A Comparison of Emotional Schemas in Patients with Bipolar Disorders and Major Depressive Disorder in Remission and Nonclinical Population

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ABSTRACT

Objective: Similarities and differences among mood disorders can help psychiatrics in their exact diagnosis and more effective treatments. Therefore, the current research sought to identify differences between patients with bipolar disorder, major depressive disorder, and nonclinical group in emotional schemas.

Methods: The present research was a cross-sectional study. The research sample consisted of 102 subjects (34 bipolar disorders, 34 with major depressive disorder, and 34 nonclinical) that selected by convenience sampling. They were matched for sex, age, and educational level. Subjects were diagnosed by Structured Clinical Interview for DSM disorders (SCID) and their mood was rated by Young mania rating scale (YMRS) and Beck depression inventory (BDI). General health questionnaire (GHQ) was also used for nonclinical population. Then, all three groups were asked to fill out the Leahy emotional schemas (LESS). Data were analyzed by ANOVA.

Results: The scores on LESS in patients with bipolar and major depressive disorders were significantly different from the nonclinical groups. But there was not difference between them. Compared to two clinical groups, the healthy group reported greater scores in adaptive emotional schemas such as validation $F(2,98)=21.03$, $p<0.0001$, values $F(2,97)=9.34$, $p<0.0001$, acceptance $F(2,93)=15.14$, $p<0.0001$, and expression $F(2,99)=8.19$, $p<0.001$. But there were not significant difference in maladaptive emotional schemas except blame schema $F(2,97)=17.24$, $p<0.0001$. In fact, this schema was higher in patient with major depression disorder than the other two groups.

Conclusion: Since there was no significant difference between clinical groups, these schemes are likely to be common elements between the clinical groups, so it seems that it is in line with transdiagnostic approach, However, further studies are required to illuminate specific and shared factors among bipolar disorder and major depressive disorder.

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1. Introduction

Mood disorders are common psychiatric disorders. The prevalence of bipolar I disorder and major depressive disorder are 0.6% and 7%, respectively (American Psychiatric Association, 2013). DSM-IV criteria assume the same phenomenology for major depression and bipolar depression. About 40% of a group of patients with bipolar disorder had previously misdiagnosed as major depression (Batmaz, Kaymak, Soygur, Ozalp, & Turkcapar, 2013). Considering cognitive theories, we can find many similarities among different types of mood disorders (Alloy, Abramson, Walshaw, & Neeren, 2006; Jones et al., 2005). Generally these similarities include increased rumination, implicit pessimistic attributional style, low self-esteem, and dysfunctional attitudes towards the self (Batmaz, Kaymak, Kocbiyik, & Turkcapar, 2014).

Among these cognitive factors, one of the less of the less discussed among these cognitive factors is schema. Schemas play a key role in development and maintenance of different psychiatric problems, including depression and personality disorders (Padesky, 1994). They are determined as the basis of contents (Conover & Feldman, 1984). For example, cognitive schemas focus on cognitive, interpersonal schema on relation, and emotional schemas on emotion. In fact, emotional schemas are series of interpretations and strategies utilized in dealing with emotions (Leahy, 2002). Leahy emotional schemas model was based on 2 metacognitive and metaemotion model (Leahy, 2002). According to his theory, everyone may experience negative emotions like anxiety sadness and anger, but few individuals are prone to more intense and severe emotions like anxiety and affective disorders, Cognitive schema that people may have about emotion prone them to the development of these emotions (Leahy, 2002).

These schema may be normal or pathologic and maladaptive ones are associated with higher level of anxiety, depression, repetitive automatic thoughts and could be detected in patients personality disorders and also in other psychological disorders (Leahy & Tirch, 2011). Leahy suggests 14 dimensions for emotional schemas: validation, comprehensibility, simplistic view of emotion, higher values, consensus, guilt, uncontrollability, numbness, demand for rationality, duration, acceptance, mental rumination, expression, and blaming others. For each person, one of these emotional schemas may be activated in the similar situations (Gottman, Katz, & Hooven, 1996).

There are few studies in the field of emotional schemas. Most of them were done on anxiety disorder and substance abuse and the like (Leahy, 2007; Hasani, Naderi, Ramazanzadeh, & Pourabbass, 2014; Hasani, Tajodini, Ghaedniyaie-Jahromi, & Farmani-Shahreza, 2014; Moosavi Nomandan, Hasani, & Hatami, 2014). However, only one research has focused solely on the differences between major depression disorder and bipolar disorder in emotional schemas.

According to this study, scores adaptive emotional schemas for healthy group were significantly higher than mood disorders. Also the scores bipolar patients were statistically higher on this subscales compared to the unipolar depressed ones. Thus these patients evaluate emotional states differently. Furthermore in other dimensions like comprehensibility, consensus, and expression were not found any difference between the mood disordered patients and the healthy group (Batmaz et al., 2014).

The participants of the Batmaz et al. (2014) study were patients with active and symptomatic mood disorders, therefore their schema measures might be influenced by patients' affective states. In fact, because the schemes are durable and have sustainable pattern, they will not change in remission phase of mood disorders (Young, 1994). As a result, evaluation of schemas could be more accurate when they are assessed in the remission phase. For this reason and because of the paucity of evidence in this area, we decided to design the current study. The main objective of the study was to compare emotional schemas among remitted patients with bipolar disorders or major depressive disorder and nonclinical population.

2. Methods

The study population included patients with bipolar disorder and major depression disorder and non-clinical group living in the city of Tehran. sample consisted of 102 persons in 3 groups (bipolar disorder, major depression disorder, and nonclinical group, 34 in each group). They were 53 females and 49 males with the mean age of 34.52(SD=10.53) year.

Both clinical groups were all outpatients admitted to Roozbeh Hospital from June to November 2014. Nonclinical group were recruited from different regions of Tehran by convenience sampling method. After completing of the questionnaires, out of 50 people, a total of 34 people were selected as nonclinical group. Patients' diagnoses were confirmed using the Structured Clinical Interview for DSM-IV (SCID-5) administered by trained researchers. Nonclinical group screened by GHQ-28 (with cut-off point of 23). Then, all 3 groups completed self-report questionnaires that included PANASS and LESS (Leahy emotional schemas).

Inclusion criteria were as follows: having Young mania rating scale YMSR<11 for patients with bipolar disorder, Beck depression inventory BDI<19 for both clinical groups and general health questionnaire GHQ<23 for nonclinical group. Exclusion criteria for all groups were having psychotic disorder, substance abuse (except for cigarette), and getting less than 8 in literacy class. Also, all groups first filled out a consent form approved by the Tehran University of Medical Science, before participating in the research. They were told that they could ask any question about the research and were assured about their confidentiality. Furthermore, they were told that their participation is mandate.

SCID-I is a semi-structured clinical interview to assess axis-I disorders (First, Spitzer, Gibbon, & Williams, 1998). Its Iranian version has good reliability (k=0.52 for current diagnosis and 0.55 for lifetime diagnosis) (Sharifi et al., 2009).

YMRS is a tool for rating the severity of manic symptoms. Score less than 11 is considered manic or hypomanic symptomatology free. Therefore, scores above the cut-off point are excluded (Karadağ, Oral, Yalcin, & Erten, 2001). Its Cronbach α coefficient was 0.81. The Pearson correlation and interclass correlation tests were 0.83 and 0.89, respectively (Shabani, Akbari, & Dadashi, 2010).

BDI-II is a 21-item inventory that assesses the intensity of depressive symptoms. Its internal consistency and test–retest reliability are strong and calculated as α=0.91 and r=0.93, respectively (Beck, Steer, & Brown, 1996). The Persian version has coefficient α of 0.91, and test-retest of 0.81 have been reported over a week (Mohammadkhani, Dobson, Amiri, & Hosseini Ghafari, 2010).

GHQ-28 comprises 4 subscales: somatic symptoms, anxiety, insomnia, and impaired interpersonal relationships. Each subscale has 7 items. Each item is assessed on a 5-point Likert-type scale ranging from 0 to 3 (Goldberg & Hillier, 1979). Its test-retest is 0.74 (Gibbons, de Arévalo, & Mónico, 2004). Psychometric properties of its Persian version demonstrated criterion validity and α coefficient of 0.78 and 0.97, respectively (Ebrahimi, Molavi, Mousavi, Bornamanesh, & Yaghoubi, 2007).

LESS is a 50-item self-report instrument that developed in conjunction with the model of emotional schemas. These items are answered from totally agree to totally disagree using a 5-point Likert-type scale. Validity of the emotional schema scale was inspected by Leahy using correlation analysis of items with each other and correlation of each of its subscales with Millon clinical multi-axial inventory (MCM-III), Beck anxiety inventory (BAI), and Beck depression inventory (BDI) on 53 psychiatric patients. Results of this study demonstrated that a majority of 14-fold of scales is significantly correlated with anxiety and depression. Correlation between dimensions implied an acceptable validity for this scale (Leahy, 2002). The reliability of the Persian scale in 2 weeks for a total scale is reported 0.78 and for subscales varied from 0.56 to 0.71 (Khanzadeh, Edrisi, Mohamadkhani, & Saeedian, 2012).

Demographic group differences were assessed using Analysis of variance (ANOVA) was employed to investigate group difference with regard to LESS To determine differences between groups post hoc (scheffe and Dunnette T3) was used.

3. Results

A total of 102 participants were eligible to participate in the study. There were no significant differences among 3 groups with regard to their age, gender, and education (Table 1).

Table 2 presents 14 dimensions of emotional schemas in different study groups. As shown in Table 2, there were significant differences among 3 groups with regard to validation, higher values, acceptance, expression, and blame schemas. In addition, scores for nonclinical population in dimensions of validation, higher values, acceptance, and expression were higher than mood disorder groups, but there was no significant difference between bipolar and major depressive disorder patients with regard to all these dimensions. Furthermore, there was not any significant difference between mood disorders groups with regard to blame schema, but this dimension was different between depressive disorder patients and nonclinical subjects. No significant differences were observed among 3 groups with regard to the dimensions of guilt, simplistic, control, numbness, rationality, consensus, duration, and rumination. Results of pairwise comparison have shown in Table 3.

4. Discussion

The aim of the present study was to compare emotional schemas in participants with MDD, bipolar disorder, and nonclinical population. Findings demonstrated that validation schema score in nonclinical population was greater than two other groups. As Leahy states, validation or unconditional positive regard is a fundamental element of emotions (Kring & Sloan, 2009). Bohart and Greenberg also underline empathy which is related to this construct (Bohart & Greenberg, 1997). Bowlby underscores the importance of attachment system in assimilating and integrity of emotion (Bowlby, 2005). Safran mentions the therapeu-

Table 1. Demographic characteristics of the participants.

Characteristics		Bipolar	Major depression	Nonclinical	Significance level
Gender	Female	17(50%)	18(52.94%)	18(52.94%)	0.961
	Male	17(50%)	16(47.05%)	16(47.05%)	
Marital status	Single	16(47.05%)	8(23.52%)	13(38.23%)	0.992
	Married	18(52.94%)	26(76.47%)	21(61.76%)	
Education	Under 12 grade	6(17.64%)	6(17.64%)	5(14.70%)	0.125
	Diploma	13(38.23%)	14(41.17%)	13(38.23%)	
	BS	13(38.23%)	12(35.28%)	12(35.29%)	
	MS and upper	2(5.88%)	2(2.58%)	4(11.76%)	

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Table 2. Mean, standard deviation, and significant level of all variables.

Variables	Bipolar	Major depression	Nonclinical	F	Significance level
	Mean(SD)	Mean(SD)	Mean(SD)		
Positive affect	25.97(8.86)	22.70(7.49)	32.60(6.15)	14.71	0.001**
Negative	26.11(10.64)	25.26(7.59)	22.85(7.79)	1.26	0.288
Validation	10.70(3.02)	10.17(2.49)	8.79(2.36)	21.03	0.001**
Comprehensibility	13.02(4.92)	12.32(4.70)	8.41(3.90)	7.05	0.001**
Guilt	13.02(4.92)	13.23(3.80)	11.26(4.69)	1.67	0.194
Simplistic	18.32(3.99)	18.08(4.54)	18.32(3.68)	0.56	0.571
Higher values	12.67(2.65)	10.55(3.08)	12.73(2.87)	9.34	0.001**
Uncontrollability	9.76(4.97)	10.29(3.86)	8.85(3.63)	1.16	0.318
Numbness	4.79(2.86)	5.73(3)	4.08(2.83)	2.44	0.092
Rationality	14.08(3.26)	14.55(2.54)	13.70(3.46)	0.69	0.5*
Duration	7.55(2.94)	7(2.69)	6.97(2.74)	0.49	0.611
Consensus	13.44(3.84)	13.91(2.7)	12.23(3.48)	1.35	0.264
Acceptance	27.29(5.28)	25.52(5.31)	23(4.69)	15.14	0.001**
Rumination	19.38(3.91)	19.85(4.01)	19.35(3.93)	0.82	0.442
Expression	7.52(2.41)	6.29(2.35)	8.55(2.28)	8.19	0.001**
Blame	7.44(3.29)	9.05(2.17)	5.29(2.06)	17.24	0.001**

*P<0.05. **P<0.001.

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Table 3. Multiple comparisons of subscales among BMD, MDD, and non-clinical groups.

Variable	Group I	Group J	Mean difference(I-J)	Std. Error	Sig.
Validation	BMD	MDD	-0.24	0.72	0.944
	BMD	NC	-4.14	0.71	0.0001*
	MDD	NC	-3.90	0.72	0.0001*

Variable	Group I	Group J	Mean difference(I-J)	Std. Error	Sig.
Comprehensibility	BMD	MDD	0.61	1.14	0.864
	BMD	NC	-3.40	1.15	0.015
	MDD	NC	-4.02	1.15	0.003
Guilt	BMD	MDD	-0.36	1.08	0.94
	BMD	NC	1.51	1.08	0.380
	MDD	NC	1.87	1.09	0.232
Simplistic	BMD	MDD	-0.87	0.93	0.647
	BMD	NC	-0.009	0.91	1
	MDD	NC	0.86	0.94	0.65
Values	BMD	MDD	1.43	0.70	0.131
	BMD	NC	-1.56	0.70	0.091
	MDD	NC	-3	0.69	0.0001*
Control	BMD	MDD	-0.07	1.12	1
	BMD	NC	-1.39	1.10	0.506
	MDD	NC	-1.32	0.915	0.389
Numbness	BMD	MDD	-0.94	0.70	0.412
	BMD	NC	0.61	0.70	0.69
	MDD	NC	1.55	0.70	0.096
rationality	BMD	MDD	0.57	0.75	0.74
	BMD	NC	0.30	0.75	0.92
	MDD	NC	0.87	0.75	0.51
Duration	BMD	MDD	-0.45	0.55	0.72
	BMD	NC	0.04	0.55	0.996
	MDD	NC	-0.5	0.55	0.66
Consensus	BMD	MDD	1.08	1.10	0.617
	BMD	NC	-0.72	1.10	0.804
	MDD	NC	-1.81	1.11	0.26
Acceptance	BMD	MDD	-1.75	1.30	0.412
	BMD	NC	-6.78	1.27	0.0001*
	MDD	NC	-5.03	1.30	0.001*
Rumination	BMD	MDD	-1.11	1.03	0.626
	BMD	NC	-27.34	29.99	0.742
	MDD	NC	-26.22	29.99	0.765
Expression	BMD	MDD	0.73	0.57	0.439
	BMD	NC	-1.52	0.57	0.031
	MDD	NC	-2.26	0.57	0.001*
Blame	BMD	MDD	-1.61	0.67	0.059
	BMD	NC	2.12	0.67	0.008
	MDD	NC	3.74	0.52	0.0001*

Abbreviations: BMD=Bipolar mood Disorder, MDD=Major depression disorder, NC=Non-clinical population.

*P<0.001.

tic alliance and healing ruptures (Safran, 2003), and finally Linehan emphasizes that invalidating environment is a key factor in the emotion dysregulation that is a predisposing transdiagnostic factor in many emotional, including mood disorders (Leahy & Tirch, 2011).

Accordingly, validation may be a transtheoretical and transdiagnostic process that can be related to a variety of disorders (Kring & Sloan, 2009). In addition, validation schema, higher values, acceptance, control, and expression schemas scores in nonclinical group were higher than bipolar disorder and major depressive disorder. This finding is in line with emotion-focused model, which suggests that the ability to expression and validation of emotions facilitates acceptance and self-understanding (Leahy, 2002). Emphasis on higher values may have indirect effect on depression and anxiety insofar as it moderates guilt and rumination. As expected, nonclinical group scored significantly higher on adaptive emotional schemas subscale compared to the mood disordered groups. But, maladaptive schemas such as guilt, rationality, simplistic, numbness, consensus, and rumination (except blame) did not show significant differences among 3 groups; however, blame schema was higher in major depressive disorder. That is consistent with Leahy emotional schema model (Leahy, 2002).

In addition, Betmaz and associates showed that blame schema in mood disorders was higher than HC (Batmaz et al., 2014). According to this schema, a person with this schema always blames others for his or her emotions. According to emotionally-focused therapy, blaming others cannot be a useful antidote to depression or anxiety in contrast to catharsis model (Leahy, 2002). Leahy (2002) found that blame, lack of higher values, and lack of validation schemas can predict psychological inflexibility, so inflexible or rigid persons blame others more (Silberstein, Tirch, Leahy, & McGinn, 2012).

The findings of our study suggest that apart from blame schema, no difference was found between patients with mood disorders. This finding is contrary to the results of Betmaz. Betmaz and colleagues reported that guilt, duration, blame, validation, and acceptance schemas in depressed patients can distinguish them from patients with bipolar disorder (Batmaz et al., 2014). The larger sample size in betmaz study and cultural differences between the samples of this studies may explain the difference in results.

However, emotional schemas are a relatively new concept and need further study. Besides, the present study indicates that almost all emotional schemas can have significant role in emotional disorders and as there were no significant differences between present clinical and nonclinical population, it may have some clinical and diagnostic consideration for transdiagnostic approach. The current psychiatric classification systems split mood disorders to bipolar and major depressive disorder.

The opposite view is continuity/spectrum concept following Krapelin's "manic-depressive illness". This spectrum view is based on the studies by Akiskal, Angst, Cassano, Dunner and Ghaemi. Driven by this concept, there has been growing evidence in the field that a new approach is needed in the way we classify, formulate, treat, and prevent mood disorders. The move away from the single-diagnosis approach towards a transdiagnostic conceptualisation and treatment of mood disorders introduces an important paradigm shift.

The transdiagnostic approach focuses on recognition of shared core maladaptive temperamental, psychological, cognitive and emotional processes that underlying a wide range of mental health problems and targeting these factors in treatment. Similarity of emotional schemas between major depressive and bipolar disorder in the current study is consistent with this transdiagnostic approach. Consequently the clinical implication of findings in the current study is that maladaptive emotional schemas could be considered as a common target for treatment in different kinds of mood disorders.

The results of the present study should be interpreted with respect to several limitations. First, sample size was small and and the study was hospital based. We recommend that the present study be replicated with a larger sample. Second, Second, type and duration of treatments were not evaluated. Another limitation was the complexity of the questions. To investigate people beliefs about emotion, using a simpler questionnaire is recommended. Finally, cultural and personality factors were not taken into account. Because people with personality disorders mismanage their emotions, studying disorders comorbid with axis II is suggested, too.

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