

## Original Article

# Patterns of substance abuse among Iranian bipolar inpatients: a descriptive research on existing data

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## Abstract

**Introduction:** Substance abuse/dependency is one of the most important comorbidity in bipolar patients. Therefore, recognizing the patterns of substance use is valuable in treatment and management of patients. This study was conducted to determine patterns of substance abuse among bipolar patients who were hospitalized in an educational hospital.

**Methods:** This was a descriptive-analytical study on existing data of 322 patients with bipolar disorder admitted in the psychiatric ward of Imam-Hossein hospital. Types of used substances studied and some variables such as gender, types of bipolarity, duration of admission, age of onset of bipolar disorder, number of hospitalization and types of prescribed treatments were compared in users and nonusers groups.

**Results:** In this study, 84 patients (26.1%) had substance abuse. 40.5% were using opioids, 6% mood-elevators, 7.1% alcohol, and 46.4% were using multiple substances.

**Conclusion:** It can be concluded that substance abuse frequency among patients with bipolar disorder is high. Using more than one substance was the most frequent pattern of substance abuse in these patients as well. Thus, it is necessary to consider possible comorbidity of bipolar disorder in front of patients with substance related disorder.

**Declaration of Interest:** None.

**Keywords:** Bipolar disorder, Substance abuse.

## Introduction

Like most of psychiatric disorders, comorbidity is a rule rather exception in bipolar disorders as well (1,6). These co morbidities include alcohol and substance use disorders (7,13), drugs such as benzodiazepine abuse (14), panic disorder (15, 16), social phobia (16), obsessive-compulsive disorder (17,18) and eating disorders (binge eating type

(19). Patients with bipolar disorder have higher probability to get comorbid personality disorders, especially emotional type (cluster B) (6,20). Anxious (cluster C), and eccentric type (cluster A) follow cluster B respectively in frequency (21). Besides psychiatric disorders medical diseases are frequently co-occurred with bipolar disorders (6). Migraine headache (11,22,23), multiple sclerosis (24,26), asthma (11,27), obesity (28-30), type II diabetes mellitus (31), hypothyroidism (32) and renal failure (33) have been addressed in some articles.

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Among these, substance related disorders have special situation because in compare to other illness, frequency of substance abuse/dependency is higher in bipolar disorder (13). Probably the relation between bipolar and substance related disorders is more complex than a simple comorbidity. Although on a different point of view, bipolar disorders are also common among substance related patients (34,38), the bilateral relation between substance and bipolarity is not clear and some possibilities have been proposed: 1) substance related problem is a complication of bipolar disorder 2) bipolar disorder is a result of substance usage 3) substance and bipolar disorders shared common roots (12,13,39,40).

Regardless of association type, substances including alcohol have negative impacts on bipolar disorder, which consist of poorer treatment response and also attachment (poor compliance), higher suicide rates, more number of episodes, more frequent medical problems such as liver diseases (6,9,10,13,39,46).

Various states of mood may affect the pattern of substance use among bipolar patients (39), for example patients use alcohol more when they are manic and use stimulants such as cocaine more when depressed (47,49). Bipolar patients can also experience hypomanic episode following opioid withdrawal (50,51), which reflects their similar sensitivity to antidepressants withdrawal hypomania (52). Therefore, the substances used by bipolar patients vary from time to time and their effects on longitudinal course differ from other illness.

Recognizing patterns of substance use in bipolar patients may have diagnostic values. It means observing a certain pattern of substance use in patients can increase the possibility of bipolar disorders diagnosis.

In this line we assessed patients with bipolar disorder in a psychiatric ward in regard to type of current and previous substance usage and its association to some variables.

## Methods

It was a descriptive study on existing data of patients who admitted in a university general hospital<sup>1</sup>.

At first psychiatric documents of patients who admitted with diagnosis of bipolar disorder (type I, type II and any other types of bipolar spectrum) collected. Patients divided into two groups 1) who have a history or current substance and alcohol abuse and dependency according to DSM IV TR criteria 2) patients without history of substance and alcohol dependency or abuse. Cigarette smoking was not considered as a substance dependency.

Information of each patient's document was recorded in a checklist. Documents, in which needed information was not completed, were excluded.

The check list included the demographic data, type of bipolar disorder (I, II or bipolar spectrum), type of substance related disorder (dependency or abuse), substance category used by each patient (for example opioids, stimulants, alcohol and poly substance); psychiatric comorbidities written in the patients' documents; type of episode for which patient admitted (mania, mixed and depressed); positive or negative family history of bipolar, psychotic and substance related disorder; age of onset and known medical disease. The list finalized by reviewing two experts of attending professors.

Variables of two groups mentioned in checklist analyzed by SPSS software version 16.  $\chi^2$  and t-test was used for categorical and continuous variables respectively.

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## Results

322 documents were assessed in this study, in 84 (26.1%) of them history of substance use was positive and 238 (73.9%) patients don't have a history of substance use (table 1).

Substance users were predominantly male (82.1), and this predominance was opposite in bipolar patients that have not positive history of substance use disorders (odds ratio: 11.98, 95 % CI: 6.4079 to 22.4267) (table 2).

**Table 1. Frequency of substance use in bipolar inpatients**

	Frequency	Percent
User	84	26.1
Non – User	238	73.9
Total	322	100.0

**Table 2. Gender distribution in patients with and without substance use**

	Gender		Total
	Male	Female	
User	69 82.1%	15 17.9%	84 100.0%
Non-User	66 27.7%	172 72.3%	238 100.0%

Most patients in both groups have the diagnosis of bipolar I disorder, and this difference was significant. ( $p=0.0490$ )(Table 3).

**Table 3. Types of bipolarity in substance users and nonusers**

		Bipolar Type		Total
		Type	Other	
Group	User	70 83.3%	14	84 100.0%
	Non-User	216 90.8%	22	238 100.0%
Total		286 88.8%	36 11.2%	322 100.0%

Types of treatment (pharmacotherapy, ECT alone and combination of both) were not different between users and non-users in this study

( $p=0.23$ ). Also, the probability of taking ECT (alone or in combination with drugs) was not significantly different in two groups ( $P=0.1304$ )(Table 4).

**Table 4.Types of treatments in two groups**

		Treatment Type			Total
		Drug	ECT	Both	
Group	User	64 76.2%	1 1.2%	19 22.6%	84 100.0%
	Non-User	159 66.8%	0 .0%	79 33.2%	238 100.0%
Total		223 69.3%	1 .3%	98 30.4%	322 100.0%

These two groups of bipolar patients were not significantly different in regard to some parameters recorded in the documents i.e. duration of the last hospitalization, number of hospitalization and age of onset of bipolar disorder (Table 5).

**Table 5. Average of days of last hospitalization, number of admission and age of onset of bipolarity**

	Users	Non users
last hospitalization P = 0.2	22±18.2	25.3±20.7
N of hospitalization P =0.06	3.09±2.61	3.9±3.54
age at the onset P = 0.12	26.05±12.61	23.23±14.54

The main result of this study is the pattern of substance usage in bipolar patients included here. As illustrated in table 6, using more than one substance in the course of illness was the most frequent pattern followed by opioids, alcohol and stimulants respectively.

**Table 6. Types of substance abused**

	N	%
Opioids	34	40.5
Psycho Stimulants	5	6.0
Alcohol	6	7.1
(more than one)	39	46.4
Total	84	100.0

## Conclusion

The frequency of substance use in bipolar patients admitted in psychiatric ward was lower than other studies (10,53). The possible explanation is that substance usage is under the effects of many factors other than bipolarity per se. Cultural and socioeconomic state of society can influence the substance usage in bipolar people like healthy ones. Another reason may be the product of legal and cultural prohibitions of some substances in Iran. This result in some patients intentionally denies substance use anyway.

According to the study, bipolar patients with a history of substance use were predominantly male but the state in the non-users was vice versa. Although considering the male gender as a risk factor for substance use disorders among bipolar patients need other designation for research, it should be kept in mind that male patients are in a remarkable risk of substance abuse or dependency. The most common type of bipolar disorder in our research was bipolar I. It was not surprising because the population from which the data extracted was patients need hospitalization. This means that our patients may be a certain proportion of bipolar patients and we have selection bias in sampling. In spite of higher frequencies of type I bipolar in users and nonusers, the rate of bipolar I disorder was significantly higher in nonuser group. As mentioned previously substance using is one of factors that predict poorer response to treatments among bipolar patients. On the other hand, according to some evidence patients with non-type I bipolar disorders respond less to medication. Here it is not illogical to conclude that poorer response in substance user patients may be in part related to different types of bipolar disorder.

The most frequent pattern of substance use among bipolar patients in this study was abuse or dependency to more than one substance. This finding correlates with other studies (54). As pointed earlier, various states of bipolar disorder (mania, depression) directly influence the type of substance use. Therefore, it is predictable that patients with bipolar disorder, who experience different states, use different substances along the course of disorder. One important question is “can we infer from the results of this survey that patients who use multiple substances are at risk of bipolarity?” If yes, each clinician must be aware in regard to substance users to preclude bipolarity and inappropriate related treatments.

It is clear that response to this question needs another research. In an unpublished study by Samimi, et al., patients with substance related disorders were screened with some instruments to detect bipolar disorders. The results showed that bipolar spectrum disorders were highly frequent among substance users especially who had history of multiple substance abuse.

In conclusion, by the results of this study psychiatrists should be aware of this frequent comorbidity (substance use and bipolar disorder) because two disorders influence each other and suitable treatment for both can break the vicious circle of prognostic effect of them.

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