

Borderline Personality Disorder Over Time: A One-Year Follow up Study

Solmaz Bazrafshan¹, Mehrdad Eftekhar¹, Nazila Karimzad¹, Shabnam Nohesara¹, Maliheh Ranjbar² and Homa Mohammad Sadeghi^{1*}

1. Iran University of Medical Sciences, Tehran, Iran

2. Iran Psychiatry Hospital, Iran University of Medical Sciences, Tehran, Iran

* Corresponding author

Homa Mohammad Sadeghi, MD

Iran University of Medical Sciences,
Tehran, Iran

Email: Mohammadsadeghi.h@iums.ac.ir

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Abstract

Background: Borderline Personality Disorder (BPD) is a relatively common disorder affecting nearly 1-2 % of individuals. In this study, an attempt was made to assess the course and severity of symptoms of BPD in a one year follow up and to investigate the factors associated with the severity of symptoms over time.

Methods: In this cohort study which is conducted at Iran Psychiatry Hospital in 2016-17, BPD patients were assessed in the time of admission and 6 and 12 months afterwards. Demographic information along with comorbid disorders, suicidal and self-harm thoughts and attempts, other high risk behaviors, substance use, psychotic symptoms and DASS (Depression Anxiety Stress Scale with 40 questions) and Spilberger Inventory (Anger assessment with 10 questions) were investigated at first interview and each followup.

Results: In this study, 68 patients were enrolled. Forty two and then 38 patients were followed for 6 months and 12 months. Based on repeated measures analysis, the severity of borderline symptoms and DASS ($p = 0.033$) and Spielberger ($p=0.019$) scores significantly decreased within 12 months. Cox regression showed that there was only significant association between psychotic symptoms and BPD severity ($p=0.002$). There was no significant association between the type of therapy and the reduction of BPD severity ($p=0.755$).

Conclusion: Decreasing the symptoms severity over time seems to be related to time duration as an effective factor. It is probable that frequent contacts for follow up and therapeutic alliance might have contributed to reduction of symptoms severity. However, it should be kept in mind that a variety of other factors might have also induced such effects.

Keywords: Borderline personality disorder, Prognosis, Suicide

Introduction

Borderline Personality Disorder (BPD) is characterized by instability in interpersonal relationships, chronic fear of being abandoned, and difficulties in emotional regulation, feeling empty, dysphoria or chronic depression, and impulsive and high-risk behaviors. There are also transient psychotic experiences. The lifetime prevalence of BPD is 6% (1). Borderline personality disorder causes many problems for the patient and the community (2). The repeated and severe damages caused by this disorder affect the entire life of an individual, including loss of job, being a dropout, and disruption of relationship with friends and colleagues, family members, and failure in marriage (3). Almost 11-69% of patients with borderline personality disorder are drug users (4). Based on US statistics, 22% of these patients suffer from alcoholism and 25 to 50% of female prisoners are borderline patients (5). Eight to ten percent of these patients die from suicide (6). This disorder is considered one of the serious problems in the mental health field due to its negative effect on family and community. Accurate prevalence rate is not available in Iran, and few studies have been carried out to examine the social determinants of this disorder, its clinical course, consequences and prognosis. There is evidence that suggests the severity of borderline personality disorder decreases with increasing age (7). Clinical experiences suggest that some symptoms of borderline personality disorder are improved faster over time. Some of these symptoms include pseudo-psychotic thoughts and impulsive behaviors including self-harm and suicide attempts. In contrast, symptoms such as a feeling of severe depression and anger, feeling of loneliness and emptiness are more stable over time (8).

The use of more standardized tools to diagnose personality disorders has increased the accuracy of these studies and resulted in more questions on the course of these disorders over time. The aim of researchers is investigating the course of personality disorders over time in longitudinal studies. Lack of sufficient information makes it naturally difficult to plan effectively to decrease the burden of the disorder. Patients show lower tendencies to follow up their pharmacological and non-pharmacological treatments, and instability in mood and relationships can make the follow up of the patients difficult over time. It has also

been observed that some of the problematic symptoms of this disorder might change over time.

A great number of patients with borderline personality disorder also suffer from other psychiatric disorders. BPD is highly associated with mood disorders, anxiety disorders, substance use and eating disorders. Concentrating on such problems plays a key role in clinical decision making (9).

It has also long been thought that patients with personality disorders benefit little from psychotherapy. However, studies conducted over the last two decades have shown that this type of treatment has been effective in reducing symptoms of the disorder, including self-harm and high-risk behaviors (10).

Instability and sudden changes have been the main characteristics of social conditions in Iran in recent years. Such conditions, along with social deprivation, discrimination, poverty, divorce, lack of transparency in the hierarchy of power in the family and community, domestic and social violence as well as weak and ineffective support systems, can be the source of various symptoms of personality disorders, especially borderline personality disorder. Considering the high prevalence of behaviors such as students' self-harm in schools, the promotion of computer games with self-harm content, disturbance observed in interpersonal relationships of the adolescents, and the increasing prevalence of stimulant substance use in recent years, which are considered as characteristics of borderline personality disorder, an attempt was made to investigate the course of this illness and its consequences in a prospective study in Iran. Moreover, a better understanding of its course can be an effective step in cutting the costs of its complications. In this study, the course and severity of symptoms of BPD in a one year follow up were assessed and the factors associated with the severity of symptoms over time were investigated.

Materials and Methods

Patients who were hospitalized in Iran Psychiatry Hospital and diagnosed with a borderline personality disorder by a responsible psychiatrist were included in the study. Iran Psychiatry Hospital is a referral training center with 160 active psychiatric beds. Patients whose main cause of hospitalization is symptoms related to borderline personality disorder are admitted to the Mehr ward in this center. This ward

provides pharmacological and non-pharmacological services to patients, and emergent symptoms of this disorder are mostly considered in this ward.

Inclusion criteria were the initial diagnosis of borderline personality disorder by a psychiatrist, reading and writing literacy, lack of illnesses disabling the patient to complete the questionnaire (such as dementia), and willingness to participate in the study. Exclusion criteria were lack of satisfaction with continuing study and patient discharge before completing the information.

The first patient was included in May 2016 and the last patient was included in May 2017. A total of 68 patients with borderline personality disorder were enrolled into the study within one year. Interviews by a psychiatrist or trained psychologist based on SCID_I and SCID_II were used as a diagnostic tool for diagnosis of BPD and comorbid disorders.

The patients' demographic information and patients' history were assessed using a pre-designed questionnaire. The information was recorded based on patient's age and gender, birth rank, number of siblings, patient level of education, patient job, place of birth, living place, duration of hospitalization, suicidal ideations/ attempts, substance use, type of substance used, and other high risk behaviors (high risk driving, high risk sexual relationships) as well as experiencing psychosis and its type in the current hospitalization and during the past three months. Moreover, in the past three months, verbal or physical aggression and its severity were reported as a visual analog scale. Spielberger's State-Trait Anger Expression Inventory and Depression Anxiety Stress Scale (DASS) were completed by the patients. Patients were followed up in person every three months for one year. The severity of borderline personality disorder was re-assessed using SCID-II borderline personality disorder scale. Moreover, the information on the presence or absence of suicidal ideations, type of self-harm and suicidal attempts, substance use, and other high-risk behaviors including high-risk driving and high-risk sexual relationships, presence or absence of psychosis and its type, severity of the patient's verbal and physical conflict, reported from 1 to 10 by a patient, over six months was recorded again.

Spielberger's State-Trait Anger Expression Inventory and DASS, axis- I comorbidities based on SCID-I as well as type of the treatment received over the

last three months, including pharmacotherapy and psychotherapy, the type of medication and the type of psychotherapy received, and the presence or absence of patients in the hospital or camp over the past six months, and the deaths of patients were examined and recorded again in the first and second follow up. If the patients did not come on the follow-up date, they would be contacted and invited three times. If they did not come again, their information was gathered by phone call.

Research tools

SCID-I

It is a semi-structured clinical interview designed to diagnose axis I disorders. This interview has been translated into the Persian language by Vandad Sharif *et al* on a study conducted by Amini *et al* on 299 patients, its specificity has been reported over 0.85 in most of diagnoses and its Kappa has been reported over 0.4 for all diagnoses, except for total anxiety disorder.

SCID-II

It is a semi-structured clinical interview developed by First *et al* in 1997. Twelve personality disorders are assessed in this interview. In a categorical assessment, if the clinical criteria are sufficient, the diagnoses will be considered. In dimensional assessment, the number of clinical criteria will be written. In the research conducted by Maffei *et al*, the inter-rater reliability was calculated between 0.48 and 0.98 in categorical diagnosis and it was calculated between 0.90 and 0.98 in dimensional diagnoses. Bakhtiari reported the suitable face and content validity of this interview and its test-retest reliability of 0.80 with one week interval (11,12).

Spielberger's State-Trait Anger Expression Inventory

This scale was developed by Spielberger and consists of ten items. Each item includes four options ranging from one to four. The person reads each item carefully and marks an option that is true on his or her mental state (anger) and higher score in this scale reflects more anger in the person. The sum of scores on this scale is considered more or less anger. In a pilot study conducted in Iran, this scale was implemented on a group of students in Iran and its results were calculated by Pearson

correlation coefficient and its reliability was reported 73%. There was a statistically significant correlation between the scores of each category with each other and the total score of the questionnaire ($r=0.737$, at the level of 0.01) (13).

Depression Anxiety Stress Scale (DASS) (1995)

This scale consists of 42 terms. Each subscale consists of 14 questions. Each item has four options, ranging from one (not true at all) to four (very true). The person reads each item carefully and marks an option indicating their mental state within the past week. The anxiety subscale of DASS has a correlation of 0.81 with the Beck Anxiety Inventory (ABI) and the depression subscale of DASS has a correlation of 0.74 with the Beck Depression Inventory (BDI) (14).

Data analysis method

Data were analyzed using SPSS 24 software. Data analysis was performed using repeated measures analysis to evaluate the changes in quantitative variables. Regression analysis was performed to evaluate the relationship between variables and covariate analysis was performed to eliminate the confounding variables and survival analysis was performed to examine the time of occurrence of variables (events).

Ethical considerations

There was no conflict of interest in this study and patient information was used confidentially and informed consent was taken from the patients. Patients entered the study voluntarily and were aware of the study conditions. This study is extracted from a psychiatry thesis and approved by the University Ethics Committee with IRB code of IR.IUMS.FMD. REC1396.9411286004.

Results

The mean age of patients was 27 years. Table 1 illustrates the patients' demographic information. The most common comorbid psychiatric disorder was major depression disorder with 72% prevalence rate. 23.5% of the patients had other mood disorders and 8% had obsessive-compulsive disorder (Table 2). Among the comorbid personality disorders, the most common personality disorder was narcissistic personality disorder with 41% prevalence rate (Table 1). At the

Table 1. Data obtained on the first visit

Data obtained on the first visit	
Age (year): mean (SD)	27(1.6)
Gender: female: n (%)	40(8.58)
Gender: male: n (%)	13.27(1.42)
Education level	n (%)
Under diploma	15(22)
Diploma	34(50)
Higher than diploma	19(9/27)
Job	n (%)
Employed	15(22)
Unemployed-housewife	51(75)
Student	2(9.2)
Birth ran	n (%)
First	31(6.45)
Second	12(6.17)
Third	14(6.20)
Higher	11(1.16)
History of medical diseases	n (%)
No medical disease	51(74)
Migraine	6(8.8)
Head injury	2(9.2)
Convulsion	5(4.7)
Anemia	2(9.2)
Recent psychosocial stressors	n (%)
Loss of an emotional relationship	16(5.23)
Lack of therapeutic cooperation	4(9.5)
Job problems	4(9.5)
Mourning	3(4.4)
Divorce	3(4.4)
Domestic violence	6(8.8)
Global assessment of functioning	n (%)
21-30	14(6.20)
31-40	35(6.56)
41-50	3(4.4)
51-60	16(5.23)
Comorbid narcissistic personality disorder	27(17.41)
Comorbid histrionic personality disorder	7(29.10)
Comorbid antisocial personality disorder	16(53.23)
Comorbid dependent personality disorder	2(9.2)
Comorbid schizoid personality disorder	2(9.2)

hospitalization time, 13% of patients had self-harm ideations and 23% of patients attempted self-harm. During hospitalization, 32% of patients had suicidal ideation and 23% of patients attempted suicide. The mostly abused substance at initial hospitalization was marijuana in 23.5% of the patients. High risk sexual behavior was observed in 26.5% of patients (Table 2). In the first 6-month follow-up, the comorbidity of mood disorder decreased and only 5.8% of patients had major depression disorder (versus 72% at baseline). Drug use also decreased so that marijuana abuse rate was 14.7%. Additionally, 8.8% had self-harm ideations, 11.8% attempted self-harm, and 22.1% had suicidal ideations and 5.9% attempted suicide, all of which decreased compared to baseline. Considering other high-risk behaviors, 8.8% had still high-risk sexual behaviors (Table 2). In addition, 22.1% of patients received pharmacotherapy alone, 2.9% received psychotherapy alone and 13.2% of patients received both pharmacotherapy and psychotherapy treatments. With regard to pharmacotherapy, 26.4% received mood stabilizer, 32.3% received antipsychotic and 25% received antidepressant (Table 2). During the second 6-month follow up, 13.2% of patients had major depression disorder. Marijuana was used by 4.4% of cases. Moreover, 4.4% had self-harm ideation and 8.8% attempted self-harm, 10.3% had suicidal ideation and 5.9% attempted suicide. In addition, 5.9% had high risk sexual behaviors. Considering psychosis experience, 1.5% of patients had auditory hallucination (versus 5.9% at baseline). Moreover, 4.4% were hospitalized at the second follow up and 19.1% received only pharmacotherapy and 10.3% received both pharmacotherapy and psychotherapy treatments (Table 2). The mean severity score of borderline personality

disorder was 36.63 in the initial hospitalization, 30.71 in the first 6-month follow up and 29.63 in the second 6-month follow up. The mean severity of patient-reported aggression was 5.29 in the first visit (baseline), 4.36 in the first 6-month follow up, and 3.57 in the second 6-month follow up. The mean score of anxiety and depression questionnaire was 71.38 in the first visit, 59.78 in the first 6-month follow up and 57.73 in the second 6-month follow up (Table 2). In the analysis of factors related to suicidal ideation/behavior in the studied patients using Cox regression during 12-month follow up, factors of age, gender, marital status, job (employed/unemployed), and score of severity of symptoms in SCID, DASS, and Spielberger did not show a statistically significant association with the time of re-emergence of suicide symptoms (behavior/ideations). The analysis of changes in quantitative variables including score of severity of symptoms in SCID, DASS, and Spielberger using repeated measures analysis showed that the changes in SCID score showed a significant decrease during the study ($p < 0.001$). DASS score also showed a statistically significant reduction during the study ($p = 0.03$). Changes in the score of Spielberger index were also significant ($p = 0.032$) (Figure 1). Considering the factors such as age, gender, job (Unemployed/employed), marital status, suicide attempt/ideations and psychotic symptoms at baseline, only “psychotic symptoms” showed a significant relationship with changes in the severity of scores of SCID ($p = 0.002$), DASS ($p = 0.033$), and Spielberger ($p = 0.019$). Other variables did not show statistically significant relationship. Hence, it is stated that patients who did not have psychotic symptoms at baseline had better disease prognosis in terms of severity, reduced anger, and reduced anxiety and depression.

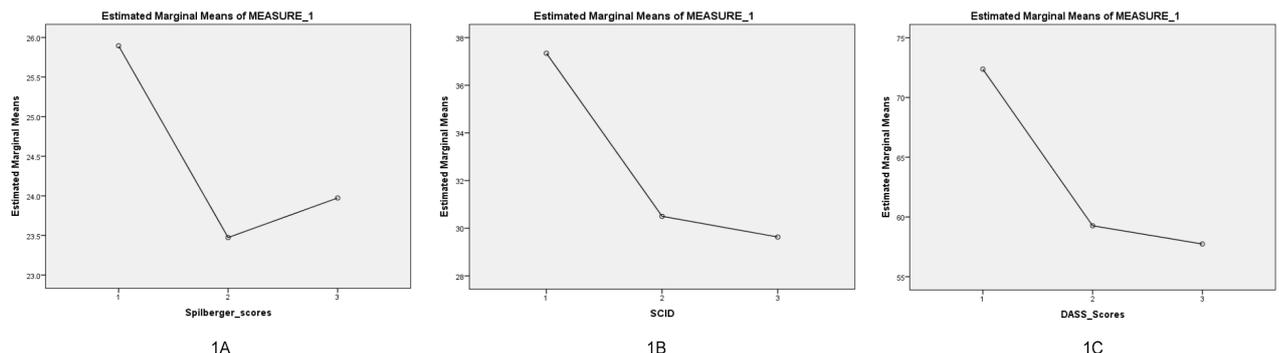


Figure 1. Changes in Spielberger (anger) score, SCID (symptom severity) scores and DASS (depressive, anxiety and stress) scores in first, second and third visits.

Table 2. Comparison of disorders and symptoms of patients at first-time visit ,first follow up (Six months after study) and second follow up (one year after study)

Disorder/ drug/ substance n (%)	First visit N (%)	First follow up N (%)	Second follow up N (%)
Major depression disorder	47(11.69)	4(8.5)	9(2.13)
Type II bipolar disorder	5(35.7)	3(4.4)	2(9.2)
Type I bipolar disorder	3(4.4)	2(9.2)	2(9.2)
Drug dependence	3(4.4)	1(5.1)	0(0.0)
Drug or substance abuse	2(9.2)	0(0.0)	0(0.0)
Obsessive-compulsive disorder	6(8)	2(9.2)	2(9.2)
Dysthymia	8(7.11)	4(8.5)	1(5.1)
Conduct disorder	4(4.4)	0(0.0)	0(0.0)
Attention deficit hyperactivity disorder	4(8.5)	1(5.1)	1(5.1)
Substance induced mood disorder	4(8.5)	1(5.1)	0(0.0)
Cyclothymic disorder	4(8.5)	0(0.0)	0(0.0)
Panic disorder	12(64.17)	3(4.4)	0(0.0)
Tetrahydrocannabinol use	16(5.23)	(7.14)	3(4.4)
Opioid use	13(19)	3(4.4)	3(4.4)
Methamphetamine use	12(6.17)	5(3.7)	2(9.2)
Tramadol use	6(8)	3(4)	0(0.0)
Benzodiazepine use	6(8)	1(5.1)	0(0.0)
Methadone use	3(4)	4(8.5)	1(5.1)
Antidepressant use		17(25)	6(8.8)
Antipsychotic use		22(35.32)	14(58.20)
Mood stabilizer use		18(47.26)	13(1.19)
Benzodiazepine use		3(4.4)	2(9.2)
Recent three-month self-harm / n (%)			
Ideation	36(60)	34(50)	32(47)
Attempt	27(7.39)	8(8.11)	6(8.8)
Recent suicide/ n (%)			
Ideation	48(6.76)	38(9.55)	34(50)
Attempt	20(4.29)	4(9.5)	4(9.5)
Type of self-harm			
Cut of body	28(2.41)	7(3.10)	5(4.7)
Other harms	4(9.5)	0(0.0)	0(0.0)
Type of suicide attempt			
Taking drug	27(7.39)	4(9.5)	3(4.4)
Hanging	6(8.8)	0(0.0)	0(0.0)
Other ways	3(4.4)	0(0.0)	1(5.1)
Other risky behaviors			
Driving	12(6.17)	3(4.4)	1(5.1)
Sexual	18(5.26)	6(8.8)	4(9.5)
Both	13(1.19)	2(9.2)	0(0.0)
Nicotine use / n (%)	52(5.76)	41(3.60)	37(4.54)
Psychosis / n (%)			
Auditory hallucinations	4(9.5)	1(5.1)	1(5.1)
Visual hallucinations	7(3.10)	3(4.4)	0(0.0)
Severity of the disorder in the SCID / Mean (SD)	6.36(5.0)	7.30(89.0)	63.29(05.1)
Depression Anxiety Scale/ mean (SD)	38.71(33.3)	78.59(33.4)	73.57(58.4)
Spielberger inventory/mean (SD)	32.25(89.0)	61.23(85.0)	97.23(30.1)

Survival analysis using Kaplan-Meier method showed that the mean±SE of self-harm time in patients was 7.1±0.8 months. Using this method, the mean±SE of self-harm rate at the end of 12 months (considering censored cases and the cases excluded from follow up) was estimated 50.3±7.5%. It was also revealed that the mean±SE of suicide attempt time in patients was 8.3±0.7 months. Using this method, the mean±SE of suicide attempt rate at the end of 12 months (considering censored cases and the cases excluded from follow-up) was estimated 61.7±6.8%. Using this analysis, it was revealed that the mean±SE of re-suicidal ideations and attempt time in patients was 9.2±0.48 months. Using this method, the mean±SE of re-suicidal ideations and attempt rate at the end of 12 months (considering censored cases and the cases excluded from follow-up)

was estimated 46.3±7.8%. The mean±SE time of re-suicidal ideations and behavior in subjects without these symptoms at baseline, in subjects with suicidal ideations at baseline and in subjects who attempted suicide at baseline were 10±0.7, 8.1±0.8, and 9.3±1.1 months, respectively (Log rank p-value =0.081), which did not show a statistically significant difference (Figure 2).

The mean±SE time of incidence of psychotic symptoms in patients was 10±0.6 months. Using this method, the incidence of psychotic symptoms (considering censored cases and the cases excluded from follow-up) at the end of 12 months was 75.6±6.5. In examining the effect of type of treatment on the trend of reduction in SCID score by mixed model analysis, p-value of 0.755 indicates that the type of

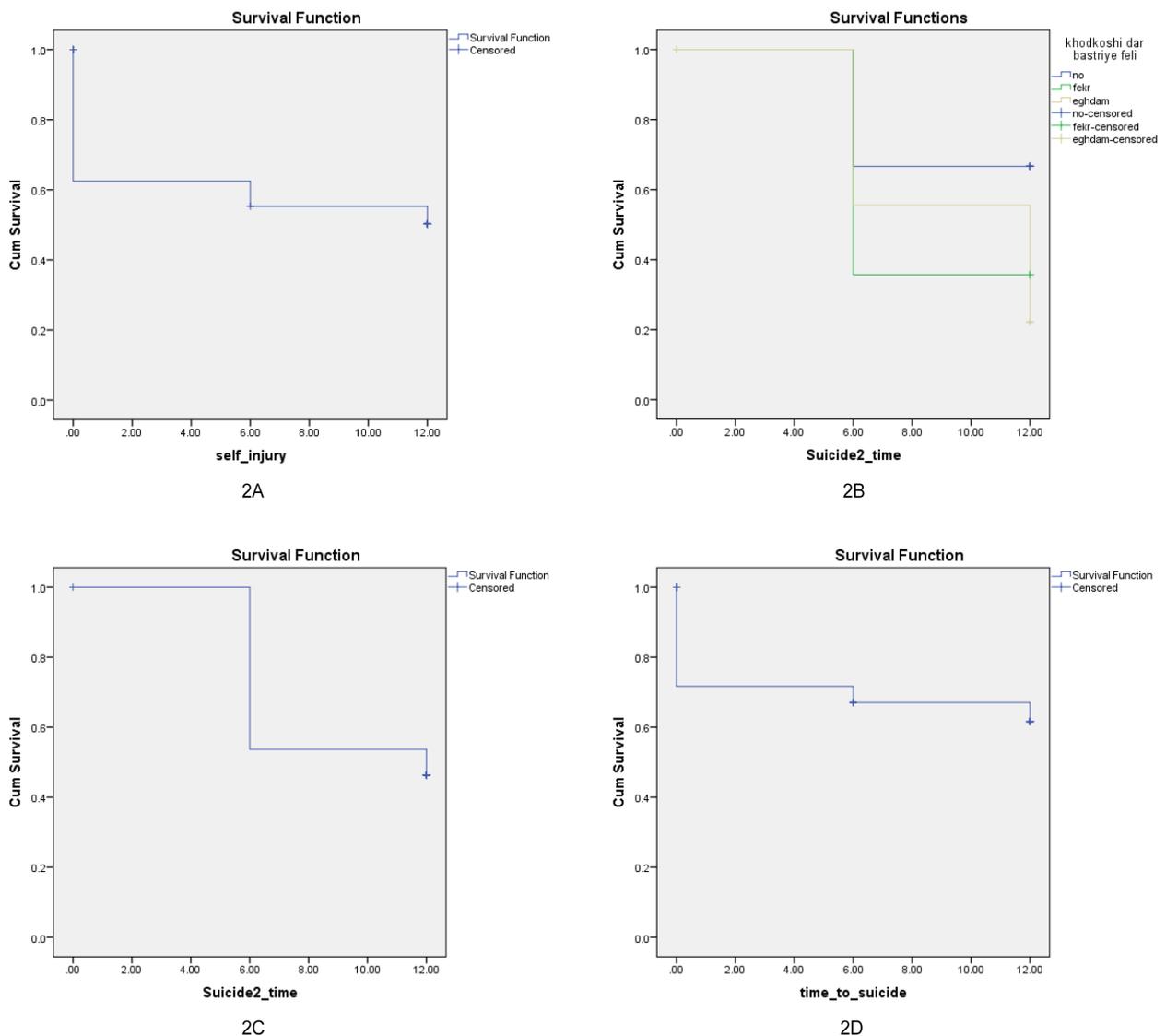


Figure 2. Survival analysis using Kaplan-Meier method.

treatment did not affect the trend of reduction in SCID score.

Discussion

The present study was conducted in one hospital center; 58% of our patients were female, while in the study conducted by Zonarini *et al*, 77% of the patients were female. The rate of hospitalization of females is thought to be lower than that of males for various reasons, such as hospitalization stigma (6).

In this study, the most common axis I comorbidity was major depression disorder, that its percentage decreased from 69% to 13% over a period of twelve months. In the study conducted by Zonarini *et al*, the comorbidity rate of axis I decreased over time, but mood and anxiety disorders were still among the highest comorbidities (64% and 74%, respectively) (6). The comorbidity of axis I disorders also decreased over the twelve months with a significant reduction in SCID severity in this study. Other studies have also indicated that improvement in personality disorder is associated with a lower rate of axis I disorders (6).

In the study conducted by Paris and Zweig-Frank, significant improvement in borderline personality disorder was seen over the last 15 years (15). In the study carried out by Zonarini *et al*, 40% improvement was seen in borderline patients during the first two years (8). Other studies have shown that impulsivity symptoms, including suicide and self-harm, decreased from 81 to 25% over a 6-year period. In this study, the rate of suicide and self-harm decreased from 60 to 47% and from 70 to 50%, respectively.

In this study, the rate of suicide decreased from 60 to 47% and the rate of self-harm decreased from 70 to 50% during a 12-month period. Other high-risk behaviors also decreased from 17 to 1.5% (6). In our study, the scores of DASS and Spielberger decreased significantly over a 12-month period. In this study, the comorbidity of substance use was also investigated. It was found that cannabis was the most common substance after cigarette and its prevalence rate decreased from 23 to 4% over a 12-month period.

Improvement or non-improvement of the patients' function is one of the most important issues in the treatment of borderline personality disorder. It has been reported that job and social activity of the majority of patients were not improved significantly even with the

improvement of the symptoms. In this study, patients' function was not investigated specifically, but this issue was reported indirectly by examining the employment status of the patients.

However, patients' function includes a wide range of behaviors and activities that require further studies. In our study, the rate of employed or unemployed patients did not change over a twelve-month period (22%) (6). In the study conducted by Senol *et al* in Turkey, 75 patients were followed up for 2 to 4 years and 2 of these patients had a successful suicide. In our study, two people died over one year, but the cause of their death was not known (16). In the study conducted by Zonarini *et al*, time to remission was investigated (8). Remission in this study is defined when patients no longer met the borderline personality disorder criteria based on DSM. It was shown that demographic factors and treatment history, childhood traumatic experiences, childhood protective experiences, and family history of psychiatric illnesses and axis I and axis II comorbidities, and psychosocial functioning had a significant relationship with time to remission, meaning that all of them predicted the time to remission. In investigating the factors related to suicidal ideations/behaviors in patients in a 12-month follow-up, none of the factors, including age, gender, marital status, job, severity of borderline personality disorder, severity of anger and anxiety, stress and depression at baseline showed significant relationship with time of re-emergence of suicide symptoms (ideations/behavior). Only psychotic symptoms were significantly associated with changes in severity of borderline personality disorder and DASS and Spielberger scores. This issue has not been investigated and reported in other studies. Moreover, in this study, factors such as age, gender, job, marriage, suicidal ideations and attempt at baseline were not significantly correlated with changes in severity of disorder.

The question to be asked here is which factors were involved in reducing the severity of borderline personality disorder in this study over the period of one year. In this regard, potential impact of frequent calls and follow-ups and the therapeutic relationship established during the follow-up can be typical factors. Other studies have referred to the impact of psychotherapy on reducing the severity of the disorder over time, while in this study, only 10% of patients received

psychotherapy and 29% received pharmacotherapy over a 12-month period in the present study. One of the limitations of this was the duration of follow up which was a short period. It is suggested to increase the number of the patients in future studies.

Conclusion

The main result of this study is a reduction in the

severity of symptoms of borderline personality disorder during one year of follow up which seems to be an effective factor and cannot be justified by psychotherapy or other interventions. The study also revealed that patients who did not have psychotic symptoms at baseline had better prognosis in terms of severity of symptoms, decreased anger, and decreased anxiety and depression.

References

1. Brune M, Borderline personality disorder: why fast & furious? *Evol Med Public Health* 2016;(1):52-66.
2. Bradley R, Conklin CZ., Westen D. Borderline personality disorder. In: O'Donohue W, Fowler K, Lilienfeld S, (Eds.). *Personality disorders: Toward the DSM-V*. Thousand Oaks, CA: Sage; 2007. P.167-201.
3. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th Edition. USA: American Psychiatric Publishing. 2013. P.991.
4. Gunderson JG, Links P. *Borderline Personality Disorder: A clinical guide*. 2nd ed. Washington DC: American Psychiatric Press, Inc: 2008.P.416.
5. Sansone RA, Sanson LA, Borderline personality and criminality. *Psychiatry (Edgmont)* 2009;6(10):16-20.
6. Keuroghlian AS, Zanarini MC. Lessons learned from longitudinal studies of personality disorders, *Personality disorders: Toward theoretical and empirical integration in diagnosis and assessment*. American Psychological Association 2015:145-61.
7. Zanarini MC, Frankenburg FR, Reich DB, Silk KR, Hudson JI, McSweeney LB. The subsyndromal phenomenology of borderline personality Disorder: A 10-year follow-up study. *Am J Psychiatry* 2007;164(6):929-35.
8. Zanarini MC, Frankenburg FR, Hennen J, Reich DB, Silk KR. Axis I Comorbidity in patients with borderline personality disorder: 6-year follow-up and prediction of time to remission. *Am J Psychiatry* 2004;161: 2108-14.
9. Berk MS, Grosjean B, Warnick HD. Beyond threats: Risk factors for suicide in borderline personality disorder. *Current Psychiatry* 2009;8(5):33-41.
10. Semnani Y, Seghatol Eslam T, Shahpouri H. Self-harm and obsessive-compulsive behaviors in patients with borderline personality disorder. *Scientific J Forensic Medicine IR of Iran* 2006;1:25-9.
11. Maffei C, Fossati A, Agostoni I, Barraco A, Bagnato M, Deborah D, et al. Interrater reliability and internal consistency of the structured clinical interview for DSM-IV Axis II personality disorders (SCID-II). *J Pers Disord* 1997;11(3):279-84.
12. Bakhtiari M. Study of mental disorder in patients with abdominal disorder. Master thesis in clinical psychology. Tehran psychiatric institute; 2018.
13. Asgharnejad A, Boalhari J, Shah Mohammadi D, Layeghi H. Reliability assessment with test-retest and standardization of mental health tests, anger and social support; 2001.
14. Sadeghi Kheirollah. The effectiveness of cognitive-behavioral therapy in the treatment of obesity. Clinical PhD-Tehran Psychiatric Institute; 2008.
15. Paris J, Zweig-Frank H. A 27 year follow up of patients with borderline personality disorder. *Compr Psychiatry* 2001;42(6):482-7.
16. Senol S, Dereboy C, Yuksel N. Borderline disorder in turkey: a 2-to 4-year follow-up. *Soc Psychiatry Psychiatr Epidemiol*1997;32(2):109-12.