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The correlation between bipolar disorder not otherwise specified progression with patients' clinical and demographic characteristics

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Abstract

Introduction: Bipolar disorder not otherwise specified is a complex condition characterized by unusual shifts in mood, energy levels, and behavior.
Objectives: This study aimed to investigate the relationship between bipolar disorder not otherwise specified progression and patients' clinical and demographic characteristics.
Patients and Methods: Data for this study was obtained from a cross-sectional study conducted between the years 2008-2021. The study investigated 171 patients with bipolar disorder not otherwise specified. The data collection tool was the content of the file registered in the psychiatry department of the hospital, which was based on the physician's interview with the patient. Data analysis was conducted using statistical tests in SPSS version 26 software.
Results: Out of 171 patients, 80 (46.8%) were men with a mean age of 39.5 ± 12.2 years. The results found that the duration of symptoms onset to hospitalization in patients with mania symptoms was related to gender, family history of mental illness, and history of opium abuse. On the other hand, the duration of symptoms onset to hospitalization in patients with major depressive episodes (MDEs) was related to education level, marital status, and family history of mental illness ($P<0.05$). In the patients with both Mania and MDEs' symptoms, no statistically significant correlation was found between patients' characteristics with the duration of symptoms onset to their hospitalization ($P>0.05$).
Conclusion: Identification of related risk factors and early treatment of bipolar disorder not otherwise specified, along with addressing potential comorbidities such as family heredity and opium abuse, can help improve patients' outcomes and quality of life. Clinicians should consider these factors when assessing these patients to provide appropriate treatment and support.

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Introduction

Bipolar disorder is a chronic, relapsing disease that often causes disability, especially in case of begins in childhood or adolescence (1). This condition causes changes in mood, energy, and behavior, which can disrupt daily activities (2, 3). According to the diagnostic and statistical manual of mental disorders (DSM-IV), bipolar disorder is categorized into four distinct subtypes, namely bipolar I, bipolar II, cyclothymic bipolar, and bipolar disorder not otherwise specified (BD-NOS) (4).

Most of the research in the last decade has been conducted on bipolar I and II disorders, and other bipolar spectrum disorders are less well known (5). BD-NOS is a disorder that exhibits bipolar traits but doesn't meet the criteria for any specific bipolar disorder (6). According to DSM-IV, it includes symptoms such as rapid mood swings lasting a few days without the required severity and duration for a specific bipolar disorder, recurrent hypomania without depressive symptoms, and hypomanic episodes with rare depressive symptoms (7). The criteria for BD-NOS, as recommended by the American academy of child and adolescent psychiatry practice parameters, are as follows: Firstly, there are no established duration criteria for manic, mixed, or hypomania episodes according to the DSM-IV. Secondly, there are no specific mood episodes outlined (8). The examination of the principles and ramifications of bipolar disorder in young individuals, proposes the subsequent set of standards for BD-NOS: firstly, a state of contentedness accompanied by two indications of mania for a minimum duration of four days, not necessarily in succession; secondly, an irritable state of mind coupled with three manifestations of mania lasting for at least four hours, not necessarily occurring consecutively (9).

A study has found that BD-NOS is more

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Key point

In a cross-sectional study, we found that there is a significant correlation between the duration of symptoms onset to the hospitalization in mania patients and their gender, family history of mental illness, and history of opium abuse. In addition, in patients with MDEs, this duration was correlated to education level, marital status, and family history of mental illness. On the other hand, in patients with both Mania and MDEs' symptoms, patients' clinical and demographic characteristics could not affect the duration of symptoms onset to patients' hospitalization.

prevalent at 1.4% than bipolar disorder type 1 (6.6%) and bipolar disorder type 2 (4.4%) (10). The investigations have demonstrated that individuals diagnosed with BD-NOS exhibit a considerable level of functional debilitation and possess a lineage characterized by the presence of bipolar disorder. Additionally, they frequently experience a similar level of incapacitation compared to individuals diagnosed with alternative subcategories of bipolar disorder (11). Moreover, young people and adults with BD-NOS are more likely to experience this manifestation than those with bipolar disorder type I or II (10, 12). Additionally, in BD-NOS, preventive interventions are more effective than other bipolar disorder subtypes for some disease manifestations (13). Although many studies have been conducted on bipolar disorder in Iran and outside of Iran, most of these studies have been conducted on bipolar disorder type 1 and 2, and other bipolar spectrum disorders such as BD-NOS have received less attention. Therefore, this study was conducted to evaluate the risk factors that can affect BD-NOS progression.

Objectives

This study was conducted to investigate the correlation between BD-NOS progression and the clinical and demographic characteristics of hospitalized patients in individuals who were hospitalized at the Khorshid hospital of Isfahan between the years 2008-2021.

Patients and Methods

Study design and participants

This cross-sectional study was conducted on 171 patients with BD-NOS disorder referred to Khorshid hospital in Isfahan from 2008 to 2021. Inclusion criteria included all identified BD-NOS patients based on DSM-IV and DSM-V criteria and semi-structured interviews by physicians. Exclusion criteria included patients who had incomplete medical records, specifically those lacking a thorough medical history, were excluded from the study. Additionally, patients who did not have a diagnosis code for bipolar disorders (as indicated by ICD10 codes) or those whose diagnosis was not documented in their medical record were also excluded.

Data collection

Data were collected through the patients' medical record contents, including demographic characteristics (age, gender, education, marital status, family heredity of mental illness, and history of opium abuse) and clinical data, including relapse frequency, symptoms, etiology, and the duration of symptoms onset to patients' hospitalization. The patients were divided into three groups in terms of age (15 to 30, 31 to 50, and more than 51 years), three categories in terms of education (primary and secondary school, academic), and two categories in terms of marital status (single and married). Disease relapse is a condition that a person re-suffers after a period of recovery, and in this study, it was divided into two categories such as relapse number less and more than two. Family heredity of mental illness and history of opium abuse were classified into two categories (with and without). Patients' symptoms were divided into three types; mania, major depressive episode (MDE), and a mix of them.

Statistical analysis

To data analysis, centrality and dispersion indices were employed, while the normality test was conducted using the Shapiro-Wilk test. The chi-square test and Fisher's exact test were utilized to establish correlations between some patient characteristics and the type of symptoms. Poisson regression was employed to evaluate the association between symptom frequency and patient characteristics in cases of BD-NOS, whereas multinomial logistic regression was employed to assess the correlation between symptom types and patient characteristics. Generalized linear regression, employing a gamma distribution, was employed to investigate the correlation between the duration of symptom onset until patients' hospitalization (a dependent variable with a non-normal distribution) and patient characteristics in cases of BD-NOS. A significance level of less than 0.05 was considered statistically significant. SPSS version 26 software was employed for data analysis.

Results

In this study, 171 patients with BD-NOS were investigated. The patients had a mean age of 39.5 years (SD=12.20) and ranged from 16 to 70 years. Based on their symptoms, the patients were divided into three categories mania, MDE, and mixed. The number of patients in the mania category was 60, in MDE category was 81, and in the mixed category was 30. Results demonstrated that most patients were female, married, in an age range of 31-50 years, and without a history of opium abuse and family heredity of mental illness. In terms of education, most patients had non-academic education, and in terms of disease relapse, most patients had less than two times relapse. Patients' characteristics by symptom type (Mania, MDE, and mixed) are summarized in Table 1. Out of all assessed patients' characteristics, only opium abuse showed significant differences by symptom type ($P<0.001$).

In this study, participants were categorized into three

Table 1. Frequency distribution of patient characteristics according to the type of symptoms in patients diagnosed with BD-NOS

Patients' characteristics		BD-NOS category by symptoms			*P* value
		Mania (n = 60)	MDE (n = 81)	Mix (n = 30)	
		No. (%)	No. (%)	No. (%)	
Gender	Male	37 (61.6)	26 (32.1)	17 (56.6)	0.400*
	Female	23 (38.4)	55 (67.9)	13 (43.4)	
Education level	Under diploma	36 (60)	55 (67.9)	20 (66.6)	0.630**
	Diploma	18 (30)	16 (19.7)	8 (26.6)	
	Academic	6 (10)	10 (12.4)	2 (6.8)	
Marital status	Single	12 (20)	13 (16)	6 (20)	0.799*
	Married	48 (80)	68 (84)	24 (80)	
Family heredity	Yes	21 (35)	17 (20.9)	8 (26.6)	0.179*
	No	39 (65)	64 (79.1)	22 (73.4)	
Opium abuse	With	22 (36.6)	3 (3.7)	5 (16.6)	< 0.001*
	Without	38 (63.4)	78 (96.3)	25 (83.4)	
Age (y)	15-30	16 (26.6)	17 (20.9)	7 (23.3)	0.687*
	31-50	32 (53.3)	44 (54.3)	19 (63.3)	
	51 to up	12 (20.1)	20 (24.8)	4 (13.4)	
Relapse	< 2 time	32 (53.3)	49 (60.5)	11 (26.6)	0.082*
	≥ 2 time	28 (46.7)	32 (39.5)	19 (63.4)	

*Chi square test, **Fisher exact test.

distinct groups: mania (consisting of 60 individuals), MDE (comprised of 81 individuals), and mixed (involving 30 individuals). These categorizations were based on the presenting symptoms exhibited by the participants. Within the mania group, it was observed that 100% of the patients demonstrated an elevated or irritable mood, while 95% experienced a decrease in their need for sleep. Furthermore, 85% reported thoughts of racing. As for the MDE category, 100% of individuals displayed a depressed mood, with 90% reporting suicidal thoughts. Additionally, 87.6% experienced sleep disorders, while 85% mentioned changes in weight and appetite. Moreover, 80% expressed feelings of tiredness or lack of energy. In the mixed category, all patients exhibited an elevated or irritable mood, alongside a depressed mood. Moreover, 80% reported a decreased need for sleep, while 76.6% experienced changes in weight and appetite. The remaining symptoms of the patients are detailed in Table 2.

The results of the Poisson regression model to determine the correlation between BD-NOS categories by symptoms and patients' characteristics are shown in Table 3.

The study results found no statistically significant difference between education levels, marital status (single versus married), family heredity, opium abuse, and gender (men versus women) with BD-NOS categories by symptoms in all three categories of Mania, MDE, and mixed ($P > 0.05$).

The investigation into the correlation between the age ranges of the subjects under scrutiny and the BD-NOS classifications based on symptoms did not yield

Table 2. Frequency distribution of sign and symptoms according to BD-NOS categories

Sign and symptoms	BD-NOS categories		
	Mania (n = 60)	MDE (n = 81)	Mix (n = 30)
	No. (%)	No. (%)	No. (%)
Elevated or irritable mood	60 (100)	-	30 (100)
Self-steam.confidence	23 (38)	-	4 (13.3)
Reducing the need for sleep	57 (95)	-	24 (80)
Talkative	24 (40)	-	6 (20)
Thought of racing	51 (85)	-	11 (36.6)
Distractibility	28 (46)	-	4 (13.3)
Increase in targeted activities	20 (33)	-	1 (3)
Oversleeping/sleeplessness	-	71 (87.6)	7 (23.3)
Change in weight and appetite	-	69 (85)	23 (76.6)
Depressed mood	-	81 (100)	30 (100)
Losing interest and feeling pleasure	-	33 (40.7)	4 (13.3)
Fatigue or lack of energy	-	65 (80)	21 (70)
Reduced thinking/concentration	-	26 (32)	8 (26.6)
Feeling of worthlessness / guilt	-	28 (34.5)	2 (6)
Psychomotor retardation	-	14 (17)	8 (26)
Thoughts of suicide	34 (56.7)	73 (90)	23 (76.6)

any statistically significant disparities. Additionally, the findings of the analysis examining the relationship between the number of relapses and the categories of mania, MDE, and mixed symptoms indicated that there was no statistically significant dissimilarity between patients with less than two relapses and those with more than two relapses (Table 3).

Table 4 presents the outcomes of the multinomial logistic regression model employed to evaluate the relationship between the various types of BD-NOS symptoms and patients' characteristics. Within this investigation, the mixed group was considered as a point of reference. The likelihood of patients with a history of opium abuse experiencing BD-NOS with symptoms of mania is 4.2 times greater in comparison to patients without such a history, and this association was statistically significance ($P=0.03$). Conversely, no statistically significant correlation was discovered between the various types of symptoms associated with BD-NOS (Mania, MDE, and Mix) and variables such as gender, marital status, family history of mental illness, age, and the number of relapses ($P>0.05$).

Table 3. The correlation between BD-NOS categories by symptoms and patients' characteristics using Poisson regression

Patients' Characteristics		BD-NOS categories by symptoms					
		Mania (n=60)	*P*value	MDE (n=81)	*P* value	Mix (n=30)	*P* value
		IRR (95% CI)		IRR (95% CI)		IRR (95% CI)	
Gender	Male	0.9 (0.7, 1.3)	0.549	0.8 (0.6, 1)	0.088	1.1 (0.7, 1.5)	0.807
	Female (Ref)						
Education level	Under diploma	0.7 (0.4, 1.1)	0.120	0.7 (0.7, 1.3)	0.767	0.9 (0.5, 1.6)	0.703
	Diploma	0.9 (0.5,1.4)	0.527	0.9 (0.6, 1.3)	0.545	0.8 (0.4, 1.6)	0.476
	Academic (Ref)			Reference			
Marital status	Single	0.9 (0.6, 1.5)	0.805	0.9 (0.6, 1.3)	0.565	0.8 (0.5, 1.2)	0.271
	Married (Ref)						
Family heredity	Yes	1 (0.8, 1.3)	0.884	1.1 (0.8, 1.3)	0.604	1.2 (0.8, 1.8)	0.376
	No (Ref)						
Opium abuse	Yes	1.4 (0.9, 1.9)	0.066	1.5 (0.9, 2.5)	0.071	1.2 (0.8, 1.9)	0.352
	No (Ref)						
Age (year)	15-30	0.9 (0.5, 1.6)	0.748	1.2 (0.9, 1.7)	0.272	1.6 (0.7, 3.4)	0.242
	31-50	0.9 (0.6, 1.3)	0.703	1 (0.8, 1.3)	0.898	1.3 (0.8, 2)	0.306
	>51 (Ref)			Reference			
Relapse	< 2 times	0.9 (0.7, 1.2)	0.612	0.9 (0.7, 1.1)	0.378	1 (0.7, 1.5)	0.997
	≥ 2 times (Ref)						

IRR, incident risk ratio; CI, Confidence Interval; Ref, Reference.

Table 4. The correlation between BD-NOS categories by symptoms and patients' characteristics using multinomial logistic regression

Patients' characteristics		BD-NOS Categories by symptoms			
		Mania	*P* value	MDE	*P* value
		RRR (95% CI)		RRR (95% CI)	
Gender	Male	0.8 (0.3,2.4)	0.75	0.5 (0.2,1.2)	0.13
	Female (Ref)				
Education level	Under diploma	0.3 (0.1,2)	0.23	0.5 (0.1,2.5)	0.37
	Diploma	0.6 (0.1,4.1)	0.59	0.4 (0.1,2.7)	0.36
	Academic (Ref)			Reference	
Marital status	Single	0.5 (0.1,2.2)	0.35	0.9 (0.2,4.4)	0.92
	Married (Ref)				
Family heredity	Yes	1.2 (0.5,3.4)	0.70	0.7 (0.2,1.8)	0.41
	No (Ref)				
Opium abuse	Yes	4.2 (1.2,15.6)	0.03	0.4 (0.1,1.9)	0.22
	No (Ref)				
Age (y)	15-30	0.7 (0.1,5.2)	0.80	0.4 (0.1,2.7)	0.36
	31-50	0.5 (0.1,2)	0.33	0.6 (0.2,2)	0.36
	>51 (Ref)			Reference	
Relapse	< 2 times	2.1 (0.8,5.5)	0.15	2.6 (1,6.1)	0.054
	≥ 2 times (Ref)				

RRR, relative risk ratio; CI, Confidence Interval; Ref, Reference.

The findings of the generalized linear regression model, utilizing the gamma distribution, were employed to ascertain the relationship between the period of symptom onset to patients' hospitalization and the BD-NOS categories by symptoms that encompass mania, MDE, and mixed symptoms. These results are presented in Table 5. In the mania category, a statistically significant correlation was identified between the duration of symptom onset to patients' hospitalization and patients' gender. This implies that the duration of mania symptoms was lengthier in males compared to females ($P=0.002$). Furthermore, a noteworthy correlation was observed between the duration of symptom onset to patients' hospitalization and a history of opium abuse. Specifically, the duration of symptom onset to hospitalization was lengthier in patients with a history of opium abuse in comparison to those without such a history ($P=0.001$).

The duration of symptoms onset to patients' hospitalization was found to have a significant correlation with the history of mental illness within the patient's family. It was observed that patients with a family history of mental illness experienced a shorter duration of symptoms onset to patients' hospitalization compared to those without such a family history ($P=0.003$). However, no statistically significant correlation was found between the duration of symptoms onset to hospitalization in patients with Mania and other patient traits patients' characteristics such as age, marital status and education levels ($P>0.05$).

In the patients diagnosed with MDE, a noteworthy correlation was observed between the duration of symptoms onset to patients' hospitalization and their education levels. This indicates that non-academic patients experienced a longer duration between symptom onset to patients' hospitalization compared to their academic counterparts ($P=0.015$).

There was a statistically significant association between marital status and the duration of symptoms onset to patients' hospitalization in patients with MDE symptoms, in such a way that the duration of symptoms onset to patients' hospitalization was longer in single patients compared to married ($P=0.022$). There was also a significant association between the duration of symptoms onset to patients' hospitalization and family history of mental illness and the duration of symptoms onset to patients' hospitalization was shorter in patients with a family history of mental illness ($P=0.040$). On the other hand, no significant association was found between other characteristics of patients, such as gender, age, and opium abuse with the duration of symptoms onset to patients' hospitalization in patients with MDE symptoms ($P>0.05$).

In the patients with both Mania and MDE symptoms, no statistically significant correlation was found between the patients' characteristics with the duration of symptoms onset to patients' hospitalization ($P>0.05$).

Discussion

In this study, researchers evaluated a sample of patients with BD-NOS to determine the association between the number, type, and duration of symptoms and patients' clinical and demographic characteristics. The study surveyed the association between the number of symptoms and gender and found that the number of symptoms of patients with mania and mixed disorders is more common in men, while patients with MDE disorders have more

Table 5. Correlation between the duration of symptoms onset to patients' hospitalization in three groups of Mania, MDE, and mix with BD-NOS patients' characteristics using generalized linear regression with gamma distribution

Characteristics of patients		Duration of symptoms					
		Mania		MDE		Mix	
		Beta (95% CI)	*P* value	Beta (95% CI)	*P* value	Beta (95% CI)	*P* value
Gender	Male	0.7 (-1.2, -0.3)	0.001	0.01 (-0.3,-0.3)	0.95	0.1 (-0.5, 0.3)	0.54
	Female (Ref)			Reference			
Education level	Under diploma	-0.3 (-1,0.3)	0.30	0.2 (-0.2, 0.6)	0.24	-0.2 (-1, 0.5)	0.36
	Diploma	-0.01 (-0.7,0.6)	0.97	0.5 (0.01, 0.9)	0.02	-0.2 (-1, 0.6)	0.42
	Academic (Ref)			Reference			
Marital status	Single	-.4 (-1.1, 0.3)	0.36	0.6 (0.1, 1)	0.02	0.4 (-0.2, 0.9)	0.06
	Married (Ref)						
Family heredity	Yes	-0.5 (-0.8, 0.10)	0.001	0. 1 (-0.4, 0.2)-	0.04	-0.1 (-0.6, 0.4)	0.37
	No (Ref)						
Opium abuse	Yes	-1.4 (-1.9, -1)	0.001	0.7 (0.1, 1.4)	0.73	-0.01 (-0.6, 0.6)	0.98
	No (Ref)						
Age (y)	15-30	-0.4 (-1.1, 0.4)	0.36	-0.5 (-1,-0.1)	0.06	-0.3 (-1.2, 0.6)	0.51
	31-50	-0.1 (-0.6, 0.4)	0.64	-0.01 (-0.4, 0.3)	0.88	0.2 (-0.4, 0.8)	0.54
	>51 (Ref)			Reference			
Relapse	< 2	0.1 (0.2, 0.5)	0.51	0.1 (-0.3, 0.3)	0.95	0.16 (-0.3, 0.6)	0.39
	≥ 2 (Ref)						

Beta, Regression coefficient; CI, confidence interval.

symptoms in women. Although the association between the number of symptoms and gender is not statistically significant, the higher mean number of MDE symptoms in women compared to men can be attributed to hormonal differences, social differences, stressful life events, and diagnostic differences (14,15).

In the survey of the association between gender and the duration of symptoms onset to patients' hospitalization, the results of the study showed that the duration of symptoms onset to patients' hospitalization in patients with Mania symptoms is significantly longer in men compared to women. This finding is in line with the previous studies reporting gender differences in the clinical presentation and course of bipolar disorder (BD). Recently, the study by Sreedhar et al revealed a notable association between mood episodes of BD and gender, wherein females tend to experience a higher frequency of depressive episodes, while males tend to exhibit a greater occurrence of manic episodes. They also reported that females with BD have been reported to have more depressive symptoms, more mixed episodes, greater presence of psychotic symptoms, and more rapid cycling than males (16).

Among the possible reasons for this difference in men compared to women, we can mention the physiological and hormonal differences between men and women, more consumption of opium abuse in men, and the fact that men are employed in environments outside the home (17).

No significant association was found between the duration of symptoms onset to Patients' hospitalization in patients with major depressive disorder and mixed symptoms with gender. The prevailing belief is that there is a gender disparity when it comes to depression, with females experiencing major depression at a rate twice that of males. Studies have shown that females diagnosed with bipolar disorder exhibit a higher number of depressive symptoms, greater occurrences of mixed episodes, an increased presence of psychotic symptoms, and a more frequent cycling pattern compared to males (17).

The results showed that the duration of symptoms onset to hospitalization in patients with MDEs was related to education level, marital status, and family history of mental illness. Increasing the level of education of people leads to increasing the level of awareness, improving their behavior and social relations, but it may also bring stress and depression, therefore the balance in education will have a positive effect on people's health (18). There are studies that behavioral diseases decrease with the increase in education level; however, in the present study, although the number of mania, MDE, and mixed symptoms in patients increased with the increase in education level, this association was not statistically significant (19,20). Among the reasons why the number of mania and mixed symptoms increased with the increase in education level, we can probably mention the mental illness label and stress caused by unemployment and job loss in these people (21).

The results of the study showed that the duration of symptoms onset to patients' hospitalization in patients with MDE symptoms in patients with academic education was significantly longer than patients without. The possible reason for this difference can be the higher frequency of patients with academic education. The approval of this finding needs to be investigated with a larger sample size. No statistically significant association was found between the duration of symptoms onset to patients' hospitalization with mania and mixed symptoms with the level of education. Wang et al in their study found that, the correlation between the level of education and treatment adherence in patients diagnosed with bipolar disorder has been ascertained as a plausible prognosticator (22). Bipolar disorder is a multifaceted psychological ailment distinguished by occurrences of mania, hypomania, depression, or mixed states. The time span between the manifestation of symptoms and the admission of patients with mania and mixed symptoms could potentially be impacted by diverse elements, such as demographic, clinical, and psychosocial determinants (22).

According to the study result, no statistically significant association was found between the marital status and the number of symptoms of the patients. The potential to forecast health and mortality has been associated with marital status, where married individuals have exhibited superior health results and lower mortality rates compared to those who are unmarried (23). However, the correlation between marital status and the quantity of symptoms exhibited by the patients does not reach the threshold of statistical significance (24).

In the examination of the correlation between marital status and the period from the onset of symptoms to the hospitalization of patients, the findings of the investigation illustrated a noteworthy correlation between the duration of symptoms onset to patients' hospitalization in patients displaying MDE symptoms and their marital status. Despite the fact that the number of married patients experiencing MDE symptoms exceeded that of single patients, it is important to note that the duration of symptoms onset to patients' hospitalization was longer in single patients. Numerous studies have explored the relationship between MDE and marital status. For instance, Eskandari et al conducted a study in 2016 on Iranian students and reported that married individuals face a decreased risk of mental illness and MDE. Divorced and widowed individuals are particularly vulnerable, while single individuals fall somewhere between married and divorced individuals (25). In another study conducted by Olfson et al, MDE symptoms were more common in single people than married (26). Based on our knowledge and search, no study has investigated the duration of symptoms onset to patients' hospitalization in single and married patients with MDE symptoms. No significant difference was found between the duration of symptoms onset to patients' hospitalization in patients with mania and mixed symptoms with marital status.

Unlike previous studies that mentioned a significant association between patients' BD-NOS and a family history of mental illness, the present study did not show a statistically significant correlation between the number of mania, MDE, and mixed symptoms with a family history of mental illness (27, 28).

In the investigation pertaining to the linkage connecting the history of opium abuse and BD-NOS, the findings of the examination unveiled that a statistically significant association exists between the history of opium abuse and the manifestation and duration of symptoms leading up to patients' admission to the hospital. Within this exploration, individuals with a previous opium abuse history exhibited a greater prevalence of symptoms of the mania type, which can plausibly be attributed to the influence of opium abuse on an individual's emotional state and the induction of a sense of euphoria. Several investigations have documented elevated rates of opium abuse among patients (29).

In the survey of the association between age and the type of symptoms, the number of symptoms, and the duration of symptoms onset to patients' hospitalization, the results showed that there is no statistically significant difference between different age groups of patients. In the survey of the association between the number of relapses and the type of symptoms, the number of symptoms, and the duration of symptoms onset to patients' hospitalization, the results demonstrated that there was no statistically significant difference between the patients.

Conclusion

Based on the results of the study, it can be concluded that there is a significant correlation between the duration of symptoms onset to the hospitalization of mania patients and their gender, family history of mental illness, and history of opium abuse. Also, in patients with MDEs, this duration was correlated to education level, marital status, and family history of mental illness. These findings suggest that these factors may play a role in the development and progression of BD-NOS in some patients. The study highlights the importance of early identification and treatment of BD-NOS, particularly in patients with a family history of mental illness or a history of opium abuse. Clinicians should consider these factors when assessing patients with BD-NOS to provide appropriate treatment and improve patient outcomes. Further research is needed to better understand the relationship between these factors and BD-NOS.

Limitations of the study

Based on the limitations mentioned in the study, it is important to note that the sample size was low, which may reduce the generalizability of the findings. Additionally, the different classification of patients based on DSM-IV and DSM-V was not taken into account, and the method of data collection was based on the content of patients' medical records, which may have caused the loss of some patient information. These limitations suggest that caution should be exercised when interpreting the results of the study. Future research should aim to address these limitations by increasing the sample size, accounting for the different classifications of patients, and using more comprehensive methods of data collection. Overall, the study provides valuable insights into the clinical characteristics of patients with BD-NOS and highlights the need for early identification and treatment of this condition.

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Authors' contribution

Conceptualization: Soleyman Alivand.
Data curation: Soleyman Alivand.
Formal analysis: Mohammad Reza Maracy.
Investigation: Mohammad Reza Maracy and Majid Barekatain.
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Conflicts of interest

There are no competing interests.

Ethical issues

The research followed the tenets of the Declaration of Helsinki. This study was extracted from MSc thesis by Soleyman Alivand at Isfahan University of Medical Sciences (Thesis #395581). The Ethics Committee of Isfahan University of Medical Sciences approved this study (Ethical code #IR.MUI.REC.1395.30581). Additionally, the study protocol was registered on the Research Registry (Unique Identifying Number (UIN): researchregistry9531) website, available at (https://www.researchregistry.com/browse-the-registry#home/). Besides, the authors have observed ethical issues (including plagiarism, data fabrication, and double publication).

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