



The New Epidemic Problem of Psychoactive Drugs at Drug Treatment Centers of Iran: Implications for Education, Prevention and Treatment

Sara Dana,¹ Mohammad Effatpanah,^{2,*} and Alireza Mahjoub³

¹Shokoufeh Methadone Clinic, Tehran, Iran

²School of Medicine, Ziaean Hospital, International Campus, Tehran University of Medical Sciences, Tehran, Iran

³Research Centre, International Campus, Tehran University of Medical Sciences, Tehran, Iran

*Corresponding author: Mohammad Effatpanah, School of Medicine, Ziaean Hospital, International Campus, Tehran University of Medical Sciences, Tehran, Iran. Tel: +98-2155176816, Fax +98-2155751333, E-mail: m.effatpanah@gmail.com

Received 2017 January 02; Revised 2017 March 23; Accepted 2017 June 03.

Abstract

Background: Patients with methadone abuse are the main group with methamphetamine dependence in the Iranian context. However, there are only a few studies on this group.

Objectives: This study aimed at determining the prevalence of methamphetamine dependence among methadone patients on stable methadone doses.

Methods: This cross-sectional study was conducted on 140 methadone services in Tehran, Karaj, and Qazvin. Fifty percent of methadone services were located in middle class areas and provided methadone maintenance treatment and counselling. Overall, 105 centres were selected from Tehran. Twenty centres were selected from Karaj and 15 centres were selected from Qazvin. A researcher-designed questionnaire was used to collect data. Overall, 2645 males and 304 females participated in the study during years 2011 to 2013.

Results: The prevalence of methamphetamine dependence was 26% among males and 45% among females. Females were more likely to self-report depression (53% versus 22%, $P < 0.05$) and psychiatric hospitalisation (28% versus 16%, $P < 0.05$) than males while males were more likely to self-report criminality (43% versus 24%, $P < 0.05$) and poor concentration (39% versus 13%, $P < 0.05$) than females.

Conclusions: Special educational, preventative, and treatment programs should be provided to reduce methamphetamine dependence among this group in Iran. Further studies in other parts of Iran are required.

Keywords: Dependence, Methamphetamine, Treatment

1. Background

Methamphetamine dependence is a global health concern (1), which is associated with many health problems, such as psychiatric disorders, medical problems, and blood-borne viral infectious diseases (2).

In the recent years, methamphetamine has become a health problem in methadone treatment clinics of Iran (3). A qualitative study indicated that Iranian females on methadone treatment were more likely to use methamphetamine because of depression and life pressures while their male counterparts were more likely to use methamphetamine because of sexual problems (4). A study from Iran indicated a desire to feel high and gain physical energy as important factors associated with methamphetamine use in methadone treatment (5). Methamphetamine dependence has no pharmacological treatment (6). Furthermore, it may lead to poor treat-

ment outcomes among methadone patients (7). Studies from Iran indicated that methamphetamine dependence in methadone treatment was associated with depression and poor treatment outcomes (4, 8).

2. Objectives

To date, there have only been a few studies of methamphetamine dependence in methadone treatment conducted in Iran. The current brief report aimed at determining the prevalence of untreated methamphetamine dependence among patients on stable methadone doses.

3. Materials and Methods

This cross-sectional study was conducted in 140 methadone services of Tehran, Karaj, and Qazvin. Fifty per-

cent of methadone services were located in middle class areas and provided methadone maintenance treatment and counseling. Overall, 105 centers were selected from Tehran. Twenty centers were selected from Karaj and fifteen centers were selected from Qazvin. Overall, 2645 males and 304 females participated in the study during years 2011 to 2013. Participants were needed to be at least 18 years of age and reported being on a stable methadone dose for at least three months. The psychiatric diagnosis of methamphetamine dependence was confirmed by a medical doctor or psychiatrist of each study site. Diagnosis of methamphetamine dependence during the six and twelve months preceding the interview was confirmed using the Non-Alcohol Psychoactive Substance Use Disorders sections of the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders-fourth edition (DSM - IV) - research version (SCID - I/NP) (9).

Participants needed to be on methadone treatment for at least six consecutive months. A research - designed questionnaire was used to collect data on demographic data, methamphetamine dependence, and social and health - related issues. The questionnaire was tested during two weeks on 30 patients. The reliability of the questionnaire ($\alpha = 93$) was high. Participation was confidential and voluntary. A consent form was signed by each participant. The study was approved by Tehran University (879543), Tehran, Iran. The entire study procedures were carried out in interview rooms at methadone treatment clinics. Data were analyzed using independent samples t - test and Chi Square tests with the SPSS version 17 software.

4. Results

Overall, 2645 males and 304 females participated in the study. The prevalence of methamphetamine dependence was 26% among males and 45% among females. All participants were on stable methadone doses. All participants were on methadone treatment for at least six months. There were no significant group differences in terms of mean age ($t = 0.76$, $P = 0.89$), mean education ($t = 0.94$, $P = 0.84$), living condition ($X^2 = 0.84$, $P = 0.66$), marital status ($X^2 = 0.82$, $P = 0.67$), employment ($X^2 = 0.91$, $P = 0.87$), and duration of methamphetamine dependence ($t = 0.25$, $P = 0.26$). Lifetime methamphetamine treatment was only 24% among males and females. This was limited to a therapeutic community program. Females were more likely to self-report depression (53% versus 22%, $P < 0.05$) and frequent psychiatric hospitalisations (28% versus 16%, $P < 0.05$) than males while males were more likely to self-report criminality (43% versus 24%, $P < 0.05$) and poor concentration (39% versus 13%, $P < 0.05$) than females (See Table 1). All males and females reported that these social and health

problems were related to methamphetamine dependence among them.

5. Discussion

To the best of the author's knowledge, the current cross-sectional study was the first on the prevalence of methamphetamine dependence among methadone patients on stable methadone doses. The study results are important because they reflect a number of social and health - related problems associated with methamphetamine dependence among Iranian methadone patients.

Males and females were not different in terms of demographic data yet untreated methamphetamine dependence was higher among females than males in this study. A similar study in Iran indicated that daily methamphetamine use was more problematic among females on methadone treatment than males (10). Special education, preventative and treatment programs should be provided for this group of drug - dependents in the Iranian context. Further studies are suggested on the factors, which predict a higher rate of methamphetamine dependence among female methadone patients than their male counterparts.

Females were more likely to self - report depression and frequent psychiatric hospitalisations than males. This issue may reflect the impacts of methamphetamine dependence on psychological aspects of females. A study indicated that Iranian female methadone patients with methamphetamine dependence reported poor psychological well - being (4). Special psychiatric and mental services should be provided for these cases. Further studies are suggested in this regard.

Males were more likely to self - report criminality and poor concentration than females. This issue may reflect the impacts of methamphetamine dependence on increasing criminality and impaired cognitive functioning among males. Two studies indicated that methamphetamine dependence was associated with violent and criminal behaviours (11) as well as poor cognitive functioning (2). Special behavioural modification - related programs and cognitive rehabilitation programs should be provided for these male cases. Further studies are suggested in this regard.

5.1. Conclusion

Methamphetamine dependence in methadone treatment was a serious health problem among the study participants. Special treatment programs should address this health concern in Iran, the most populated Persian Gulf country. Methamphetamine education and prevention should be considered as a priority in methadone clinics.

Table 1. Participant Characteristics

Variables	Men (N = 2645)	Women (N = 304)	X ² /t	P Value
Mean age (year)	33.2 (SD = 8.43)	34.5 (SD = 6.87)	t = 0.76	0.89
Mean education (year)	8.2 (SD = 8.46)	7.1 (SD = 5.65)	t = 0.94	0.84
Living conditions			X ² = 0.84	0.66
With family	1800 (68.06%)	210 (69.08%)		
Without family	845 (31.94%)	94 (30.92%)		
Marital status			X ² = 0.82	0.67
Currently married	1500 (56.71%)	180 (59.21%)		
Currently unmarried	1145 (43.29%)	124 (40.79%)		
Employment			X ² = 0.91	0.87
Currently employed ^a	1348 (50.96%)	152 (50.00%)		
Currently unemployed	1297 (49.04%)	152 (50.00%)		
Duration of methamphetamine dependence (year)	5.2 (SD = 4.73)	5.5 (SD = 8.72)	t = 0.25	0.26
Lifetime methamphetamine treatment ^b	630 (24.00%)	74 (24.00%)	-	-
Health and social problems (in the last 24 months)				
Depression	1402 (53.00%)	67 (22.00%)	X ² = 1.25	< 0.05 [*]
Frequent psychiatric hospitalisations	740 (28.00%)	48 (16.00%)	X ² = 1.23	< 0.05 [*]
Criminality	1147 (43.00%)	73 (24.00%)	X ² = 1.56	< 0.05 [*]
Poor concentration	1030 (39.00%)	39 (13.00%)	X ² = 1.59	< 0.05 [*]

^aMainly part-time or casual in the private sector.

^btherapeutic community program.

Acknowledgments

The authors thank the research team and the study participants.

Footnotes

Authors' Contribution: Sara Dana designed the study. Mohammad Effatpanah and Alireza Mahjoub contributed to data collection, data entry in the research dataset, and data analysis. Sara Dana drafted the manuscript. All authors contributed to writing the paper. All authors read, edited and approved the final draft of the manuscript.

Declaration of interests: None declared.

Funding/Support: No fund was received.

References

- United Nations Office on Drugs and Crime. *World drug report 2013*. Vienna: United Nations Publications; 2013.
- Radfar SR, Rawson RA. Current research on methamphetamine: epidemiology, medical and psychiatric effects, treatment, and harm reduction efforts. *Addict Health*. 2014;**6**(3-4):146-54. [PubMed: 25984282]. [PubMed Central: PMC4354220].
- Alam-mehrjerdi Z, Mokri A, Dolan K. Methamphetamine use and treatment in Iran: A systematic review from the most populated Persian Gulf country. *Asian J Psychiatr*. 2015;**16**:17-25. doi: 10.1016/j.ajp.2015.05.036. [PubMed: 26123235].
- Alam Mehrjerdi Z, Abarashi Z, Mansoori S, Deylamizadeh A, Salehi Fadardi J, Noroozi A, et al. Methamphetamine use among Iranian heroin kerack-dependent women: implications for treatment. *Int J High Risk Behav Addict*. 2013;**2**(1):15-21. doi: 10.5812/ijhrba.10216. [PubMed: 24971266]. [PubMed Central: PMC4070142].
- Shariatirad S, Maarefvand M, Ekhtiari H. Methamphetamine use and methadone maintenance treatment: an emerging problem in the drug addiction treatment network in Iran. *Int J Drug Policy*. 2013;**24**(6):e115-6. doi: 10.1016/j.drugpo.2013.05.003. [PubMed: 23773684].
- Rawson RA, Gonzales R, Ling W. Methamphetamine abuse and dependence: an update. *Psychiatr*. 2006;**26**(10):131-44. doi: 10.1146/annurev.publhealth.012809.103600. [PubMed: 20070191].
- Alam-Mehrjerdi Z, Abdollahi M. The Persian methamphetamine use in methadone treatment in Iran: implication for prevention and treatment in an upper-middle income country. *Daru*. 2015;**23**:51. doi: 10.1186/s40199-015-0134-5. [PubMed: 26578071]. [PubMed Central: PMC4650324].
- Ghaderi A, Motmaen M, Abdi I, Rasouli-Azad M. Gender differences in substance use patterns and disorders among an Iranian patient sample receiving methadone maintenance treatment. *Electron Physician*. 2017;**9**(9):5354-62. doi: 10.19082/5354. [PubMed: 29038721]. [PubMed Central: PMC5633237].
- First MB, Spitzer RL, Gibbon MWJB, Williams JBW. *Structured Clinical Interview for DSM-IV Axis I Disorders, Non-patient Edition. SCID-I/NP, version 2.0-8/98 revision*. New York: Biometrics Research Department, New York State Psychiatric Institute; 1998.
- Radfar SR, Cousins SJ, Shariatirad S, Noroozi A, Rawson RA. Methamphetamine Use Among Patients Undergoing Methadone Maintenance Treatment in Iran; a Threat for Harm Reduction and Treatment Strategies: A Qualitative Study. *Int J High Risk Behav Addiction*. 2016;**5**(4). doi: 10.5812/ijhrba.30327.

- ii. McKetin R, Lubman DI, Najman JM, Dawe S, Butterworth P, Baker AL. Does methamphetamine use increase violent behaviour? Evidence from a prospective longitudinal study. *Addiction*. 2014;**109**(5):798–806. doi: [10.1111/add.12474](https://doi.org/10.1111/add.12474). [PubMed: [24400972](https://pubmed.ncbi.nlm.nih.gov/24400972/)].