Clinical and Experimental Health Sciences

The Relationship Between Somatization and Depression Types: Comparison of Unipolar Depression and Bipolar Depression

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ABSTRACT

Objective: Somatic symptoms are more likely to be present in depression and anxiety, which causes to waste medical resources due to excessive hospital addmissions. It has been observed that the unclarity of qualitative and quantitative characteristics of somatization depending on the type of depression influences clinical practice less than expected. In the present study, it was aimed to determine the hallmarks of somatic symptoms in depression groups and to investigate the factors that might have an effect on somatic symptoms.

Method: One hundred consecutive patients (50 with Bipolar Depression (BD), 50 with Unipolar Depression (UD)) who met the criteria participated in the study. Patients were assessed for depressive symptoms with Montgomery Asberg Depression Scale and for somatic symptoms with Bradford Somatic Symptom Inventory. Clinical features were obtained by the clinician via Sociodemographic Data Form.

Results: It was found that no significant difference in somatization characteristics between the depression groups. (p> .05). Somatic symptom severity was higher in the UD group in the presence of psychiatric comorbidity (p= .013), but not in BD. Another prominent finding was that the severity of depression was noted the only predictor of severe somatization.

Conclusion: The results show that increased somatic symptoms are associated with the severity of depression, suggesting treatment of depression with somatization rather than differential diagnosis should be primary concern.

Keywords: Unipolar depression, bipolar depression, somatic symptom

1. INTRODUCTION

Depressive episodes are common requirements as a main criteria to diagnose for both major depressive disorder and bipolar disorder (1). Although hypomanic episodes are mainly clear to be distunguished, subthreshold elevation symptoms that may be difficult to be remembered by patients, which results in misdiagnosis (2) or delaying diagnosis for bipolar disorder. There is some evidence that differantial diagnosis of bipolar disorder (BD) from unipolar depression (UD) is difficult in the early stages of the disease. It has been reported that 40% of patients diagnosed with BD have been previously diagnosed with unipolar disorder (3,4). Delayed initiation of treatment at illness onset in BD is more likely to result in, social, cognitive and functional limitation than UD (5).

Major depression has been suggested by a number of studies to be accompanied by medically unexplained somatic symptoms over the years (6,7). Comorbidity studies of depression and somatization indicated that; the more somatic symptoms, the more the likelihood that a patient suffer from depression (8,9). Indeed, patients can make their first medical application to their primary care phsycian for only somatic complaints (7). Moreover, a close relationship between depression accompanied by somatic symptoms and poor clinical outcome due to residuel somatic symptoms has been established in some studies (10,11). As a result of these findings, authors have tended to focus on medically unexplained symptoms as a primary concern for the treatment of UD.

In a meta-analysis, it was suggested that the vast majority of bipolar spectrum disorder (BSD) patients present with medically unexplained physical symptoms, which are reported to be significantly more common than in the general population and other psychiatric conditions. (12). Data from another research reported that somatic symptoms occur more frequently in recurrent major depression and BD than in depression not other specified. (13). Although somatic symptoms have been reported more common in UD than BD (13,14), a number of earlier studies suggest that patients

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with BD have more somatic symptoms compared to unipolar depressive patients (15,16).

Clinicians are more likely to evaluate somatic symptoms in the case management of UD, which can be neglected in the challenging prognosis of BD. Moreover, we have noticed that a group of patients with bipolar disorder referred to their somatic complaints as an early sign of their depressive episode in our clinical practice. Although the differences between UD and BD in terms of somatic symptoms have been shown in some studies, researches examining medically unexplained somatic symptom with a comprehensive scale are still scarce in Turkish population. The present study thus aims to elaborate overall screening of somatic symptoms in the UD and BD groups, to investigate the diagnostic role of the symptoms, and the predictors of somatization. We hypothesized that 1 – patients with BD have at least as many somatic symptoms as those with UD, 2 – somatic symptoms are associated with depression severity for both depression types, 3 – depression type is a predictor of somatic symptom severity beyond depression severity.

2. METHODS

2.1. Participants

Two groups in which fifty patients with BD and fifty patients with UD ranging in age from 18 to 65 years, both of whose the duration last depressive episodes are at least four weeks, were included. Subjects who were referred to Marmara University Pendik Training and Research Hospital Psychiatry Outpatient Clinic were considered for recruitment in the study. Psychiatric diagnoses, which include primary diagnosis and psychiatric comorbidities, were made according to the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV Axis I Disorders (SCID-I) administrated by the same psychiatrist. Exclusion criteria were: (I) diagnosed with psychotic disorders; (II) psychotic featured depression; (III) cognitive decline suggestive of a clinical mental retardation and demantia; (IV) the patients who are illiterate; (V) a major physical health problem; (VI) recent use of substance and (VII) pregnancy. The first 50 consecutive patients from each group fulfilling the selection criteria took part in the study. The present study was conducted in accordance with the Declaration of Helsinki. The Marmara University Ethics Committee approved the study at 06.01.2017 with protocol code “09.2017.094” and all of the patients gave informed consent.

2.2. Measures

2.2.1. Sociodemographic data form

Sociodemoghraphic and clinical characteristics of the subjects were assessed with a structured data form prepared by the researchers which includes the sociodemografic variables (age, sex, marital status, income etc.), and clinical variables (onset of illnes, duration of last episod, smoking use etc.). The medical comorbidities were recorded to the data form according to the patient’s self-report.

2.2.2. Montgomery Åsberg Depression Scale (MADRS)

The severity of depression was assessed with the Montgomery Åsberg Depression Scale (MADRS). The scale is rated by the clinician and consists of ten items, of which nine are based on psychiatric history and one on clinician observation (17). The adaptation of Turkish version of the scale yielded valid and reliable outcome (18).

2.2.3. Bradford Somatic Inventory (BSI)

BSI was administrated to assess the severity and the quality of somatic symptoms. The BSI scale contains wide range of somatic symptoms in a 44-item questionnaire and self-rated (19). Every symptom is scored up to three points whether the frequency of the items less or more fifteen days over the past month. The validity and reliability of BSI was demonstrated in the Turkish population (20). The cut-off value “forty points” for severe somatization stated in original study was used to transform the value of BSI total score to a binominal variable in the present study.

2.3. Statistical Analysis

Shapiro-Wilk test, absolute skewness/kurtosis values and the histograms were used together to explore the normality of distribution. T test was conducted to analyze the differences between two independent groups. Chi-square test (or Fisher’s exact) was run to examine the relations between nominal variables. Comparisons among more than two independent subgroups were conducted by one-way ANOVA tests (or Kruskal-Wallis H test). Pearson’s and Spearman’s correlation tests were used for correlation analysis takin into account whether the normally distributed or not.

3. RESULTS

Mean age was 37.98±10.14 in the unipolar group and 39.58±10.09 in the bipolar group. The bipolar group consisted of 29 females (58%) and 21 males (42%), and the unipolar group consisted of 40 females (80%) and 10 males (20%). There was significantly difference in terms of gender distrubition between two groups. The majority of participants in both groups were graduated under elemantary school, unemployed and from low-income population. There were no statistically significant differences between the unipolar and BD groups in terms of age, marital status, educational status. All the sociodemographic characteristics and clinical features of the patient groups are presented in Table 1.

Even though depression and somatic symptoms scores were higher in the bipolar group, there were no significantly differences between two groups (respectively p= .101; p= .475). There were also no significantly differences between two groups in terms of BSI factors and the number of somatic symptoms which was calculated regardless of the severity of somatic symptoms. The results of comparison of two groups with regard to depression scores and the level of somatic symptoms are shown in Table 2.

Table 1. *Sociodemographic data and clinical features of participants*

	UD N (%)	BD N (%)	p
Age (mean±SD)	37.98±10.14	39.58±10.09	.431
Gender			.017
Female	40 (80)	29 (58)	
Male	10 (20)	21 (42)	
Marital Status			.766
Married	34 (68)	34 (68)	
Single	9 (18)	11 (22)	
Widow/Divorced	7 (14)	5 (10)	
Education			.833
Primary	19 (38)	15 (30)	
Elemantary	13 (26)	13 (26)	
High School	9 (18)	11 (22)	
University and beyond	9 (118)	11 (22)	
Number of depressive episode (mean±SD)	2.86±2.58	8.2±6.13	.001[a]
Onset age of disease (mean±SD)	25.32±8.0	30.26±10.17	.008[a]
Duration of last episode (week) (mean±SD)	62.66±101.98	17.62±29.52	<.001[a]
Use of additional medicine			.629[c]
(-)	40 (80)	38 (76)	
(+)	10 (20)	12 (24)	
Medical comorbidity			.683[c]
(-)	29 (58)	31 (62)	
(+)	21 (42)	19 (38)	
Psychiatric comorbidty			.107[c]
(-)	35 (70)	28 (56)	
(+)	15 (30)	22 (44)	
Alcohol consumption			.695[b]
(-)	47 (94)	46 (92)	
(+)	3 (6)	4 (8)	
Smoking			.548[c]
(-)	28 (56)	25 (50)	
(+)	22 (44)	25 (50)	

[a]Student t Test [b]Fisher Exact Test [c] Chi-Square Test UD: Unipolar Depression BD: Bipolar Depression SD: Standard Deviation

Dividing all participants into two groups as patients with medical comorbidity and without medical comorbidity, it was not found significantly differences between the groups in unipolar and BD groups (respectively p= .113; p= .928). Another way of making the former result more reliable was that the somatic symptoms between unipolar and bipolar groups was compared among participants who did not have a medical illness. In this condition, there was no difference in terms of BSI scores as well (p> .05; not demonstrated). As for psychiatric comorbidity, the severity of somatic symptoms was found significantly higher in the participants with psychiatric comorbidity in only unipolar group but not in bipolar group (respectively p= .013; p= .807). There were no significant differences in any groups with regard to depression severity in terms of medical and psychiatric comorbidity (p> .05). The data of all the comparisons was shown in Table 3.

3.1. Correlation Analysis

In bivariete levels, Correlation analysis revealed that there were positive, mild to modarate, statistically significant correlations between BSI total score and MADRS total score in UD (r=.427, p=.002), in BD (r=.476, p<.001) and in all participants (r=.453, p<.001).

Table 2. *Comparison of depression and somatic symptoms scores*

	UD	BD	p[a]
	mean±SD	*mean±SD*	
MADRS	25.1±6.93	27.14±5.28	.101
BSI-44	39.36±18.23	42.06±19.38	.475
BSI-44 (number of symptoms)	26.28±9.46	26.70±11.49	.842
BSI-44 Factors			
Head	3.96±2.35	3.78±2.6	.717
Chest	3.48±2.42	3.36±2.65	.813
Abdomen	6.04±4.1	7.26±4.4	.155
Fatigue	3.72±1.63	4.3±1.5	.067
Heat	2.36±1.24	2.18±1.24	.470
Globus	2.72±2.19	2.82±2.41	.829
Frequency	6.94±4.1	6.86±3.9	.921
Panic	8.38±4.21	9.08±4.51	.424

[a]Student-t Test UD: Unipolar Depression BD: Bipolar Depression SD: Standard Deviation BSI-44: Bradford Somatic Inventory MADRS: Montgomery-Asberg Depressiın Rating Scale

3.2. Regression Analysis

The predictors of severe somatization were examined using multiple logistic regression model. The dependent variable was reconstructed by dividing the BSI score into two categories with a cut-off score of 40, which resulted in binominal variable: severe (n=45) and non-severe (n=55). The independent variables were age, gender, marital status, duration of education, additional medical illness, additional psychiatric illness, duration of last depressive episode, membership of depression group, depression severity (total score of MADRS). The only significant variable was MADRS total score [OR (95% CI): 1.136, (1.050-1.229), p= .001] remained in last step (Nagelkerke R^2 =0.208, p< .001).

Table 3. *Comparison of depression and somatic symptoms according to medical and psychiatric comorbidties*

BSI-44 total score		All Part.	UD	BD	BPD-I	BPD-II
Medical Comorbidity						
(-)	***Mean±SD***	39.55±18.36	36.37±18.22	42.51(18.50)	40.16(19.16)	44.00(19.64)
	median	-	35	43	38	43
(+)	***Mean±SD***	42.45±19.36	43.47±17.83	41.31±21.55	44.72±19.22	36.62±20.94
	median	-	43	43	43	35
	p	**.452**[a]	**.113**[b]	**.928**[b]	**.608**[b]	**.515**[b]
Psychiatric comorbidity						
(-)	***Mean±SD***	38.33±16.93	35.02±15.20	42.46±18.32	40.16±19.16	44.00±19.64
	median	-	33	43	38	43
(+)	***Mean±SD***	44.75±21.16	49.46±21.10	41.54±21.08	44.27±19.22	36.62±20.94
	median	-	43	39	43	35
	p	.121[a]	.013[b]	.807[b]	.563[b]	.373[b]
MADRS total score		**All Part.**	**UD**	**BD**	**BPD-I**	**BPD-II**
Medical Comorbidity						
(-)	***Mean±SD***	26.58±6.17	24.68±7.45	27.58±5.35	26.66±6.28	28.15±4.77
	median	-	24	28	27.5	29
(+)	***Mean±SD***	26.03±5.73	25.66±6.25	26.42±5.22	26.27±5.25	26.62±5.52
	median	-	24	26	26	27.5
	p	.901[a]	.472[b]	.588[b]	.880[b]	.938[b]
Psychiatric comorbidity						
(-)	***Mean±SD***	25.57±6.11	24.34±6.98	27.10±4.46	26.66±6.28	28.15±4.77
	median	-	23	28	27	27
(+)	***Mean±SD***	27.05±6.36	26.86±6.96	27.18±6.28	26.27±5.25	26.62±5.52
	median	-	26	27	27	27
	p	.257[a]	.098[b]	.837[b]	.927[b]	.943[b]

[a]Student-t Test bMann Whitney U Test UD: Unipolar Depression BD: Bipolar Depression BPD-I: Bipolar Disorder-1 BPD-II: Bipolar Disorder-2 SD: Standard Deviation BSI-44: Bradford Somatic Inventory MADRS: Montgomery-Asberg Depressiin Rating Scale

4. DISCUSSION

The objective of this study was to compare the medically unexplained somatic symptoms between UD patients and BD patients. We also aimed to explore the variables that might predict somatic complaints in both BD and UD groups.

The number of depressive episodes were significantly higher in the BD group than the UD group in the present study, which is consistent with the findings reported by Forty and the colleagues (21). In another study comparing patients with BPD-II and UD, past major depressive episodes were found to be in favor of the unipolar group (22). In addition, the duration of the last episode was higher in UD group; which is also consistent with the results of a number of studies comparing the longest episodes of depressive episodes (21,23). However, some exclusion criteria in our study such as the presence of psychotic symptoms which might have an effect on episodic duration and chronicity, suggest the possibility of making a difference according to the results we would expect to encounter in the natural course of the diseases.

The present study suggests that somatic symptoms were not associated with group of depression. Several studies have suggested that somatic symptoms were higher in UD rather than BD. Perlis et al. found that the somatic subscale scores of the Hamilton Anxiety Scale, which provides relatively wider range of somatization screening, were significantly lower in bipolar patients (14). Similarly, another study corresponding to our design found that recurrent depression and bipolar depression were associated with fewer somatic symptoms than other types of depression. (13). On the contrary, some earlier reports pointed out that unexplained somatic symptoms are more common in BD than UD (15,16). Similar findings to our results have been presented in a previous investigation. Hantouche and Akiskal showed that there was no difference between unipolar and bipolar-II groups with regard to somatic symptoms in the study in which Hamilton Depression Scale was used for assesing the level of somatic symptoms (24). The contradiction among all these findings appeared to be related to the distinctive impact of the rating scales and sample sizes. To our knowledge, there was no study in which the comparison of somatic symptoms was directly evaluated between the unipolar and bipolar groups using the rating scale that is capable of determining the symptoms in the context of temporality beside quality. A single study that considers the aforementioned marks seemed to be proximate to our design (13) . Also, it might be another reason why all these results were so conflicting that some variables could not be involved in analysis such as subtypes of depression, level of anxiety, alexithymia, hypocondrisis etc. The data of present study, likewise, contains severity of depression but

not the level of anxiety. In the literature, the studies are more likely to show that somatic symptoms associate with UD than BD but not enough to clarify the association between somatic symptoms and type of depression. In our sample, that there was no significant difference between unipolar and bipolar groups in terms of MADRS scores is in favor of interpreting the comparison of somatic symptom, by which effect of depression severity is not considered. Moreover, it is widely known that there is a significant correlation between somatic symptoms and severity of depression (25,26). Notwithstanding, because of that psychiatric comorbidity and anxiety level are not included in the present study, it remains unclear to what extent the effect of depression severity on the level of somatic symptom which is observed equally for both of groups contributes to clarification of comparison.

Another finding of the present study is that somatic symptoms were unrelated to the medical comorbidity in which all participants were divided into two groups with regard to whether medical comorbidity exists or not. Somatic complaints are expected to be more common in the presence of medical comorbidity (27). The reason why this difference was not seen in our study might be exclusion of the patients with decompensated medical illness, which prevents us from observing the effect of natural coexisting of somatic complaints and medical morbidity on the results. In addition, our unexpected results may arise from examining the relationship between somatic symptoms and medical illness without considering the type and severity. On the other hand, aforementioned finding allows us to evaluate properly the somatic symptoms on which the hypothesis focused.

As to psychiatric comorbidity, the severity of somatic symptom was found significantly higher among the participants with psychiatric comorbidity than those not (respectively p= ,013; p= ,807) in only unipolar group but not in bipolar group. It can be assumed that the effect of psychiatric comorbidities on somatic complaints may be varied by type of disorder. In this sense, it is also possible that the psychiatric comorbidities in the unipolar group might be clustered in such a way that it can affect the level of somatic symptoms more than those in bipolar group. Should think over the causes of the assumption, the fact that the number of female participants were higher than that of the bipolar group might be regarded as a confounding factor. Psychiatric comorbidity was reported to be higher in females in previous studies (28). Indeed, while disruptive behavior antisocial behavior and adjustment disorder are reported to be more frequent in males; anxiety and somatization were more frequent as psychiatric comorbidities in women with UD (29). Nevertheless, it is possible that the result found in the unipolar group was not corresponded with that in the BD group due to sample selection, sample distribution and sample size.

We aimed to determine particularly the predictors of somatization severity in the binominal regression model. Depression severity was the unique predictor of severe somatization In a previous study including patients with UD, being unmarried and severity of depression in patients were found to be predictors of somatic symptoms in a linear regression model in which depression severity and sociodemographic were included together (30). However, when anxiety scores were added to model, the severity of depression was shown to be no longer significant. Although our findings are supported by some aspects of these results, it was emphasized that high level of depression hindered well-established relationship with somatic symptoms (30). In a study conducted by Haug and the colleagues, likewise, the associations of somatization with anxiety and depression were not more prominent for any of them, whereas the association was stronger in the presence of comorbid anxiety and depression. (25). When viewed from this aspect, depression might not be noteworthily considered as a strong predictor of somatic symptoms per se in the absence of the anxiety level in our model.

Some studies have reported that female gender is a predictor for somatic symptoms in patients with major depression as well as in the general population (31). Our regression results were not congruent with the prior reports in terms of gender. However, the differences of female/male ratio between the groups makes this finding difficult to compare with the existing evidence. In a study with similar male/female ratios, the predictive effect of being female varies in the regression models in which firstly only sociodemographic data was added and psychologic factors were entered additionally in second step (30). There is a need for further studies with larger sample size using similar methodology in which subtle factors relavant to the patients or the disorders are unveiled.

4.1. Limitations

Some limitations should be considered to make the interpretation of these results more reliable. The small size of sample and the higher ratio of female/male in the UD group were the two most important ones. Another caveat was that the level of anxiety, comorbid psychiatric disorders and psychiatric drugs which are likely to have an effect on somatic symptoms are not included separately in the analysis. The cross-sectional design of our study requires to replicate our findings prospectively. Although patients with decompensated medical illnesses were not included in the present study, classification of medical comorbidity remained limited. Another major limitation is that BPD patients who have not yet been diagnosed were erronously deemed in the UD group, which can be reduced by defining subgroups in participants with UD in further studies.

5. CONCLUSION

Considering the contradictions in the relationship between somatic complaints and depression types, the present findings converged moderately with previous results. Despite its limitations, this study is the first to screen of somatic symptoms at a broad level across the depression

groups with a specific scale. Studies with larger sample sizes and evaluating the confounding factors may help to better understand the relation between affective disorders and somatic symptoms and the utility of somatic symptoms to differentiate between UD and BD. We hope to delineate the importance of somatic symptoms in depression types though we failed to confirm our hypothesis, knowing that the most challenging aspect of BPD is early diagnosis.

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