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The Prevalence Rate of Comorbidities (Psychiatric Disorders, Liver and Neuromuscular Pains Diseases) in Patients with Substance Abuse Referred to Borzouyeh clinic in 2010-2016

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Background: Addiction is considered as a social disease causes economic loss in family shared financial resources, increase in health care costs, and sexual dysfunctions in sexual relations. Due to the high prevalence rate and reduced age of addiction beginning, this study aimed to evaluate the prevalence rate of comorbidities (psychiatric disorders, liver and neuromuscular diseases) in patients with substance abuse problems.
Methods and Material: In this descriptive study, 200 drug abusers referred to Borzouyeh clinic in Tehran, Iran were selected by convenience sampling method. Data were collected with the help of a questionnaire, liver function tests, and clinical records of the patients during 2010-2016. Data were analyzed through the analysis of Chi-square test at the significance level of $P < .05$.
Results: Data analysis was performed using chi-square test in SPSS software version 23. The results showed that there was a significant relationship between addiction and liver diseases, psychiatric disorders, and neuromuscular pains ($p < .05$). According to the results, 44.9% of the patients consuming crack had psychiatric disorders, and also 49.1% of the patients consuming opium had liver diseases. Also, neuromuscular pains were found in drug users (opium, sap, heroin and crack) and not found in hallucinogenic and stimulant drug users.
Conclusions: The correlations between opium and liver diseases, drug users and neuromuscular pains, and also crack using and psychiatric disorders were determined.

Keywords: Addiction, Psychiatric disorders, Liver diseases, Neuromuscular pains

Introduction

Addiction is considered as a social disease that causes economic loss in family shared financial resources, increase in health care costs, and sexual dysfunctions in sexual relations. From the psychiatric point of view, an addicted person is a patient with a sickness like other diseases requiring primary and secondary prevention, and in its treatment it should not be only focused on the drug therapy because research has shown that 80% of the addicted persons go back to opioid less than 6 months after stopping opioid. Addiction impairs reward-related neural circuits, motivation, and memory in the brain. It is well evidenced that disruption of these systems in the brain causes biological, psychological, social, and spiritual complications (Fischer & Rehm, 1996). Investigating drug addiction is a mental, social, and economic complication from the medical, psychological, sociological, philosophical, law, ethics, and religion perspectives. Since 1964, the World Health Organization has recommended the use of "drug dependence" instead of addiction (Miller, 2013). The addiction characteristics are as follow: 1)

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Inability to consistently abstain, 2) impairment in behavioral control, 3) craving or increased "hunger" for drugs or rewarding experiences, 4) diminished recognition of significant problems with one's behaviors and interpersonal relationships, 5) a dysfunctional emotional response. Substance use disorders in the DSM-IV-TR provide a list of addictions related to the following substances: a) Alcohol, b) Tobacco, c) Opioids (like heroin), d) Prescription drugs (sedatives, hypnotics, or anxiolytics like sleeping pills and tranquilizers), e) Cocaine, f) Cannabis (marijuana), g) Amphetamines (like methamphetamine, known as meth), h) Hallucinogens, I) Inhalants, g) Phencyclidine (known as PCP or Angel dust) (American Society for Addiction Medicine (ASAM), 2012) Various studies have been conducted addressing the issues pertaining to the problems and diseases related to the patients with substance abuse. It has been shown that a majority of the opiate-dependent patients have psychiatric and anxiety disorders, sexual dysfunctions, and depression (National Institute on Drug Abuse (NIH), 2015). Also, people with drug addiction show poor performances in using strategies to deal with their problems (National Institute on Drug Abuse (National Institute on Drug Abuse (NIH), 2015). In general, it can be concluded that traumatic and stressful life events in patients with inadequate confrontational skills can be caused by disorders that lead a person to addiction. Nowadays, more than 243 million addictive substances exist in the world. According to the Ministry of Health of Iran, in 2002, the number of daily drug addicts in Iran permanently was reported to be between 2 to 2.2 million cases (National Institute on Drug Abuse (NIH), 2015). Studies and researches in recent years, particularly in western countries, have shown a high prevalence rate of psychiatric disorders in drug addicts (Sadock & Sadock, 2005; Hannesdottir, Tyrfingsson & Piha, 2001). Research in the America showed that disorders such as antisocial personality, all kinds of phobias and anxiety disorders, major depressive disorder, and dysthymia are highly correlated with drug abuse (Hannesdottir, Tyrfingsson & Piha, 2001). Depressive symptoms are more common in patients with substance abuse than in general population. About a third to half of those who are substance abusers, once in their lifetime are eligible to meet the diagnosis criteria for the major depressive disorder. In various studies, it was reported that about 35 to 60% of the drug-dependent patients met the diagnostic criteria for antisocial personality disorder (Sadock & Sadock, 2007). The failure of traditional therapy in the treatment of drug-dependent patients may be due to healthcare high cost and medical /psychological disorders in these patients. Therefore; the results of these studies have not only basic and useful information but also valuable information for healthcare professionals in order to raise the effectiveness of the existing method for the treatments of addiction (Heidari Pahlavian, Mahjoub, et al., 2011).

Due to the high prevalence rate and reduction in the addiction age, in this study, psychiatric disorders and physical illnesses such as liver and neuromuscular illnesses were studied and checked out to see which drugs had the maximum role in psychiatric disorders, liver and neuromuscular illnesses.

Methods and Material

In this descriptive study, the prevalence rate of comorbidities (psychiatric disorders, liver and neuromuscular pains diseases) in patients with substance abuse was evaluated. For this purpose, 200 drug abusers referred to Borzouyeh clinic located in Tehran, Iran were selected by convenience sampling method during 2010-2016. For collecting the required data, a two-part self-made questionnaire containing 48 questions related to the medical records of the patients (laboratory tests, psychiatric consultation, and interviews with patients) was used. The first part of the questionnaire contained 12 demographic questions (age, sex, job status, education, and ethnicity), and the second section contained 9 questions about psychiatric disorders, liver and neuromuscular diseases, which were scored on a 3-point Likert-type rating scale from 0 to 2. Reliability of the questionnaire was calculated using Cronbach's alpha coefficient twice within two weeks by 10 addicted persons. Table 1 shows the internal consistency of the second part of the questionnaire. For measuring the validity of the questionnaire, it was made use of the researchers, professors, and experts viewpoints. The data analysis was performed using chi-square test and descriptive statistics in SPSS software version 23.Ethic committee of Shahid Beheshti University of Medical Sciences approved the study.

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Table 1. Cronbach's alpha coefficient.

Scale	Cronbach's alpha	Number of questions
Questions about psychiatric disorders, liver and neuromuscular pains diseases	.83	9

Results

Table 2 shows the demographic characteristics of the addicted participants. About 97% (N = 194) of the participants were male. The highest frequency in terms of age category, was seen under the age group of 40 year (53%, N = 106), and the lowest frequency was seen between 61 to 80 years old (2%, N = 5. In terms of job status, 84% (N = 167) were employed.

Table 2. Demographic characteristics of addicted patients.

		Number	Percent
Gender	Female	194	97%
	Male	6	3%
Age	Under 40 years	106	53%
	Between 41-60 years	89	45%
	Between 61-80 years	5	2%
Educational Status	Illiterate	13	7%
	Under Diploma	82	41%
	Diploma	97	49%
	Bachelor science	8	4%
Job Status	Employed	167	84%
	Unemployed	28	14%
	Retired	5	2%

Table 3 shows the rate of drug abuser and psychiatric disorders. In terms of the type of drugs used and the participants' psychiatric disorders, the crack consumers (44.9%, N = 71) had the highest rate and the cannabis consumers (1.9%, N = 3) had the lowest rate of psychiatric disorders (Table 3). According this Table, the first hypothesis related to the prevalence rate of psychiatric disorders in substance abuser, there was a significant relationship between psychiatric disorders and substance abuse ($P < .001$, $\alpha = .05$, $x^2 = 37.027$), and regarding the second hypothesis related to the prevalence rate of liver diseases in substance abuser, there was a significant relationship between liver diseases and substance abuse ($P < .001$, $\alpha = .05$, $x^2 = 88.965$).

Table 3. The relationship between psychiatric disorders and drug abuse.

Drug abuse / Psychiatric disorders	Alcohol	Cannabis	Opium	Crack	Methamphetamine	Total
Yes	9	3	69	71	6	158
	5.7%	1.9%	43.7%	44.9%	3.8%	79%
No	2	10	24	4	2	42
	4.8%	23.8%	57.1%	9.5%	4.8%	21%
Total	11	13	93	75	8	200
	5.5%	46.5%	6.5%	37.5%	4%	100%

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Also, regarding the type of drugs used and the participants' liver diseases, the opium consumers (44.1%, N = 88) had the highest rate, and the Methamphetamine consumers (0.2.5%, N = 5) had the lowest rates of liver diseases (Table 4).

In relation to the third hypothesis related to the prevalence rate of neuromuscular diseases in substance abuser, there was a significant relationship between neuromuscular diseases and substance abuse (p = .001, α = .05, x^2 = 200) (Table 4).

In relation to the type of drugs and neuromuscular diseases, the results showed that neuromuscular pains were found in drug users (Opium, Sap, Heroin and Crack) and not found in hallucinogenic users (Cannabis and Flowers) and stimulant drug users (Methamphetamine) (Table 5).

Table 4. The relationship between liver disease and drug abuse.

Drug abuse / Liver diseases	Alcohol	Cannabis	Opium	Crack	Methamphetamine	Total
Yes	9	7	82	64	5	167
	5.4%	4.2%	49.1%	38.3%	3%	83.5%
No	20	7	6	0	0	33
	60.6%	18.2%	21.2%	0%	0%	21%
Total	29	14	88	64	5	200
	14.5%	7%	44.1%	32%	2.5%	100%

Table 5. The relationship between neuromuscular disorders and drug abuse.

Drug abuse / Neuromuscular disorders	Drug users (Opium, Sap, Heroin, and Crack	Hallucinogenic users (Cannabis and Flowers) and	Stimulant drug users (Methamphetamine)	Total
Yes	85	0	0	85
	42.5%	0%	0%	42.5%
No	0	70	45	115
	0%	35%	22.5%	57.5%
Total	85	70	45	200
	42.5%	35%	22.5%	100

Discussion

The obtained results of this study showed that there was a significant relationship between psychiatric disorders and drug abusers. In this study, 79% disorders affects the pattern of drugs.

Also, Saisan's study showed that 50% of the psychiatric patients consumed opioids (Saisan, Melinda & Jeanne, 2013).

In relation to the second hypothesis, there was a significant relationship between liver diseases and substance of the addicted patients were suspected to mental disorders. This finding was higher than the finding of Hosseini's (Hosseini, et al. 2008) study in which the prevalence rate of mental disorders in addicted patients was reported as 72%. In the Pahlavian's study (Heidari Pahlavian & Mahjoub, 2011) the rate of mental disorders in addicted patients and general populations was reported as 63.5% and 28.8 %, respectively. According to the results, the prevalence rate of psychiatric disorders in crack consumers was at the highest rate, and in cannabis consumers was in the lowest rate. This finding is consistent with the results of other researchers; for example, Tazviri's study (Tazviri et al., 1998) indicated that the type of psychiatric abuse. Also, opium consumers had the highest rate, and the methamphetamine consumers had the lowest rates of liver diseases. This finding is consistent with the Shavakhi's study (Shavakhi, Sadeghi & Minakary, 2010). In Shavakhi's study, the patients taking drugs were more likely to have liver fibrosis.

Also, in relation to the third hypothesis, there was a significant relationship between neuromuscular

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diseases and substance abuse. This finding is also consistent with the Vafaei's study (Vafaei & Parandavar, 2004). In Vafaei's study, the rate of neuromuscular diseases was reported as 19.5%.

In this study, drug users (Opium, Sap, Heroin, and Crack) had neuromuscular diseases, but hallucinogenic users (Cannabis and Flowers) and stimulant drug users (Methamphetamine) did not have neuromuscular diseases, which may be attributed to the side effects of the drug addiction or prescription drugs in the treatment of these people.

Conflict of interests

There is no conflict of interest.

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Authors ' contribution

SHM: Conducted whole study and data analysis. Also, she was involved in drafting the article.

SHM. MAKH: Assessed the participants and confirmed their eligibility for the study. She was responsible for the accuracy of the data collection and analysis.

HH. MB. BMZ. MM: Participated in conducting the study. All authors approved the final version of the manuscript.

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