Pattern of Obsessive Compulsive Symptoms among Patients with Bipolar-I Disorder

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Abstract

**Background:** Clinicians have observed the occurrence of obsessive and/or compulsive symptoms within the course of bipolar disorder. However the pattern of their occurrence is not clearly delineated. This study aimed to explore this pattern.

**Method:** A cross sectional study. All patients were assessed by the Structured Clinical Interview for DSM-IV (SCID I) to diagnose bipolar disorder (BD) and comorbid obsessive compulsive (OC) symptoms. The symptom severity was assessed by Young Mania Rating Scale (YMRS), Beck Depression Inventory II (BDI-II), Yale-Brown Obsessions and compulsions Scale (Y-BOCS).

**Results:** Sixty two patients were classified into two groups: BD comorbid with OC symptoms (BD-OC) and BD with no comorbidity (BD). High rates of OC symptoms in BD patients (38.7%) with higher educational level in the BD-OC group, and higher rates of unemployment were noticed among patients of BD--OC group. The smoking was more prevalent in BD group than BD-OC group. The most common among BD-OC subjects were contamination, religious and aggressive obsessions and cleaning/washing and counting compulsions.

**Limitations:** The prevalence rates are not to be generalized because of the small size of the sample. Most of the history was taken from the patients and their relatives depending on their memory. More experimental study designs about the effectiveness of different types of management strategies would be beneficial to the patients.

**Conclusion:** Bipolar Patients with comorbid Obsessive and/or Compulsive symptoms showed higher educational levels, unemployment, greater functional impairment, and less smoking. Most common obsessions were contamination, religious and aggressive obsessions, cleaning and counting compulsions.

**Keywords:** Affective disorder; Obsessive compulsive disorder; Comorbidity

Introduction

The relationship of bipolar disorder (BD) and obsessive compulsive disorder (OCD) had already been emphasized by French psychiatrists in the 19th century and has been demonstrated by different groups of researchers in the recent years [1]. OCD has a complex relationship with bipolar disorder. Clinicians may see patients who start out looking like they have classic OCD and end up looking like they have definite bipolar disorder without OCD. Obsessive-compulsive disorder is the most commonly seen comorbid anxiety disorder in bipolar patients. Some genetic variants, neurotransmitters especially serotonergic systems and second-messenger systems are thought to be responsible for its etiology [2].

The analysis of the epidemiologic data of the ECA (Epidemiologic Catchment Area) showed the lifetime prevalence of OCD in bipolar disorder patients, unipolar depressive disorder patients, and general population in the USA (1995) is 21%, 12.2%, and 2.5%, respectively [3]. Around one third of BP-I and II patients meet criteria for an anxiety disorder, most commonly social anxiety (22.0% lifetime; 12.7% current), panic disorder with or without agoraphobia (17.3%; 8.0%), obsessive-compulsive disorder [OCD] (9.9%; 5.7%) [4].

Also, a research on a clinical sample found the frequency of OCD in bipolar and unipolar depressed patients 21.1% and 14.3%, respectively [5]. On the other hand, assessing the reverse state to the fore mentioned condition has yielded the significant frequency of individuals with bipolar disorders among cases with OCD [6-8]. The relationship of OCD and bipolar disorders has been discussed regarding different aspects; e.g., induction of (hypo)mania following antidepressant drugs administration in patients with OCD, higher rate of relapse of mood episodes, attempted suicide, and hospitalization, and also episodic course of OCD in bipolar disorder patients [1,9,10] and the efficacy of mood stabilizers to treat OCD in bipolar disorder patients [11].

In a study by Angst et al. [12], of those with OCD, 53% had hypomanic symptoms and 30% were given a Bipolar II diagnosis [12]. Other studies have supported the increased prevalence of OCD with Bipolar II over Bipolar [13]. A study analyzing data from a large nation-wide sample found that for those with either Bipolar I or II (although most had Bipolar II), 21% had comorbid OCD [14]. Patients with comorbid OCD and affective disorders, particularly represent a clinically severe group compared to those without such comorbidity [15]. An overlapping character between both disorders was found in some common genetic variants (e.g. the serotonin transporter gene (SLC6A4), and the brain-derived neurotrophic factor (BDNF) gene) [16,17].

In terms of the presentation of the disorders, Masi et al. [13] found that the types of compulsions differ between those with comorbid...

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bipolar and OCD and those with just OCD. Those with pure OCD have more checking compulsions while those with comorbidity exhibit more obsessions that are classified as “others” which they described as “existential, philosophical, and/or superstitious”. In general they found that although the amount of obsessions were equal whether comorbid or not, those who also had bipolar disorder actually had fewer compulsions [13].

Those with comorbid bipolar disorder and obsessive-compulsive disorder typically experience heightened feelings of distress over those with only one of the disorders. This is not unique to comorbid OCD and bipolar disorder; comorbidity in general is typically reflected by increased levels of distress and increased treatment [18]. For those with comorbid OCD and bipolar disorder, there is also an increased risk for alcohol and substance abuse [19].

A group of researchers has looked at how OCD and bipolar relate. They found that whereas unipolar depression was “incidental”, i.e. not clearly related to the OCD (although common) by contrast bipolar disorder seemed to be more directly related to the OCD. For example, people with religious and sexual obsessions as part of their OCD were more likely than those with other obsessions to have bipolar disorder. The authors specifically recommend that bipolar disorder take precedence over the OCD in terms of which is treated first [7].

Hypothesis

Patients with bipolar disorder have obsessive and/or compulsive symptoms. The obsessive and/or compulsive symptoms have a specific pattern (timing, type of obsession, or compulsion, relation to the course of illness, etc).

Aims of the work

1. To assess the occurrence of the obsessions and compulsions in patients with Bipolar Disorder.
2. To Study the type of obsessions and compulsions if present, and the time of their occurrence throughout the longitudinal course of bipolar illness.

Subjects and Methods

Site of the study

Cases were selected from outpatient and inpatients of the Institute of Psychiatry, Ain Shams University Hospitals. The Institute of Psychiatry, Ain Shams University Hospitals (ASUIP) is located in Western Cairo, serves both urban and rural areas, including Greater Cairo and other governorates as well. ASUIP provides services to patients with psychiatric disorders providing 80 beds for inpatient management of various psychiatric disorders and 17 beds for inpatient substance abuse management.

Study design

It is a Cross sectional, observational study.

Selection of cases

The sample was selected from the outpatient and inpatients in ASUIP. All the patients fulfilling the inclusion criteria (diagnosed as having BD, males and females, Age range = 18-45 years, signing the informed consent) were offered to participate in the study. The sample was collected during the period from February to December 2010. The patients’ age ranged between 18-65 years (adult population). Patients having history of medical, neurological disorders, lifetime diagnosis of substance abuse disorders, severe cognitive dysfunction (e.g., mental retardation, dementia), history of tic disorder (because of the association of this disorder and the specific OC symptoms (8), and those having a third psychiatric comorbidity other than BD and OCD were excluded.

Procedures

Outpatients and inpatients from the psychiatric hospital were recruited and their eligibility for participation in the study was determined. All of the selected patients were offered to sign a written informed consent before being involved in the study. They were explained the aim of the study and its procedures. The participants were informed that they have the right to withdraw from the study at any time without justification. Moreover, they were informed that this study could be used for scientific publication without the disclosure of the participants’ personal identity.

The patients who agreed to participate were subjected to medical history and examination (general, and neurological examinations) and investigations (when needed) to confirm the absence of neurological or chronic medical condition.

A clinical psychiatric interview was conducted to all patients according to the psychiatric sheet of ASUIP, which is designed to collect the demographic data (age, gender, education, occupation, social class, marital status, etc.), the psychiatric history (age at onset of BD or OCD, age at 1st seeking professional help, history of drug or substance intake, current medications) and the psychiatric examination.

The subjects were further assessed by the use of the Structured Clinical Interview for DSM-IV (SCID I) diagnostic tool to diagnose BD and comorbid OCD, if it is present, and to exclude other Axis I diagnosis according to DSM V1 classification. The confirmation of the diagnosis and the assessment of the symptom severity were done by the use of Young Mania Rating Scale (YMRS), Beck Depression Inventory-II (BDI-II), Yale-Brown Obsessions and compulsions Scale (Y-BOCS).

Tools

Structured Clinical Interview for DSM-IV (SCID I)

It is a semi-structured diagnostic interview which has been updated for DSM-IV. It begins with a section on demographic information and clinical background. Then there are 7 diagnostic modules, focused on different diagnostic groups: mood, psychotic, substance abuse, anxiety, somatoform, eating and adjustment disorders. It is considered the standard interview to verify diagnosis in clinical trials and is extensively used in other forms of psychiatric research [20].

Young Mania Rating Scale (YMRS)

The Young Mania Rating Scale (YMRS) is one of the most frequently utilized rating scales to assess manic symptoms. The scale has 11 items and is based on the patient’s subjective report of his or her clinical condition over the previous 48 hours. Additional information is based upon clinical observations made during the course of the clinical interview [21].

Beck Depression Inventory (II)

Depressive symptoms were detected by the Beck Depression Inventory II (BDI-II). This is a 21-item self report instrument that assesses the severity of depressive symptomatology in adults. It is a revised version of the original BDI [22], updated to correspond to criteria from the Diagnostic and Statistical Manual of Mental Disorders.
[23]. Each of the 21 items measures the presence and the severity of a somatic or cognitive symptom of depression, rated on a four-point scale ranging from 0 to 3. The ratings are summed, yielding a total score that can range from 0 to 63. Severity scores are interpreted as follows: 0–9, minimal; 10–16, mild; 17–29, moderate; and 30–63, severe. The BDI-II has been validated as a sensitive, specific, and predictive tool for measuring depression [24]. Despite the fact that the somatic symptoms of pre-existing medical conditions may overlap those of depression, studies have shown that the somatic items do not interfere with the discriminative capacity of the BDI-II in primary-care settings [25]. The BDI-II has also been shown to be sensitive and specific at any phase of a depressive disorder [26].

Yale-Brown Obsessions and compulsions Scale (Y-BOCS)

This rating scale is designed to rate the severity and types of symptoms in patients with obsessive and compulsive disorder (OCD). It is intended for use as a semi-structured interview, the interviewer should assess the items in the listed order and use the questions provided. Ratings should be based primarily on reports and observations gained during the interview [27].

All 19 items are rated, but only items 1-10 (excluding items 1b and 6b) are used to determine the total score. The total Y-BOCS score is the sum of items 1-10 (excluding items 1b and 6b), whereas the obsession and compulsion subtotals are the sums of items 1-5 (excluding 1b) and 6-10 (excluding 6b), respectively. Item 11 (insight), and 12 (avoidance) may give useful clinical information. Items 17 (global severity) and 18 (global improvement) have been adapted from the Clinical Global Impression Scale [28]. Item 19, which estimates the reliability of the information reported by the patient, may assist in the interpretation of scores on other Y-BOCS items in some cases of OCD. It was administered to evaluate the severity and types of obsessive and/or compulsive symptoms.

<table>
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<td>Age</td>
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*significant results p <0.05
**significant results p <0.01
a. Fisher’s exact test

Table 1: Comparison regarding demographic data.

Table 2: The distribution of bipolar cases regarding obsessions and compulsions.

Statistical analysis

The collected data was revised, coded, tabulated and introduced to a PC using Statistical package for Social Science (SPSS 20). Data was presented and suitable analysis was done according to the type of data obtained for each parameter.

Descriptive statistics

1. Mean, Standard deviation (± SD) and range for parametric numerical data, while Median and Interquartile range (IQR) for non-parametric numerical data.
2. Frequency and percentage of non-numerical data.

Analytical statistics

Student T Test was used to assess the statistical significance of the difference between two study group means.

Mann Whitney Test (U test) was used to assess the statistical significance of the difference of a non parametric variable between two study groups.

Chi-Square test was used to examine the relationship between two qualitative variables.

Fisher’s exact test: was used to examine the relationship between two qualitative variables when the expected count is less than 5 in more than 20% of cells.

Results

Sixty two patients completed the SCID I, YMRS, BDI-II as well as Y-BOCS. According to the presence or absence of obsessive–compulsive disorder (OCD) symptoms, patients were classified into two groups: Bipolar disorder co morbid with OC Disorder/symptoms (BD-OC group) and Bipolar disorder (BD group) with no comorbidity with OC Disorder/symptoms.

The demographic data studying revealed that male patients constituted the majority 27 patients (71.1%) of BD group and 13 patients (54%) of the BD-OC group. The BD-OC group (39.5%) declared receiving high education more than (BD) group (10.5%). The mean age among (BD) and (BD-OC) groups was 26.5 ± 7.4 and 23.1 ± 4.6 years respectively (Table 1).

The number of patients who had OC symptoms was 34 patients (38.7%) of the studied sample, 19.4% had only obsessions, 17.7% had obsessions and compulsions and only 1.6% had only compulsions (Table 2).

The clinical picture of bipolar patients, Description of episodes and time of obsession were studied and illustrated in (Table 3). Of the BD group, 47.4% were during their depressive episodes, 42.1% had their manic episodes, 7.9% had mixed episodes and 2.6% were experiencing hypomania. As regards the BD-OC group, 58.3% were examined during their depressive episodes, 37.5% had their manic episodes, 4.2% had mixed episodes.

The severity of depression evaluated by the BDI-II was higher in
the BD-OC group, 8.3% had severe depression, 12.5% had moderate depression, and 25% had mild symptoms, while the BD group showed no severe depression, 7.9% moderate depression, and 7.9% mild depressive symptoms. Meanwhile the manic symptoms were more severe in the group of BD (36.8%) rather than the BD-OC group (8.3%) (Table 3).

While trying to monitor the chronological pattern of comorbidity of BD activity and OC symptoms, the study showed that 20.8% had their OC symptoms during the current episode, 12.5% experienced the OC symptoms during their euthymic phase of the illness, and 66.7% are having their OC symptoms all through the course of BD (Table 4).

As regards the distribution of obsessions and compulsions in BD-OC group, the study revealed the most common types to be contamination, religious and aggressive obsessions and to a lesser extent some sexual obsessions. As regards the compulsions, the most common compulsions were cleaning/washing and counting compulsions but no cases of hoarding/collecting were detected (Table 5).

**Discussion**

In an attempt to clarify the pattern of occurrence of obsessive and/or compulsive symptoms in BD, the literature was revised to compare the results of the current study.

**Prevalence rates**

The study revealed high rates of comorbid OC symptoms among patients with bipolar disorder (38.7%). This is consonant with a systematic review of 64 articles that studied the range of Lifetime comorbidity. It included results of three population based studies conducted in Italy and USA, reported lifetime prevalence rates of comorbid OCD in BD patients ranging between 11.1% and 21% [3,29-31]. Another study analyzing data from a large nation-wide sample found that for those with either Bipolar I or II (although most had Bipolar II), 21% had comorbid OCD [14].

These results are consistent with multiple hospital-based studies where the lifetime prevalence of comorbid OCD in BD patients ranged between 1.8% and 35.1% depending on the features of the study population included [32,33]. Another study found that 21.9% of BD patients had obsession and/or compulsion symptoms [34]. When considering remitted patients, comorbidity prevalence rates were 35% (OCBD-BD) patients [35]. These studies suggest that OCD co-occur with bipolar disorder more often than expected.

One study was inconsistent with these results, it showed a low prevalence of co-morbidity of OCD in first-episode BD-I patients (one patient (1.8%) met DSM-IV criteria for OCD, and two (3.6%) met criteria for sub-threshold OCD and it indicated that the rate of OCD in the first-episode BD-I patients did not differ significantly from that found in the general population. These findings are probably due to the small sample size and the inclusion of BD-I patients only [36].

**Demographic data**

The demographic data studying revealed male preponderance among both groups of BD. The level of education in BD-OC group was higher than BD group with statistically significant difference (p value = 0.01). The majority of patients with BD-OC (91.7%) were unemployed, with a statistically significant difference from the BD group (p value = 0.03). The impact of comorbidity of BD-OC is probably reflected on the level of education, occupational status and functional performance. This is consistent with the findings of many studies that found higher rates of unemployment and greater functional impairment among BD–OC group [37,38]. The degree of functional vocational impairment manifested by being unemployed could be probably correlated to the earlier onset and higher severity of the bipolar illness noticed in the BD-OC group.

Another interesting observation was that patients of the BD-OC group were younger than the BD group: their mean age was (23.1 ± 7.4) years for BD-OC and (26.5 ± 7.4) years for BD (p value = 0.031). In a study by Angst et al. [12], it was reported that for those with

<table>
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<th>Timing of OC symptoms in BD-OC</th>
<th>Type of the Episode</th>
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<tr>
<td>N</td>
<td>%</td>
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<tr>
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Table 4: Timing of OC symptoms throughout the course of the BD.
comorbid bipolar and OCD, the age of onset for OCD is earlier [12]. This was inconsistent with another study which revealed no statistically significant differences between BD-OC and BD in terms of age, sex, education and marital status [33].

**Smoking**

Interestingly, the number of smokers in BD-OC group was higher than those in BD group with high statistically significant difference \( (p \text{ value}<0.001) \). This finding is consistent with other studies which found that BD-OC patients had an over two times higher likelihood to be also diagnosed with nicotine, substance use disorders and alcohol use disorders vs. non-comorbid patients [15,39]. This may be also consonant with the findings of The ECA study, which confirmed the higher rate of substance abuse in OCD-BD subjects versus non-comorbid subjects [3].

**Clinical data**

While trying to monitor the chronological pattern of comorbidity of BD activity and OC symptoms, the study showed that 20.8% had their OC symptoms during the current episode, 12.5% experienced the OC symptoms during their euthymic phase of the illness, and 66.7% are having their OC symptoms although the course of BD.

Most of the current episodes were depressive episodes in both groups. The results of YMRS and BDI-II revealed more severe depression in the BD-OC group with statistically significant difference \( (p \text{ value}=0.03) \) and more severe manic symptoms in the BD group with statistically significant difference \( (p \text{ value}=0.01) \). These findings are consistent with many studies which revealed that the total number of depressive episodes was higher in patients with OCD-BD comorbidity than in BD alone [40,41].

In the current study, OC symptoms comorbidity with BD was manifested more likely during depression and mixed episodes which are consistent with other studies [42,43] which found a decrease in OCD symptoms during mania and a flare during depressive episodes. Zutshi et al. [44] revealed that most BD-OCD patients (78%) either had OCD confined exclusively to depressive episodes or reported worsening of OCD during depression. Improvement in OC symptoms was noted in 64% of patients during manic/hypomanic episodes and also some studies reported no cases of OCD during mania [34]. Perugi et al. [45] reported persistence of obsessive-compulsive symptoms in hypomanic episodes in 47.8% of a sample with primary diagnosis of OCD. Among bipolar subjects, McElroy et al. [42] found comorbidity of OCD in hospitalized manic patients, mainly in those with mixed state [42]. Apparently, therefore, the relation between the courses of both disorders is variable.

**Description of OC symptoms**

The findings of this study are consistent with many studies that revealed contamination [46], religious [7] and aggressive [1,46] obsessions are positively associated with BD-OCD comorbidity. However, these findings are inconsistent with some studies which reported more sexual obsessions [1,47] and lower rates of contamination obsessions among patients with BD-OCD comorbidity [1,48].

While the most common compulsions were cleaning/washing and counting, the study findings showed lower rates of compulsions than obsessions in the BD-OC group. These findings are consistent with many studies that revealed that patients with comorbidity were reported to have higher rates of cleaning [46], and counting [49] compulsions. However, they are inconsistent with studies that showed lower rates of washing compulsions in subjects with BD-OC comorbidity [1,44]. It should be noted that some transcultural differences regarding OC symptoms have been reported [1].

This study confirms the high comorbidity rates for OC symptoms in BD patients (38.7%). It also revealed a higher educational level in the BD-OC group than BD. Higher rates of unemployment and greater functional impairment were found among patients of BD–OC group. The smoking was more prevalent in BD than BD-OC group. The total number of depressive episodes was higher in patients with BD-OC group than in BD group. The most common obsessions were contamination, religious, and aggressive obsessions and the most common compulsions were cleaning/washing and counting compulsions.

**Limitations**

Although the study is revealing clinically interesting findings, however there are some limitations: The prevalence rates are not to be generalized because of the small size of the sample. More information about the details of the symptoms and their timing would be enlightening if observed directly by the psychiatrists, however most of the history was taken from the patients and their relatives depending on their memory. Further analysis and correlations would be done, but it may crowd the results, probably these will be presented in another research paper. More experimental study designs about the effectiveness of different types of management strategies would be beneficial to the patients.

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