

The Comparison of Borderline Traits among Schizophrenic patients, theirs First Degree Relatives and Normal People

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Abstract

Introduction: Borderline personality disorder is considered as a psychotic borderline condition similar to Schizophrenia at a lower level. There is more evidence that genetic liability to schizophrenia is present among non-psychotic relatives of schizophrenic patients. The aim of the present research was to investigate the borderline traits among schizophrenic patients, their first degree relatives and normal people groups.

Method: The current study was conducted in a cross-sectional context. The study population included all the patients and their first degree relatives who had referred to the Razi psychiatric hospital in Tabriz city. Among this population, 80 were selected by convenience sampling. The sample was divided into two groups, 34 with schizophrenia diagnosis, 50 first degree relatives of schizophrenic patients and the other 34 with any previous psychiatric disorders. Participants answered to the Borderline Personality Inventory (BPI). In order to analyze the data, multiple analysis of variance was used.

Results: The results showed that the mean scores of borderline traits are significantly different in the three groups ($P < 0.001$, $F = 57.15$). Accordingly schizophrenic patients, their first degree relatives and normal people have more scores in borderline traits respectively.

Conclusion: Consistent with previous studies, this finding lays emphasis on the role of heredity factors in developing schizophrenia.

Keywords: Schizophrenia, Borderline Personality, First Degree Relatives, Stress Vulnerability Model

Introduction

Schizophrenia is not only a debilitating condition with severe relapse to patients and their relatives, but also imposes moral and economic costs to the society (1). Therefore; the need for early and proper diagnosis has provided impetus for clinical research to identify populations at high risk for developing schizophrenia. Early efforts in this area goes back to about fifty years ago which was defined "at risk" terms, referring to the children of parents with mental disorders (2). Unlike the "at risk" concept for developing schizophrenia in genetic predisposition which was related to intra family cases, the psychosis-proneness continuum theory has been proposed at high levels of psychoticism personality traits which are linked to schizophrenia (3).

Borderline Personality Disorder [BPD] is the general pattern of instability in interpersonal relationships, self-image, emotions, impulsivity, suicidal behavior, chronic absurdity feelings, transient stress related dissociative and paranoid symptoms, usually starting at the beginning of adulthood, manifesting itself in different forms (4). Although the prevalence of borderline personality disorder is reported to be 2 to 4 percent of the population (5), the distribution of such borderline traits is much more extensive, as the borderline personality disorder being the most prevalent of all personality disorders (6).

Studies showed a high incidence of schizophrenia in the relatives of patients compared to the general population. But even the relatives and family members of patients who apparently seem healthy, may have some diagnostic criteria, and some of the symptoms of the disease to the extent that cannot be categorized as schizophrenia (7),(8). Onstad et al. (9) studied mental disorders in the first-degree relatives of patients with schizophrenia. Their findings revealed that schizophrenia and personality disorders are significantly higher in first-degree relatives of individuals with schizophrenia. Torgersen et al. (10) concluded that borderline personality patterns are greater in relatives of schizophrenic patients. Because of the symptoms similarity between borderline personality disorder and schizophrenia, in the research literature pseudoneurosis, pseudopsychopathic neurosis, schizophrenia, preneurosis, borderline schizophrenia, latent psychosis, latent schizophrenia and ambulatory schizophrenia are terms that have been used in describing patients with borderline personality disorder. Borderline personality disorder even though not included in cluster A, but due to the fact that these patients show some symptoms of psychosis under stressful conditions, are considered to be "borderline condition" along with schizotypal personality disorder (6). In a theoretical model of personality, Kernberg (11) showed normal, borderline and abnormal levels in a continuum. According to Kernberg's model, personality organization can be different at three distinct levels: neurosis, borderline and psychosis. According to Kernberg, some personality disorders in DSMs are related to borderline personality organization. The main difference between borderline personality organization and neuroticism is that in borderline organization, impaired reality testing periods are to be experienced. A study on 616 adolescences (12) showed that dissociative/ psychotic, depersonalization, derealization and auditory hallucinations are the most important components of borderline personality.

One of the issues discussed in the classification and symptoms of psychiatric disorders are the beliefs that the psychotic characteristics are not exclusively related to particular patients, but also its psychological and biological patterns are observable among the general population(13).The concept of psychosis continuum has been supported based on research evidence that showed psychotic-like experiences in the general population (14), (15), (16), (17).

In relation with problem expression as well as scientific rationale of our study, it is necessary to mention that reviewing literature indicates that no studies have directly assessed the possible borderline traits among schizophrenic patients and their first degree relatives. On the other hand, due to the relatively genetic nature of schizophrenia which leads to some risk for the non-psychotic family members of developing schizophrenia and semi-schizophrenic characteristics, and symptom similarities between borderline personality and schizophrenia disorders, the purposes of this research was to investigate borderline traits among schizophrenic patients, their first degree relatives and normal people

groups.

Methods

This study, originally presented as an MSc thesis, aims to compare schizotypal and borderline traits among schizophrenic patients, their first degree relatives and normal people in the department of psychology, Islamic Azad University of Tabriz, Tabriz, Iran. The current study was conducted in a cross-sectional context in 2015. The study population included all patients and their first degree relatives referred to the Razi Psychiatric Hospital, a University Hospital in Tabriz, Iran due to their schizophrenic disorders. Among these groups, 80 were selected by convenience sampling. The sample was divided into three groups. These groups were consisted of 34 with schizophrenia diagnosis, 50 first degree relatives of schizophrenic patients and the matched 34 normal people with any previous psychiatric disorders. The most important criterion for inclusion was suffering from schizophrenia. The exclusion criteria included: other psychiatric disorders, brain damage and substance abuse. The participants answered to the Borderline Personality Inventory (BPI). This Scale was designed by Leichsenring in order to assess the borderline personality traits in clinical and non-clinical samples and is answered as a yes/no format(18). BPI was made based on Kernberg's concept about borderline personality organization as well as diagnostic criteria of borderline personality disorder in DSM-IV. The BPI contains subscales for assessing identity diffusion, primitive defense mechanisms, reality testing and fear of intimacy. The internal consistency and one-week test-retest reliability of it have been reported high in several studies (Cronbach's alpha from 0.68 to 0.91 and test-retest reliability from 0.73to 0.89).Study in Iranian sample has provided support for the concurrent and constructive validity of the BPI scale. Test-retest reliability coefficient of 0.80 was obtained for the total scale during a 4-week interval while this coefficient was obtained equal to 0.63, 0.74, 0.66 and 0.62 for identity diffusion, primitive defense mechanisms, reality testing and fear of intimacy subscales respectively (19). In order to analyze the data, one way analysis of variance was used.

Results

The schizophrenic subjects included 17men with an age mean of 44.86and a standard deviation of 11.7, and 17women with an age mean of 42 and a standard deviation of 12.76. The total age mean and standard deviation was 43.02 and 12.76 respectively. The first-degree relative's subjects included 21men with an age mean of 44.76and a standard deviation of 15.06, and 29women with an age mean of 40.09 and a standard deviation of 15.81. The total age mean and standard deviation was 42.86 and 15.4 respectively. The normal subjects included 17men with an age mean of 41.11and a standard deviation of 8.46, and 17women with an age mean of 42.56 and a standard deviation of 7.11. The total age mean and standard deviation was 42.17 and 7.48 respectively.

The mean scores of the three groups in the borderline traits and its factors are summarized in Table 1.

Table 1. Groups mean and standard deviation of scores in variables

variables	groups	schizophrenia		first-degree relatives		Normal	
		mean	SD	mean	SD	mean	SD
borderline personality		14.26	5.02	6.3	5.36	2.54	2.43
identity diffusion		2.08	1.91	1.18	1.72	0.61	0.69
primitive defense mechanisms		5.35	1.7	2.5	2.07	0.97	1.42
Impaired reality testing		2.66	1.53	0.8	1.32	0.11	0.32
fear of intimacy		4.11	1.68	1.74	1.77	0.78	0.92

Table 2 and 3 compares the results of the multiple analyses of variance based on scores in borderline personality traits and its factors which have been earned. Box test and Levine's test were used to ensure the observance of the assumptions required for using the parametric test of multiple analysis of variance before its implementation. The results show that the Box test is not significant ($p < 1.88$, $F = 0.29$) and that the covariance of the two groups is statistically significant at the population level. This means that the assumption of homogeneity of variance-covariance matrices confirms death distress between the groups. The results of Levine's test suggest that the assumption of the homogeneity of variances has been observed for borderline personality trait ($p < 0.58$, $F = 0.30$), and its identity diffusion ($p < 0.25$, $F = 1.33$), primitive defense mechanisms ($p < 0.09$, $F = 2.83$), Impaired reality testing ($p < 0.68$, $F = 0.16$) and fear of intimacy ($p < 0.11$, $F = 2.58$) factors.

The results of MANOVA test, representing the main effect of group variable on the dependent variables, have been summarized in Table 2.

According to Table 2, the effect of group on the linear combination of dependent variables is significant. This significance suggests that the groups are different in at least one variable. Given the significance of the effect of Wilks's lambda, the mean scores of borderline personality traits and its factors are compared between schizophrenic patients, their first degree relatives and normal people groups, as shown in table 3.

The above table shows differences between three groups: schizophrenia, first-degree relatives and normal are significantly different at least between two groups. Consequently, in order to determine significant differences between three groups in borderline personality traits, Scheffe's multiple comparison tests were used. Results are shown in Table 4.

Table 2. MANOVA test results representing the main effect of group variable on the dependent variables

Variable	Test	Value	F	P	Eta Squared
Group	Pillai's Trace	.56	10.74	.001	.28
	Wilks's lambda	.44	13.56	.001	.33
	Hotelling's Trace	1.22	16.54	.001	.38
	Roy's largest root	1.21	33.31	.001	.54

Table3. Results of analysis of variance in borderline personality

borderline personality	Sources	Sum of Square	df	Mean Square	F	P Value
borderline personality	Between group	2435.24	2	1217.62	57.15	0.001
	Within group	2407.2	113	21.3		
	Total	4842.24	115			
identity diffusion	Between group	37.58	2	18.79	7.65	0.001
	Within group	280.11	114	2.45		
	Total	317.69	116			
primitive defense mechanisms	Between group	339.10	2	169.55	52.24	0.001
	Within group	373.23	115	3.24		
	Total	712.33	117			
Impaired reality testing	Between group	118.21	2	59.10	40.87	0.001
	Within group	164.86	114	1.44		
	Total	283.07	116			
fear of intimacy	Between group	201.25	2	100.62	41.76	0.001
	Within group	274.66	114	2.4		
	Total	475.91	116			

According to the table above:

1- In regards to the total score of borderline personality, patients with schizophrenia tend to score higher than normal individuals.

2- In regards to the total score of borderline personality, patients with schizophrenia tend to score higher than first degree relatives.

3- In regards to the total score of borderline personality, first degree relatives tend to score higher than normal individuals.

4- In regards to the subscales score of borderline personality, patients with schizophrenia tend to score higher than normal individuals.

5- In regards to the subscales score of borderline personality, patients with schizophrenia tend to score higher than first degree relatives.

6- In regards to the subscales score of borderline personality, first degree relatives tend to score higher than normal individuals.

Table 4. Scheffe's multiple comparison tests in borderline personality traits

Borderline personality	Groups	Mean differences	P Value	
BPI	schizophrenia	first-degree relatives	7.95	.001
		normal	11.71	.001
	first-degree relatives	normal	3.76	.002
Identity diffusion	schizophrenia	first-degree relatives	.9	.04
		normal	1.47	.001
	first-degree relatives	normal	.56	.27
Primitive defense mechanisms	schizophrenia	first-degree relatives	2.85	.001
		normal	4.38	.001
	first-degree relatives	normal	1.52	.001
Impaired reality testing	schizophrenia	first-degree relatives	1.86	.001
		normal	2.54	.001
	first-degree relatives	normal	.68	.04
fear of intimacy	schizophrenia	first-degree relatives	2.37	.001
		normal	3.32	.001
	first-degree relatives	normal	.95	.03

Discussion

The results of multiple analysis of variance indicated that the mean scores of borderline traits are significantly different in three groups. According to the results, schizophrenic patients, their first degree relatives and normal people have more scores in borderline personality traits respectively. This finding is relatively in consistent with previous similar results that have been conducted by Onstad et al. (9) and Torgersen et al. (10).The findings of this study can be interpreted in line with the stress-vulnerability model. According to this model, schizotypal and borderline traits as well as schizophrenia are conceptualized as different points on a continuum, with representing different risk degrees of developing psychosis. Although psychotic disorders such as schizophrenia undoubtedly have biological reasons, psychological factors are also important in the onset and maintenance of such disorders (20),(21). The potential interaction between stress and psychosis course devoted particular attention in literature. The stress-vulnerability model, proposed by Zubin and Spring(22), suggests that the experience of stress is important in releasing acute psychosis.

This model has high face validity: it makes sense that stressful experiences that are not well managed and result in distress and anxiety might precipitate the expression of psychotic symptoms in individuals with a pre-existing heightened vulnerability. The model also provides a possible explanation for some of the otherwise unexplained features of psychotic disorders, such as their episodic nature. Psychosis sufferers often cite a link between the experience of stressors, level of distress and psychotic symptoms when describing their own illness(23).Importantly, the stress-vulnerability model also raises possibilities for the treatment of symptoms and preventive intervention, particularly through psychological strategies that enhance stress management and coping. For example, researchers in the United Kingdom have developed a cognitive psychological model of the role of stressors in the development and maintenance of psychotic symptoms (20),(24). They propose that the experience of victimization might lead individuals to believe that they are vulnerable and to view

the world and other people as hostile and threatening. It seems subsequent stressful events trigger psychotic symptoms under these circumstances (23). Recent studies have supported this model(25).

The current study showed that the first-degree relatives and normal individuals of patients with schizophrenia have achieved the highest score in borderline personality traits respectively. These results can be interpreted in line of vulnerability psychosis theory and can somehow confirm that theory. Two factors have contributed to the creation of a dimensional view in psychotic features (13); the first factor was the modernist work of Eysenck in developing the personality theory. Despite the criticisms that is related to Eysenck psychoticism, other researchers interested in this field have also ended up with similar results. It can be noted that psychotic features not devoted to a particular class of illness exclusively, but as a part of its psychological and biological pattern, are observable features between all human beings. Another research line that provides evidence for the dimensionality of psychosis emerged in the clinical context. It has long been observed that some individuals show abnormalities in personality which is phenomenologically similar to psychosis but at the same time are too mild or transient to classify them to one of the major diagnostic categories. Kretschmer was one pioneer writer who recognized their existence when he tried to distinguish schizoid and cycloid disorders as pathological variants of schizothymia and cyclothymia, falling midway between normality and the two psychoses-schizophrenia and manic-depression from which they were derived from. The term 'borderline' itself, however, originated in psychoanalytic practice, to denote a rather diverse group of patients whose personality disturbance, while not amounting to frank psychosis, put them beyond the reach of classic psychotherapeutic methods (13).

In regards to the limitations we faced during this study, it can be noted that lack of control over drug taking was the first limitation. For example, antipsychotic drugs reduce the severity of disease symptoms and this factor makes them ashamed to talk about their awkward and strange past behaviors, and in some cases by denying

existing symptoms indicate a defensive behavior. The next limitation of this study was the lack of schizophrenia subtype considerations due to the low frequency of our samples.

Further research it is recommended to be conducted in order to investigate borderline personality traits in patients with schizophrenia and their families to provide greater clarity of our results. Further research is also suggested to distinguish between the subtypes of schizophrenia explored borderline personality traits in schizophrenic patients and their first degree relatives. From an applied point of view, these findings have implications for secondary prevention. Since the first-degree relatives of schizophrenic patients are prone to schizophrenia-like psychosis and probably full psychosis, it is recommended that protective treatment be taken to support them. Also, if possible, these families should be evaluated in regards to getting schizophrenia in certain time periods.

Conclusion

We suggest that the borderline personality traits can be considered among patients with schizophrenia and their first degree relatives.

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