A Study of the Prevalence of Psychiatric Disorders in Patients with Methamphetamine-Induced Psychosis

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Original Article

Abstract

Background: The abuse of narcotic drugs and psychotropic substances such as amphetamines and ecstasy has had a growing trend. Tachycardia, increased blood pressure, hallucinations, panic attacks, and psychosis are the negative effects of methamphetamine abuse. The present study aimed to assess psychiatric disorders associated with methamphetamine-induced psychotic disorder.

Methods: This cross-sectional study was performed from October 2013 to March 2014 on 165 patients hospitalized at Shahid Beheshti Hospital in Kerman, Iran, and diagnosed with psychosis induced by methamphetamine abuse within the previous 6 months. Study subjects were selected via census method. Based on the exclusion criteria and due to the lack of cooperation of some patients, 121 patients were enrolled in the study. Research data were gathered using clinical interviews, the Yale-Brown obsessive compulsive scale (Y-BOCS), Hamilton anxiety scale (HAM-A) and Hamilton rating scale for depression (HRSD), Young mania rating scale (YMRS), substance dependence severity scale (SDSS), positive and negative syndrome scale (PANSS), and clinical global impression (CGI) scale. The data analysis was performed using SPSS software, descriptive statistics, and ANOVA.

Findings: Among the 121 patients of the sample group, 4 patients (3.3%) had anxiety, 58 patients (47.9%) depression, 30 patients (24.8%) obsessive-compulsive disorder (OCD), 20 patients (16.5%) bipolar mood disorder (BMD), 8 patients (6.6%) persistent psychotic symptoms, 85 patients (70.2%) personality disorder, and 36 patients (29.8%) had no personality disorders. The highest prevalence was related to borderline personality disorder (35.5%). However, 45 patients (37.2%) had no impairment associated with methamphetamine-induced psychosis.

Conclusion: It seems that there is comorbidity between psychiatric disorders, including mood disorders, especially depressive disorder, childhood history of attention deficit hyperactivity disorder (ADHD), bipolar disorder, and personality disorders such as borderline personality disorder, and antisocial personality disorders, and methamphetamine abuse.

Keywords: Methamphetamine, Depression, Anxiety, Obsessive-compulsive disorder, Manic disorder, Sustained psychotic symptoms, Personality disorder

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Introduction

Methamphetamine or glass have amphetamine combinations and are a strong central nervous system stimulant with addictive properties. Currently, they are known as one of the most common illegal drugs in the world. According to an epidemiological study in America, the prevalence of this substance showed 59% increase between the years 1999 and 2002.[1] Hitherto, no national study has been undertaken in Iran to assess the prevalence of methamphetamine dependence. However, a research on 2328 high school students in Lahijan, Iran, showed that 2.4% used methamphetamine; 56.3% had used it in the last month and 43.7% had used it in the last year.[2]

In a study in Taiwan, the prevalence of major depression, alcohol abuse, pathological gambling, and antisocial personality disorder in methamphetamine dependent individuals were 6.2, 20.9, 4.9, and 7.4 percentage respectively.[3] In this study, 22.1% of subjects had methamphetamine-induced psychotic disorders.[3] In a comparative study in California, 170 methamphetamine-dependent and 1410 non-dependent prisoners were compared.[4] The dependent prisoners had more symptoms of depression and suicidal thoughts in the previous 12 months. This difference was still significant after controlling the confounding demographic factors and other drugs.[4] In spite of the increasing prevalence of methamphetamine abuse, few studies have been conducted in Iran on the prevalence of psychiatric disorders associated with it. In a study on 26 methamphetamine dependent cases In Kermanshah, Iran, 25.0% of subjects had auditory or visual hallucinations, 15.0% had phobias, 46.0% showed violent behavior, 27.6% had impaired concentration, and 76.6% reported delusions and persecution.[5]

In a survey on 500 consumers of ecstasy, it was proven that 16.0% of them experienced immediate anxiety followed by oral consumption of the drug.[6] The survey revealed that 12.0% of the students suffered from anxiety or fear 24 hours after taking ecstasy.[6] The results of several studies suggested that methamphetamine dependence had symptoms such as anxiety, confusion, insomnia, mood changes, and violent behavior.[7-9] It also caused the presentation of psychosis signs such as paranoia, auditory and visual hallucinations, and a tingling sensation under the skin.[8,9]

In a study that was performed on 20 patients, it was found that 15.0% of them experienced a decrease in anxiety and 25.0% reported increased anxiety after taking ecstasy. In addition, it was reported that clinically some of the patients were feeling less anxious after two doses of methamphetamine.[10] A cross-sectional study in Malaysia assessed the risk factors and factors associated with methamphetamine consumption in methamphetamine dependent patients and psychosis related to it. The results showed that of the 292 patients, 74.9% had a previous history of a psychiatric disorder and 13.0% had active psychiatric disorder. After analyzing the data, comorbidity of depressive disorder [Odds ratio (OR) = 7.18], bipolar disorder (OR = 13.81), and antisocial personality disorder (OR = 12.61) was manifested in the association with severe methamphetamine consumption and methamphetamine-induced psychosis. Depressive disorder and antisocial personality disorder were the only factors that were associated with current psychosis. The results also showed that methamphetamine dependence is not only associated with high risk of psychosis, but it is also associated with high risk of psychosis with comorbidity of mood disorders, antisocial personality disorder, and high consumption of methamphetamine.[11]

This study aimed to review the possible role of concurrent psychiatric disorders (Axis I and II) in the development or exacerbation of methamphetamine dependence. Given that in Iran a large percentage of psychiatric hospital beds are occupied by patients with psychiatric problems, particularly methamphetamine-induced psychosis, it was decided to study this group of patients, with the hope of finding a way to prevent and treat this problem.

Methods

This was a cross-sectional study. The study subjects were selected from among patients who were hospitalized at Shahid Beheshti Hospital in Kerman, Iran, and diagnosed with psychosis induced by methamphetamine abuse during a period of 6 months from October 2013 to March 2014. Census sampling was performed on 165 patients and included all patients who were

admitted with a diagnosis of psychosis induced by methamphetamine abuse. Of the 140 male patients, 5 patients due to personal satisfaction and being discharged from the hospital, 32 patients due to unwillingness to continue the project, having tested positive for methamphetamine, or receiving electroconvulsive therapy (ECT) were excluded from the study. The study was conducted on 103 male patients. Of the 25 hospitalized female patients, 2 patients due to personal satisfaction and being discharged from the hospital, and 5 patients due to unwillingness to continue the project or having tested positive for methamphetamine were excluded from the study. The study was conducted on 18 female patients. Finally, data analysis was performed on 121 questionnaires.

First, the patients were scored based on the clinical global impression (CGI) scale. The patients were examined twice a week or when their CGI score reached 2 or below 2 that indicated a normal state and that their psychotic signs were resolved (the average time was three weeks). The participants' consent to participate in the research project was obtained, and they were provided with a detailed description of the project and the objectives of the study. In addition, an informed consent form was completed by the patients and their relatives. Then, they were provided with sufficient explanations, if they had the inclusion criteria. Subsequently, the participants were fully interviewed using structured psychiatric interviews. Moreover, any form of axis I and II psychiatric disorders were recorded in their research forms. This group was reinterviewed just before being discharged from the hospital, and psychiatric disorders related to each individual were reaffirmed using the abovementioned measures, such as the Hamilton rating scale for depression (HSRD), based on the diagnosis made and the severity of the disorder was evaluated. The results were recorded in each patient's documents. These patients were reevaluated and their final research form was completed one month after admission and initiation of treatment. Psychotic symptoms persisted in some of the patients despite over a month of treatment and drug abuse withdrawal. Therefore, they were examined as stable psychosis. The exclusion criteria included concomitant use of cannabis or other psychoactive

substances, serious health conditions such as seizures and mental retardation, and receiving ECT in the previous month. During the completion of the final research form, urinalysis test for methamphetamine was conducted to assure the lack of its use. Data collection tools consisted of 7 standard questionnaires.

Yale-Brown obsessive compulsive scale (Y-BOCS)
This inventory included 52 questions with 12 aspects. Obsession was evaluated based on the following aspects: aggressive obsessions (9 items), contamination obsessions (9 items), physical obsession (2 items), washing and cleaning obsessions (4 questions), obsessive-compulsive disorder (OCD) and control obsessions (5 items), repeating and formalities obsessions (2 items), counting obsessions (2 items), sexual thoughts obsessions (4 questions), collecting and storing obsessions (1 items), religious thought obsessions (2 items), need for symmetry and precision obsessions (2 items), and miscellaneous thought obsessions (10 questions). The reliability and validity of this scale have been reported as suitable in many studies.[12,13] The cut off point for this questionnaire was considered to be 16.[14] In Iran, Cronbach's alpha reliability coefficient was estimated at 0.97 and test-retest correlation coefficients at 0.99. Construct validity was also reported as 0.84.[15]

Hamilton anxiety scale (HAM-A) and Hamilton rating scale for depression (HRSD)
The HAM-A and HSRD are 2 quantitative rating scales. It is designed in a way that the assessor rates anxiety and depression symptoms of the patients as quantity after clinical observations. The HSRD consists of 14 items. The cut off point for this questionnaire was considered to be 14.[16] Its correlation coefficient was 0.75 and reliability coefficient was 0.85 and its validity was reported as suitable.[17,18] The HSRD consists of 21 items. The cut off point for this questionnaire was considered to be 7. A score below 7 illustrates no depression, score of 8 to 13 mild depression, score of 14 to 18 moderate depression, score of 19 to 22 severe depression, and scores higher than 23 very severe depression.[19] Its correlation coefficient was 0.65 and reliability coefficient was 0.89, and the validity was reported as suitable.[17-19]

Young mania rating scale (YMRS)
The YMRS consists of 11 questions and is a

reliable measure with acceptable sensitivity and specificity. It has applications in clinical practice and research. The cut off point for this questionnaire was considered to be 5.[16-20] Concurrent validity of the YMRS with the International Comprehensive Diagnostic Questionnaire was equal to 0.87, and was estimated at 0.89 for the first evaluation and 0.84 for the second evaluation.[21,22]

Substance dependence severity scale (SDSS)
The SDSS consisted of 5 questions which showed the severity of dependence on the drug. Hooshyari et al. reported a suitable reliability and validity for the questionnaire.[22]

Positive and negative syndrome scale (PANSS)
The PANSS is designed to assess symptoms and aspects of schizophrenia. It consists of 30 items, for the assessment of positive, negative, and other symptoms based on official clinical and semi-structured interviews. The PANSS consists of 2 parts as follows:

1- Positive symptoms: 7 items (delusions, conceptual confusion, hallucinatory behavior, arousal, magnanimity, suspicion and mistrust/harm and injury, aggression)

2- Negative symptoms: 7 items (affection, emotional isolation, poor relationships, passive social isolation or combined with indifference, difficulty in abstract thinking, lack of fluent and spontaneous conversation, stereotyped thinking)

The validity and reliability of the scale was declared as suitable in numerous studies.[23] In Iran, the questionnaire was standardized by Bakhshipour Roudsari and Dejkam.[24] Its reliability for positive symptoms was 0.88 and for negative symptoms was 0.87 and for the entire test it was estimated as 0.87. The validity of the questionnaire, with some of the assessment tools that measured the structures associated with these emotions, was reported to be high.

Clinical global index (CGI): The CGI is an 8-item questionnaire used for the overall assessment of the clinical status of patients. It has two aspects of CGI-S and CGI-I. The former indicates the severity of illness and the latter measures the rate of recovery and response to treatment. It was important to identify the associated symptoms and reliability for CGI-S and CGI-I. The frequency of their occurrence had to be determined over the past 7 days. The intensity of the symptoms had to be determined. The effect of symptoms had to be indicated on a wide range of patient's life circumstances which included work, home, school, and communication.[25] This questionnaire was scored and classified based on a 7-point scale (1 indicated normal, not at all ill; 2 borderline mentally ill; 3 mildly ill; 4 moderately ill; 5 markedly ill; 6 severely ill; and 7 extremely ill). In Iran, CGI has also been used by researches as a tool to assess the overall status of psychiatric patients and the results have been published in articles.[25,26] The collected data were analyzed using SPSS software (version 21, SPSS Inc., Chicago, IL, USA), descriptive statistics, and ANOVA.

Results

The results indicated that among the 121 patients, who participated in the study, 18 patients (14.9%) were female and 103 patients (85.1%) were male. The highest percentage of education level was associated with secondary level education [31 patients (25.6%)] and diploma [24 patients (28.1%)]. Furthermore, 51 patients (42.0%) were married, 49 patients (40.5%) were single, 12 patients (10.0%) were divorced or widowed, and 9 patients (7.5%) were living separately. Moreover, 77 patients (63.7%) were unemployed and 43 patients (35.6%) were full time or part time employees. The overall mean age of the participants was 32.54 ± 8.23 years.

Based on the clinical interviews it was found that of the total 121 participants of the sample group, 4 patients (3.3%) had anxiety, 58 patients (47.9%) had depression, 30 patients (24.8%) had OCD, 20 patients (16.5%) had bipolar mood disorder (BMD), and 8 patients (6.6%) had stable psychotic symptoms. Among the studied patients, 13 patients (10.7%) had mild depression, 16 patients (13.2%) moderate depression, 12 (9.9%) severe depression, and 17 (14.0%) extremely severe depression. Moreover, 28 (23.1%) subjects had mild OCD, and 2 (1.7%) had severe OCD. The mean of each variable of the sample group is shown in table 1.

Among the 121 patients of the sample group, 85 patients (70.2%) had personality disorder and 36 patients (29.8%) had no personality disorder. The highest prevalence was related to borderline personality (35.5%) (Table 2).

Table 1. Mean score of HAM-A and HRSD, Y-BOCS, YMRS, PANSS, and SDSS among respondents

Variable	Mean ± SD	Minimum	Maximum
Anxiety	22.0 ± 5.71	17	30
Depression	18.8 ± 6.52	8	36
Obsession	10.8 ± 3.90	0	20
Mania	33.6 ± 8.22	18	45
PANSS positive symptoms	17.7 ± 6.40	11	30
PANSS negative symptoms	17.5 ± 7.29	6	24
Severity of dependence	9.04 ± 2.52	4	19

HAM-A: Hamilton anxiety scale; HRSD: Hamilton rating scale for depression; Y-BOCS: Yale-Brown obsessive compulsive scale; YMRS: Young mania rating scale; PANSS: Positive and negative syndrome scale; SDSS: Substance dependence severity scale; SD: Standard deviation

Based on the clinical interview and axis I, it was determined that among the 121 patients of the sample group 45 patients (37.2%) had methamphetamine-induced psychosis without any dysfunction (Table 3). ANOVA was used for the comparison of the severity of methamphetamine dependence among patients with depressive disorder, OCD, anxiety, and mania. The results showed that the differences between the severity of dependence among the 4 groups was not statistically significant (P = 0.822).

Table 2. Frequency and percentage of axis II personality disorders in the sample group

Personality disorders	n (%)
Borderline personality	43 (35.5)
Antisocial personality	8 (6.6)
Borderline and antisocial personality	20 (16.5)
Depressive personality	11 (9.1)
Paranoid personality	1 (0.8)
Dependent personality	1 (0.8)
Dramatic personality	1 (0.8)

Discussion

In the present study, a total of 18 participants (14.9%) were female and 103 participants (85.1%) were male. Gender was suspected to be a risk factor for methamphetamine abuse. In individuals with lower education levels (61.2% were below diploma level), methamphetamine-induced psychosis was more frequent. With an increase in the education level, the amount of methamphetamine abuse had decreased. Perhaps this was due to the understanding and awareness of people regarding the dangers of substance abuse. Higher education level was a protective factor against methamphetamine abuse. In the present study, 42.0% were married and 58.0% were single or divorced. These figures were consistent with studies in Iran such as the study by Azizi et al.[27] They noted that there is a growing rate of divorce among methamphetamine consumers and the present study confirmed this hypothesis. The results showed that 77 patients (63.7%) were unemployed. Being employed was a protective factor against methamphetamine abuse and being unemployed was strongly and significantly associated with methamphetamine abuse and was proposed as a risk factor. However, further studies are needed to determine the effects of methamphetamine abuse on occupation and whether methamphetamine use can increase the rate of unemployment.

Of the 121 patients, 4 patients (3.2%) had anxiety disorder. This result was consistent with that of the study by Hatami et al. on the effects of methamphetamine on anxiety-related behavior in rats.[28] Their study showed that the use of methamphetamine in a dose-dependent manner can lead to reduced anxiety in male rats.[28] In addition, in the study by Martinez et al., 51.0% of the patients reported a reduction in anxiety and 52.0% increase in anxiety after taking ecstasy.[10] It was found that, clinically, after two doses of amphetamines, some people experience less anxiety.[10] Among the participants in the study, 58 patients (47.9%) had depressive disorder. This result was consistent with the results of a study on HIV patients and methamphetamine consumers.[29] Among this group, 95.0% reported that without the use of methamphetamine, they experienced depression, anxiety, and inability to enjoy pleasurable life activities.

Table 3. Frequency and percentage of axis I disorders in the sample group

Associated Disorders	n (%)
History of conduct disorder and oppositional defiant disorder	9 (7.4)
Delusional disorder	2 (1.6)
Anxiety disorder	4 (3.3)
Depression	58 (47.9)
BMD (mixed type I and II with psychotic features)	31 (25.6)
PTSD	3 (2.5)
OCD	30 (24.8)
ADHD (lack of attention, impulsivity, composed)	22 (18.2)
Schizophrenia	3 (2.5)
Bereavement	2 (1.6)
Psychotic	3 (2.5)
People with underlying psychosis (delusions, schizophrenia, stable psychosis)	8 (6.6)
Methamphetamine-induced psychosis without associated disorder	45 (37.2)

BMD: Bipolar mood disorder; PTSD: Posttraumatic stress disorder; ADHD: Attention deficit hyperactivity disorder; OCD: Obsessive-compulsive disorder

In a study on 1016 methamphetamine users undergoing outpatient treatment, the participants reported high levels of psychiatric symptoms, particularly depression, attempted suicide or suicidal thoughts, and anxiety.[30] In a study in Quebec, Canada, on the relationship between depression and methamphetamine and ecstasy abuse in 3880 people, results showed that depressive symptoms were associated with the use of methamphetamine and ecstasy. In adolescents, methamphetamine and 3,4-methylenedioxy-methamphetamine (MDMA) were independently associated with depressive symptoms.[31] The study by Lecomte et al. also obtained results similar to that of the present study.[32] Depressive disorders were the most important mood comorbidity among patients with methamphetamine abuse and could lead to methamphetamine-induced psychosis and hospitalization.

In this study, there were 30 (24.8%) patients with OCD. In the review of literature, few studies were found regarding obsession, methamphetamine abuse, and methamphetamine-induced psychosis. Nevertheless, the stereotypical movements arising from methamphetamine use which were mostly related to the field of anxiety disorders have been referred to. The questions regarding OCD symptoms and methamphetamine abuse, and whether this is a coincidence or there is a connection between these two require more extensive investigation and appropriate tools. In patients with OCD, comorbidities such as alcohol and substance abuse disorders, generalized anxiety disorder, and depressive disorders can be observed. However, in Iran, it seems that, due to the cultural and religious situation, there is less alcohol abuse disorder and instead problems associated with substance abuse, including methamphetamine, can be observed.

The results of the present study showed that, of the 121 subjects studied, 20 (16.5%) had bipolar mood disorder. This finding was consistent with that of the study conducted in Malaysia.[11] The study by Akindipe et al. was conducted in three rehabilitation institutes on 100 volunteers who had no physical or biological illnesses and were methamphetamine and drug addicts.[33] The results showed that psychiatric disorders were found in 36.0% of the subjects, including 17.0% mood disorders, 13.0% psychotic disorders, and 7% an anxiety disorder.[33] This finding was consistent with the results of the present study. It appears that people with bipolar disorder were more at risk in the manic phase, which justifies this comorbidity in methamphetamine abusers. However, when the patient is in depressive phase, self-treatment and methamphetamine abuse, in order to cope with depression, are other possible reasons for the use of methamphetamine.

According to the results, of the 121 patients studied, 8 patients over the course of a month of cessation of methamphetamine, despite being treated, had psychotic symptoms. Of this group of patients, 2 patients, according to their records, had hallucination disorder, 3 had schizophrenia, and 3 had methamphetamine-induced stable psychosis. They were evaluated and their symptoms were measured according to the PANSS table. The

results revealed a significant difference between the positive and negative symptoms based on the PANSS score. The mean score in the positive symptoms group was 17.7 and in the negative symptoms group was 17.5. These findings were consistent with that of the study by Akindipe et al. that showed psychiatric disorders were found in 36.0% of the subjects, mood disorders 16.0%, psychotic disorders 13.0%, and anxiety disorders 7.0%, and independent prognostic factors including male gender (OR = 10.04, P = 0.004), being younger (OR = 0.87, P = 0.040), and having a previous psychiatric disorder (OR = 18.45, P < 0.001).[33]

The lower rate of psychotic disorders (6.6%) in the patients of the present study suggested the limitation of the study group to those patients who had been hospitalized in this center due to the severity of their symptoms. In other words, these patients have the most severe and acute form of psychotic symptoms caused by methamphetamine abuse and the severity of their symptoms resulted in mandatory hospitalization. However, the study by Akindipe et al. was conducted on patients of outpatient drug rehabilitation centers who had not reached the hospitalization stage.[33] Therefore, the statistical difference between the two studies can be justified.

In this study, the frequency of axis II psychiatric disorders was also investigated. 85 patients (70.2%) had a disorder or a specific personality trait and 36 patients (29.8%) had no personality disorder. Borderline personality disorder 35.5%, antisocial personality disorder 8.0% had the highest frequency, and 20 patients had both borderline and antisocial personality traits (16.5%). Depressive personality disorder was observed in 11 patients (9.1%), paranoid personality 1 person (0.8%), dependent character 1 person (0.8%), and dramatic character 1 person (0.8%). These figures were consistent with a study in Taiwan.[3]

The rate of antisocial personality disorder among methamphetamine abusers was 4.7%. Social and cultural differences may be the reasons for these differences. These results confirmed those of the study conducted on 1016 methamphetamine users which showed high levels of anger control problems, violence, beatings, and use of firearms among these patients.[30] On the other hand, in a study in Malaysia an association was observed between antisocial personality disorder

(OR = 12.61) and severe methamphetamine consumption.[11] The study results of Lecomte et al. suggested the existence of a relationship between psychotic disorder caused by prolonged and heavy methamphetamine abuse and antisocial personality disorder.[32] In the present study, antisocial personality disorder has the second rank in terms of prevalence. This research with special circumstances has only been conducted in one hospital. Therefore, the actual statistics of patients with personality disorders, including antisocial personality disorder, who are often in prisons and penitentiaries were not included. It is suggested that future studies be conducted on all patients (those in prisons and penitentiaries). Thus, the ranking of personality disorders among methamphetamine abusers will differ.

In this research the disorders or the history of axis I psychiatric disorders were studied. About 63.0% of the patients in the study had an axis I psychiatric disorder. Most comorbidity of axis I was related to mood disorders including depression, OCD, and bipolar disorder. A significant percentage of patients (18.2%) had a history of attention deficit hyperactivity disorder (ADHD) during their childhood. In 37.2% of patients, methamphetamine-induced psychosis was not associated with other axis I psychiatric disorders. This finding was consistent with the study conducted in Taiwan, in terms of morbidity and not the prevalence rate.[3] The difference in prevalence rate was due to the certain groups in this study.

The results of this study were also consistent with a study conducted in California on the prison population, in terms of axis I disorders.[4] The results were also consistent with that of the study by Mimiaga et al. on people with HIV.[29] In addition, they were also consistent with a study on 1016 outpatients regarding methamphetamine abuse.[30] The most similarity was found regarding the study method and patient selection between this study and the study conducted in Malaysia.[11] The risk factors and factors related to methamphetamine abuse, methamphetamine dependent patients, and methamphetamine-induced psychosis were assessed. This study was conducted in a training hospital and a center for substance abuse. After analyzing the comorbidity data, depression (OR = 7.18), bipolar disorder (OR = 13.81), and antisocial personality disorder were the only factors

that were associated with current psychosis.[11]

One important limitation of this study, which was also the strength of the project, was the limited number of studies similar to this design, both in Iran and in the world. This made the interpretation and comparison of the findings difficult. On the other hand, this was a good start for future research. According to these results, the researchers should plan for future studied with broader and more organized approach. Considering that the recent research was conducted on a specific group of patients with the most severe disorders (psychosis induced by methamphetamine) that caused hospitalization, therefore it only represented a small portion of the substance abusers and care must be taken in generalizing the results.

Conclusion

Psychiatric comorbidity including mood disorders, especially depression, history of ADHD in childhood, bipolar disorder and personality disorders including borderline and antisocial personality were important comorbidity in patients with methamphetamine abuse.[11-34]

Conflict of Interests

The Authors have no conflict of interest.

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References

1. Pasic J, Russo JE, Ries RK, Roy-Byrne PP. Methamphetamine users in the psychiatric emergency services: a case-control study. Am J Drug Alcohol Abuse 2007; 33(5): 675-86.
2. Mohtasham Amiri Z, Reza Zadeh Sadeghi S, Khatibi Bane F. Ecstasy Use Among High School Students in Lahidjan- 2005. Iran J Epidemiol 2006; 1(2): 47-52. [In Persain].
3. Lin SK, Ball D, Hsiao CC, Chiang YL, Ree SC, Chen CK. Psychiatric comorbidity and gender differences of persons incarcerated for methamphetamine abuse in Taiwan. Psychiatry Clin Neurosci 2004; 58(2): 206-12.
4. Kalechstein AD, Newton TF, Longshore D, Anglin MD, van Gorp WG, Gawin FH. Psychiatric comorbidity of methamphetamine dependence in a forensic sample. J Neuropsychiatry Clin Neurosci 2000; 12(4): 480-4.
5. Shakeri J, Azimi M, Rezayi M, Abdoli N, Ghasemi SR. The evaluation of demographics, behavioral and psychiatric characteristics of methamphetamine abusers in detoxification and addiction control clinics related to Kermanshah University of Medical Sciences. Iran J Psychiatry Clin Psychol 2010; 16(3 Suppl): 305-6. [In Persian].
6. Ferreira PS, Nogueira TB, Costa VM, Branco PS, Ferreira LM, Fernandes E, et al. Neurotoxicity of "ecstasy" and its metabolites in human dopaminergic differentiated SH-SY5Y cells. Toxicol Lett 2013; 216(2-3): 159-70.
7. Elkashef A, Rawson RA, Smith E, Pearce V, Flammino F, Campbell J, et al. The NIDA Methamphetamine Clinical Trials Group: a strategy to increase clinical trials research capacity. Addiction 2007; 102(Suppl 1): 107-13.
8. Elkashef AM, Rawson RA, Anderson AL, Li SH, Holmes T, Smith EV, et al. Bupropion for the treatment of methamphetamine dependence. Neuropsychopharmacology 2008; 33(5): 1162-70.
9. Scott JC, Woods SP, Matt GE, Meyer RA, Heaton RK, Atkinson JH, et al. Neurocognitive effects of methamphetamine: a critical review and meta-analysis. Neuropsychol Rev 2007; 17(3): 275-97.
10. Martinez CM, Neudorffer A, Largeron M. A convenient biomimetic synthesis of optically active putative neurotoxic metabolites of MDMA ("ecstasy") from R-(-)- and S-(+)-N-methyl-alpha-methyldopamine precursors. Org Biomol Chem 2012; 10(18): 3739-48.
11. Sulaiman AH, Said MA, Habil MH, Rashid R, Siddiq A, Guan NC, et al. The risk and associated factors of methamphetamine psychosis in methamphetamine-dependent patients in Malaysia. Compr Psychiatry 2014; 55(Suppl 1): S89-S94.
12. Calamari JE, Wiegartz PS, Janeck AS. Obsessive-compulsive disorder subgroups: a symptom-based clustering approach. Behav Res Ther 1999; 37(2): 113-25.
13. Pinto A, Greenberg BD, Grados MA, Bienvenu OJ, Samuels JF, Murphy DL, et al. Further development of YBOCS dimensions in the OCD Collaborative Genetics study: symptoms vs. categories. Psychiatry Res 2008; 160(1): 83-93.
14. Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischmann RL, Hill CL, et al. The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. Arch Gen Psychiatry 1989; 46(11): 1006-11.
15. Rajezi Esfahani S, Motaghipour Y, Kamkari K, Zahiredin A, Janbozorgi M. Reliability and Validity

of the Persian Version of the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS). Iran J Psychiatry Clin Psychol 2011; 17(4): 297-303. [In Persian].

16. Tohen M, Frank E, Bowden CL, Colom F, Ghaemi SN, Yatham LN, et al. The International Society for Bipolar Disorders (ISBD) Task Force report on the nomenclature of course and outcome in bipolar disorders. Bipolar Disord 2009; 11(5): 453-73.

17. Koohi Habibi L, Rasoulian M. The Association of Oral Contraceptive Pills and Symptoms of Anxiety-Depression. Iran J Psychiatry Clin Psychol 2005; 11(3): 263-9. [In Persian].

18. Yaeghoobi Nasrabadi M, Atefvahid M, Ahmadzadeh Gh. The Efficacy of Cognitive-Behavioral Group Therapy in Reducing the Level of Depression and Anxiety in Patients with Mood Disorder. Iran J Psychiatry Clin Psychol 2003; 9(2): 56-63. [In Persian].

19. Strik JJ, Honig A, Lousberg R, Denollet J. Sensitivity and specificity of observer and self-report questionnaires in major and minor depression following myocardial infarction. Psychosomatics 2001; 42(5): 423-8.

20. Shabani A, Ataei M, Panaghi L. Obsessive-compulsive disorder during manic period and the treatment of patients with bipolar. Tehran Univ Med J 2005; 63(5): 386-91. [In Persian].

21. Young RC, Biggs JT, Ziegler VE, Meyer DA. Young Mania Rating Scale. In: Young RC, Biggs JT, Ziegler VE, Meyer DA, Editors. Handbook of Psychiatric Measures.Washington, DC: American Psychiatric Association; 2000. p. 540-2.

22. Hooshyari Z, adralssadat J, adralssadat L. Estimation of Validation and Reliability of Screening Test of Tobacco, Alcohol and Addictive Drugs in Iran. Quarterly Journal of Research on Addiction 2013; 7(27): 37-53. [In Persian].

23. Watson D, Clark LA, Carey G. Positive and negative affectivity and their relation to anxiety and depressive disorders. J Abnorm Psychol 1988; 97(3): 346-53.

24. Bakhshipour Roudsari A, Dejkam M. Confirmatory factor analysis of positive and negative affect scale. Journal of Psychology 2005; 9(4): 351-65. [In Persian].

25. Barekatain M, Fatemi A, Bashardoost N, Darougheh A, Salehi M, Asadollahi Gh. Valproate-Risperidone versus Valproate-Lithium combination in acute mania. Journal of Research in Medical Sciences 2005; 10(5): 274-80.

26. Sepehrmanesh Z, Alavi A, Arabgol F. Fluvoxamine for the Treatment of Child and Adolescent Depression: An Open Label Trial. Iran J Psychiatry 2008; 3(4): 11-5. [In Persian].

27. Azizi H, Saboory E, Ghaderi S, SeyyedHoseinAlagheband A. The effects of methamphetamine on the patients and their families in addiction treatment centers in Tehran. J Urmia Nurs Midwifery Fac 2013; 11(11): 925-35. [In Persian].

28. Hatami H, Banan Khojasteh SM, Rajabzade Mozirajy M. The effect of Crystal Meth on Anxiety Related Behavior in Male Rats. Armaghane-danesh 2013; 18(3): 173-83. [In Persian].

29. Mimiaga MJ, Fair AD, Mayer KH, Koenen K, Gortmaker S, Tetu AM, et al. Experiences and sexual behaviors of HIV-infected MSM who acquired HIV in the context of crystal methamphetamine use. AIDS Educ Prev 2008; 20(1): 30-41.

30. Zweben JE, Cohen JB, Christian D, Galloway GP, Salinardi M, Parent D, et al. Psychiatric symptoms in methamphetamine users. Am J Addict 2004; 13(2): 181-90.

31. Briere FN, Fallu JS, Janosz M, Pagani LS. Prospective associations between meth/amphetamine (speed) and MDMA (ecstasy) use and depressive symptoms in secondary school students. J Epidemiol Community Health 2012; 66(11): 990-4.

32. Lecomte T, Mueser KT, MacEwan W, Thornton AE, Buchanan T, Bouchard V, et al. Predictors of persistent psychotic symptoms in persons with methamphetamine abuse receiving psychiatric treatment. J Nerv Ment Dis 2013; 201(12): 1085-9.

33. Akindipe T, Wilson D, Stein DJ. Psychiatric disorders in individuals with methamphetamine dependence: prevalence and risk factors. Metab Brain Dis 2014; 29(2): 351-7.

34. Salo R, Fassbender C, Iosif AM, Ursu S, Leamon MH, Carter C. Predictors of methamphetamine psychosis: history of ADHD-relevant childhood behaviors and drug exposure. Psychiatry Res 2013; 210(2): 529-35.

بررسی اختلالات روان‌پزشکی همراه ناشی از مصرف متامفتامین (شیشه) در بیماران سایکوتیک

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مقاله پژوهشی

چکیده

مقدمه: امروزه سوء مصرف مواد مخدر و روانگردان از جمله آمفتامین‌ها و اکستازی روند رو به رشدی داشته است. تندتپشی، افزایش فشار خون، توهم، حمله هراس و سایکوز از جمله آثار منفی سوء مصرف متامفتامین می‌باشد. این پژوهش با هدف بررسی اختلالات روان‌پزشکی همراه ناشی از مصرف متامفتامین در بیماران سایکوتیک انجام شد.

روش‌ها: پژوهش توصیفی- مقطعی حاضر به روش سرشماری بر روی ۱۶۵ نفر شامل همه بیماران بستری در بیمارستان شهید بهشتی کرمان انجام شد. بیماران با تشخیص سایکوز ناشی از سوء مصرف متامفتامین در فاصله زمانی شش ماهه (از مهر سال ۱۳۹۲ تا اسفند سال ۱۳۹۲) انتخاب گردیدند که در نهایت با توجه به معیارهای خروج از مطالعه و عدم همکاری بعضی از آنان، ۱۲۱ نفر وارد مطالعه شدند. داده‌های تحقیق توسط مصاحبه بالینی و پرسش‌نامه‌های YMRS (Young mania rating scale)، وسواس Yale-Brown، افسردگی و اضطراب Hamilton، شدت وابستگی به مواد، مقیاس نشانگان مثبت و منفی و پرسش‌نامه CGI (Clinical global impression scale) جمع‌آوری شد. در نهایت داده‌ها به وسیله آمار توصیفی و آزمون ANOVA در نرم‌افزار SPSS مورد تجزیه و تحلیل قرار گرفت.

یافته‌ها: با توجه به مصاحبه بالینی مشخص شد که از بین ۱۲۱ بیمار، ۴ نفر (۳/۳ درصد) دارای اضطراب، ۵۸ نفر (۴۷/۹ درصد) دارای افسردگی، ۳۰ نفر (۲۴/۸ درصد) دارای اختلال وسواسی و جبری، ۲۰ نفر (۱۶/۵ درصد) دارای اختلال مانیا، ۸ نفر (۶/۶ درصد) دارای علایم سایکوز پایدار، ۸۵ نفر (۷۰/۲ درصد) دارای اختلال شخصیت و ۳۶ نفر (۲۹/۸ درصد) فاقد اختلال شخصیت بودند. بیشترین فراوانی به شخصیت مرزی (۳۵/۵ درصد) اختصاص داشت و ۴۵ نفر (۳۷/۲ درصد) به سایکوز ناشی از متامفتامین بدون اختلال همراه مبتلا بودند.

نتیجه‌گیری: به نظر می‌رسد که همبودی‌های روان‌پزشکی از جمله اختلالات خلقی و به ویژه اختلال افسردگی، سابقه ADHD (Attention deficit hyperactivity disorder) در دوران کودکی، اختلال دو قطبی و اختلالات شخصیت از جمله شخصیت مرزی و ضد اجتماعی جزء همبودی‌های مهم در بیماران سوء مصرف کننده متامفتامین می‌باشد.

واژگان کلیدی: متامفتامین، افسردگی، اضطراب، اختلال وسواسی و جبری، اختلال مانیا، علایم سایکوز پایدار، اختلال شخصیت

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