these disorders (7-14).

Fisher et al. in the study with the aim of the risk of addiction and personality traits after treatment studied 108 addicts by using the Neo personality test. The results showed that the personality traits, such as neuroticism and low conscientiousness had an important role in illness and relapse, especially after treatment (15).

In the study of Alaghemandan et al., a borderline personality disorder and antisocial disorder (type B) were the most common disorders in people with substance abuse (16).

In Assarian et al. study, the prevalence of anxiety disorders was 32.5%, depression 26.2%, an antisocial personal-

ity disorder (type B) was 5.24% and the schizoid personality disorder (type A) was 4.23% and these have been reported based on patients (17).

Results of the related studies showed that methamphetamine-induced psychosis patients compared with the healthy group had more significant deterioration in their working memory and executive functions (18).

Findings of the Matthews study in 2010 showed that there is a significant relationship between ecstasy and the emergence of symptoms of depression (19). Research findings of Bottle et al. in France in 2000 predicted numeral about 50% for schizophrenia, obsessive-compulsive disorder and drug addiction (20).

Drug dependence and mental disorders associated closely with each community's culture and social and economic conditions (1, 21). Among the reasons over the past few years in the field of clinical importance of mental disorders among substance abusers which presented, comorbidity of mental disorders is also an important factor in the etiology, prognosis and vulnerability of this group of patients (12, 22).

Pattern of drug abuse in Iran in recent years has changed and traditional opiate drugs like opium have changed to newer forms such as opioids and another newer forms such as crack (in Iran, heroin is the traditional type) and heroin and other substances (such as methamphetamine) (23). One of the most significant effects is a psychotic disorder that came from using the methamphetamine and this issue has caused a significant portion of hospital beds to patients with this disorder (24). Previous studies have shown that using methamphetamine can cause brain damage and subsequently various cognitive function disorders. For example, Thompson et al. compared methamphetamine-dependent patients and healthy volunteers, and they concluded that using methamphetamine for long-term can cause damage to dopaminergic, and serotonergic systems and also lead to brain damage (25).

Henri et al. showed that cognitive disorders will disappear after stopping the use of methamphetamine, but unfortunately their cognitive faculties will not like before and parts of cognitive disorders, including deficiencies in aspects of recognition, theory of mind, memory and executive functions will remain (26).

Unlike cognitive impairments caused by methamphetamine, the study of cognitive disorders in methamphetamine-induced psychosis is low. For example, it is yet unclear whether the cognitive model of patients with cognitive pattern of nonpsychotic consumers of methamphetamine is different with other patients with different psychotic disorders or not (26).

One of the fundamental questions for psychologists

and researchers of behavioral sciences is whether certain personality traits can distinguish addicted people from ordinary people or not? Are these traits and characteristics related to changes caused by using drug for a long time or not? Also, another question is that whether a person had these traits before or not and another issue is a about the effect of different cultures (27).

## 2. Objectives

The costs of mental disorders in the community is very high and our young people are prone to addiction to drugs and other newer substances such as methamphetamine; so, this study was conducted to compare mental disorders in patients with substance abuse. Also, another aim is to obtain a measure of the incidence of mental disorders and personality disorders among this group of people. So, such measures can be helpful for making decisions about drug treatment and efficiency of therapeutic approaches in these patients.

## 3. Methods

This study was a cross sectional study. The population of the study was all people who were consumers of opioids or methamphetamine and referred to addiction treatment rehabilitation centers in Hamadan city, Iran, from September 2014 to March 2015. The participants' level of education was higher than the high school level. Each client was examined in the biaxial axis and patients with mental health were studied in the first axis using the SCID test. Also, in the second axis, patients were evaluated for personality disorders using the Minnesota multiphasic personality inventory (MMPI) test.

Different variables such as age, sex, the educational level, occupation, and marital status were collected based on the demographic questionnaires and all data were analyzed by SPSS.16 software.

### 3.1. Sampling Procedures and Sample Size:

All patients admitted to addiction treatment centers in Hamadan were studied for 6 months from September 2014 to March 2015 (n = 103).

### 3.2. Inclusion Criteria:

The inclusion criterion was opiate, and methamphetamine dependence on the basis of the DSM IV criteria.

Exclusion criteria included the presence of additional drug dependence and lack of patient's consent to participate in the study.

### 3.3. Statistical Analysis:

Data were analyzed using descriptive (frequency and percentage) and inferential (the Chi-square test) statistics.

## 4. Results

A total of 103 patients participated in this study were males. The mean age of the patients was  $9.13 \pm 9.41$  years. The youngest person in the study was 20 years and the oldest person 78 years. The average duration of drug use in the subjects was  $9.102 \pm 6.131$  months.

The minimum duration was 12 months and maximum one was 280 months. Substances used in these patients were as follows: 20 patients (19.4%) used methamphetamine and 83 patients (80.6%) used opiates (61 patients used opium, 10 patients heroin, 8 patients methadone, and 4 patients crack). Seventy-one patients (68.9%) were married and 32% (31.1%) were single. The average duration of drug use among married was  $137.4 \pm 112.2$  months and in singles was  $118.6 \pm 111$  months. Also, regarding the educational status of the patients, 51 patients (49.5%) had education up to the elementary level, 2 patients (1.9%) high school, 20 patients (19.4%) diploma, 14 patients (13.6%) diploma, 14 patients (13.6%) BA, and 2 patients (1.9%) had a Master's degree. Overall, 30 patients (29.1%) had college education and 73 patients (70.9%) had nonacademic education.

Table 1 shows the relationship between the marital status and drug abuse. There was no statistically significant difference in the duration of drug abuse between married and single people ( $P = 0.39$ ).

In patients evaluated by the MMPI test, 5.8% of the patients had a schizoid personality disorder, 14.5% was antisocial patients, 3.8% of the patients had a paranoid personality disorder and 1.9% had a passive aggressive personality disorder. In patients evaluated by the SCID test, 50% were depressed, 24.3% were BMD patients, 10.50% of the patients had a substance-induced mood disorder, 7.80% had a panic disorder, 5.30% had a major depressive disorder (MDD) with psychotic features and 2.60% had an impaired somatoform disorder.

The results of Table 3 showed that in people who were taking opioids, schizoid, paranoid, and passive aggressive personality disorders were significantly higher than in people who were taking methamphetamine. However, the antisocial personality disorder was more common in patients taking methamphetamine compared to those taking opioids.

In addition, the prevalence of psychiatric disorders among drug users was tested using the SCID and its relationship with the substance abuse was also analyzed. The

prevalence rates of BMD, MDD with psychotic features, depression and a panic disorder were significantly higher in patients taking opioids than in patients taking methamphetamine. Also, in patients taking amphetamines, a substance-induced mood disorder and somatoform disorder were significantly higher than in patients who taking opioids.

Finally, as Table 4 shown, secondary psychiatric disorders which are related to using methamphetamine and opiates were analyzed at once. The overall prevalence of depressive disorders, BMD paranoid personality disorder, and panic disorder were reported. The major depressive disorder with psychotic features and passive aggressive personality disorders were seen in patients taking opiates. Antisocial personality disorders, a substance-induced mood disorder, schizoid personality disorder, and somatoform disorder were observed in patients taking methamphetamine.

## 5. Discussion

According to the results of this study, 30 patients (1.29%) had college education and 73 (9.70%) had nonacademic education that this represents a decrease in drug using among academics and people that are educated; this mean that increasing in the knowledge (the level of education) can reduce the substance use. The most commonly used substance was opium.

In patients taking opioid, BMD, MDD with a psychotic feature, depression and panic disorder were significantly higher than those taking methamphetamine. The results of the MMPI test showed that in patients taking opioids, schizoid, paranoid, a passive aggressive personality disorder were significantly higher compared to patients who taking methamphetamine. However, an antisocial personality disorder in patients taking methamphetamine was more common than other consumers.

According to the results of the SCID, 50% of the patients had depression, 24.3% had BMD. Also, according to the SCID, in patients taking opioids, BMD, MDD with a psychotic feature, depression and panic disorder were significantly higher than patients taking methamphetamine. In general, the results of both tests were determined by comparing the prevalence rates of depressive disorders, BMD, a paranoid personality disorder, panic disorder, MDD with a psychotic feature and a passive aggressive personality disorder in patients taking opiates and these features were more prevalent among such patients. Antisocial disorders, a substance-induced mood disorder, schizoid personality disorder, and the somatoform disorder were more prevalent in patients taking methamphetamine. Further studies with a larger sample size and in a longer period of time

**Table 1.** Relationship Between Marital Status and Type of Substance

Marital Status	Substance Abuse		P Value
	Opioid	Methamphetamine	
Single	22 (73.4%)	8 (26.70%)	Chi-Square = 407.2, df: 4, P < 0.0001
Married	59 (84%)	12 (16.90%)	

Abbreviation: df, degree of freedom.

**Table 2.** Psychiatric and Personality Disorders Among Subjects Using the SCID and MMPI Tests

MMPI and SCID	Frequency	Percentage (%)
Antisocial	15	14.5
Schizoid	6	5.8
Paranoid	4	3.8
Passive aggressive	2	1.9
Depression	38	50
BMD	18	24.30
Substance-induced mood disorder	8	10.50
Panic disorder	6	7.80
MDD + psychotic feature	4	5.30
Somatoform disorder	2	2.60

Abbreviations: BMD, bipolar mood disorder; MDD, major depressive disorder; MMPI, minnesota multiphasic personality inventory.

are needed to examine their relationships. In the study by Farrell et al. (28) in England to determine the prevalence of psychiatric disorders in addicted and nonaddicted groups, the prevalence of mental disorders among drug users was 45% and in the general population was 12%.

In this study, 50% of the subjects had depressive disorders. Also, the results of similar studies showed that the prevalence of depression among drug users was higher than nondrug users. However, in this study, due to lack of a control group, mental disorders did not check in healthy people. The study conducted by Turica et al. (29) in Finland in 2001 investigated the relationship between depression and addiction in adolescents; in this study, 37% of drug abusers had a history of depression, while the above illustration for the typical population of participants in the study was about 8%.

Unlike the current study, the control group was used in the research of Turica et al. Due to time constraints and lack of a control group and matched issue with patients, using a control group in this study was not possible. However, the results of our study showed that depression was the most common mental disorder that was observed in

subjects. In a study conducted in Sari by Hossieni (30), the prevalence of drug dependence and mental disorders for schizophrenia was 28.7%, for antipsychotics was 9.8%, mood disorder, and anxiety disorder was 7.9%.

Also, based on the study conducted by Parvizi et al. (31) on 50 addicts who were admitted to a treatment center in Kermanshah City, Iran, 72.3% of drug users were surveyed according to the DSM-V diagnostic criteria for mood and anxiety disorders. Interestingly, the prevalence of mood disorders and anxiety among patients in the current study was 63.1% based on the overall estimate that was very similar with the result of Parvizi et al. study, which showed a high prevalence of psychiatric disorders in these patients. The research conducted by Ghaleiha et al. (32) reported that pathological signs of one hundred of the drug-dependent people admitted to the clinics were compared with the general population and then the results showed that drug-dependent persons had more pathological symptoms and mental disorders than nondependent ones. The results of the above-mentioned studies as well as the current study showed a high prevalence of mental and mood disorders among drug users.

In the research conducted by Vrtin et al. (33) in Germany, by using the SCL-90-R test, researchers reported a significant correlation between the severity of psychological disorders and substance abuse. In general, the results of the current study showed an increase of drug use among people with low literacy and illiterate compared with those who had been educated.

### 5.1. Conclusions

The overall prevalence of depressive disorders, BMD, paranoid personality disorder, panic disorder, MDD with a psychotic feature and passive aggressive personality disorder was seen in patients taking opiates and the prevalence rates of antisocial disorders, a substance-induced mood disorder, schizoid personality disorder and somatoform disorder were seen in patient taking methamphetamine.

A high prevalence of psychiatric disorders among the subjects showed that with timely diagnosis and treatment of these patients we can reduce these problems in society and prevent their complications in families.

**Table 3.** The Prevalence of Psychiatric Disorders and a Personality Disorder Among Subjects Using the MMPI and SCID Tests and its Relationship with the Substance Abusers

Mental and Personality Disorders	Methamphetamine	Opioid	P Value
BMD	4 (13.3%)	14 (19.1%)	Chi-Square = 291.2, df = 2, P = 0.02
Schizoid	2 (6.6%)	4 (5.50%)	Chi-Square = 301.3, df = 3, P = 0.04
Antisocial	8 (26.60%)	7 (9.50%)	Chi-Square = 507.9, df = 4, P = 0.00
Panic disorder	0 (0%)	7 (8.20%)	Chi-Square = 478.5, df = 2, P = 0.00
Paranoid	0 (0%)	4 (4.50%)	Chi-Square = 623.4, df = 2, P = 0.00
Passive aggressive disorder	0 (0%)	2 (2.70%)	Chi-Square = 438.6, df = 3, P = 0.00
Substance-induced mood Disorder	8 (26.60%)	0 (0%)	Chi-Square = 570.4, df = 2, P = 0.00
MDD + psychotic feature	0 (0%)	4 (5.40%)	Chi-Square = 673.1, df = 3, P = 0.00
Somatoform disorders	2 (15%)	0 (0%)	Chi-Square = 610.3, df = 4, P = 0.00
Depression	6 (20%)	32 (43.80%)	Chi-Square = 191.6, df = 2, P = 0.03

Abbreviations: BMD, bipolar mood disorder; df, degree of freedom; MDD, major depressive disorder.

**Table 4.** The Prevalence of Psychiatric and Personality Disorders Among Consumers of Methamphetamine and Opiates and its Relationship with the Abused Substances

Tests	Diagnosis	Substance Abuse		P Value
		Opioid	Methamphetamine	
MMPI	Antisocial	8 (50%)	7 (41.1%)	P = 0.52, Chi-Square = 41.3, df = 3
	Schizoid	2 (12.50%)	4 (23.50%)	P = 0.03, Chi-Square = 201.1, df = 2
	Paranoid	0 (0%)	4 (23.50%)	P = 0.00, Chi-Square = 501.4, df = 4
	Passive aggressive disorder	0 (0%)	2 (11.7%)	P = 0.00, Chi-Square = 431.7, df = 4
SCID	Depression	6 (30%)	32 (55.1%)	P = 0.02, Chi-Square = 312.5, df = 2
	Bmd	4 (20%)	14 (24.1%)	P = 0.03, Chi-Square = 236.5, df = 3
	Substance induced mood disorder	8 (40%)	0 (0%)	P = 0.00, Chi-Square = 502.7, df = 3
	Panic disorder	0 (0%)	6 (10.3%)	P = 0.00, Chi-Square = 615.1, df = 3
	MDD with psychotic feature	0 (0%)	4 (6.8%)	P = 0.01, Chi-Square = 312.6, df = 2
	Somatoform disorders	2 (10%)	0 (0%)	P = 0.03, Chi-Square = 289.5, df = 2

Abbreviations: BMD, bipolar mood disorder; MDD, major depressive disorder; MMPI, minnesota multiphasic personality inventory.

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