Contents lists available at ScienceDirect

Neurology, Psychiatry and Brain Research

Association of bipolar I disorder with obsessive compulsive disorder: A clinical study from Pakistan

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ARTICLE INFO

ABSTRACT

Background: The association and/or comorbidity of bipolar I disorder I (BD I) with obsessive compulsive disorder (OCD) is discussed in the literature. This association is under-recognized in Pakistan causing management problems. This is the first study reporting this association in Pakistan.

Method: Retrospective data collection of 500 patients consecutively diagnosed with BD I according to DSM IV-TR was done in inpatient and outpatient settings at a tertiary care setting in Karachi, Pakistan; 469 patients who fulfilled the criteria were included in the study. Patients with BD I with and without OCD were compared for demographics, presenting symptoms, duration of disease, differences in treatment, and other clinical variables.

Results: 35 (7.5%) of the 469 patients had OCD along with BD I, with more than half having bipolar as the first diagnosis. A majority of the BD I − OCD patients had OCD symptoms during manic phase or in remission, with contamination as the main theme. The BD I − OCD group had a lower level of education, higher divorce rates, a higher incidence of OCD, as well as BD in the family, longer duration of illness, and fewer medical comorbidities.

Limitations: This is a retrospective study with patients from both inpatient and outpatient settings from a tertiary care hospital.

Conclusion: The association of BD I with OCD needs to be recognized by clinicians, as presentation may be different in this group especially in contextualized settings in Pakistan, where OCD or OCD-like symptoms may be related to BD itself. This finding has important diagnostic and management implications.

1. Introduction

Bipolar disorder I (BD I)1 is a highly recurrent psychiatric condition that typically presents with episodes of mania and/or major depression (Angst, 2013) with an estimated prevalence of approximately 1% in the general population (Merikangas et al., 2011). The association of bipolar disorder I has been reported with other psychiatric conditions, such as generalized anxiety disorder, social phobia, and obsessive-compulsive disorder (OCD) (Cederlöf et al., 2014). OCD has been debated to be either a separate psychiatric disorder that exists as a comorbid condition with BD I, or a manifestation of BD I itself sharing the same pathology (Kazhungil, Cholakottil, Kattukulathil, Kottelassal, & Vazhakalayil, 2017). The association of OCD with bipolar disorder was observed as early as the 19th century Hantouchea et al. (2003) also

investigated its association with cyclothymia. Moreover, on the basis of the epidemiological ECA study in 1995 Chen and Dilsaver demonstrated significant associations between OCD and bipolar disorder (Chen & Dilsaver, 1995).

BD I is underdiagnosed in low and middle-income countries (LMICs) with a treatment gap reported to be as high as 100% in prophylactic phase treatment (Fekadu et al., 2015). Pakistan is a South Asian country classified as an LMIC, and is the sixth most populous country in the world. 97% of the population is Muslim and the beliefs and practices of people are heavily influenced by culture and religion (Khan & Sanober, 2016). There is very limited data available about BD I in Pakistan, with prevalence not known in the general population. As in other LMICs the treatment gap in Pakistan is also expected to be wide due to multiple reasons, as has been discussed in our prior papers, including cultural

presentations of psychiatric illnesses (Khan & Sanober, 2016), low literacy rate, stigma (Maulik et al., 2017), lack of access to health care, comfort level of health care providers with diagnosing less severe psychiatric conditions, such as anxiety and personality disorders, instead of bipolar disorder, looking up to western diagnostic criteria, and lack of contextualized evidence-based guidelines for diagnosis and treatment.

We noticed that the comorbidity or presence of OCD/OCD-like symptoms in patients with BD I influences the diagnosis, treatment, and management of patients in Pakistan, as reported in other parts of the world. We aimed to study the relationship of bipolar I disorder with OCD in a tertiary care psychiatric setting in Karachi, Pakistan. This is the first study reporting this association in the Pakistani population.

2. Materials and methods

All consecutive male and female patients diagnosed with bipolar I disorder according to DSM-IV TR in the inpatient and outpatient psychiatric setting at the Aga Khan University hospital between July 2013 and June 2016 were identified by the medical records team using the diagnostic code for bipolar I disorder. A retrospective review of the charts was carried out and information was collected, using proformas designed for the study. Information was collected about the diagnoses of OCD (according to DSM-IV TR) along with demographic information and other details, such as the presence of active symptoms of mania or depression during these symptoms, medical comorbidities, medications, family history, etc. Exclusion criteria included: patients over 60 years of age due to the possibility of neurodegenerative conditions as cause of mood or personality changes; patients under 16 years of age; those with an intellectual disability and childhood developmental conditions; mood disorder secondary to substance use, general medical, or neurological conditions. The Aga Khan Research Ethics Review Committee exempted the study from a full approval protocol (3648-Psy-ERC-15) because it was a retrospective study with no direct involvement of human subjects or any intervention.

The Statistical Package for the Social Sciences (SPSS) 22.0 was used to calculate proportions and frequencies of demographic variables. Chi square analysis was correlated with the outcome variable to check for possible associations, using univariate analysis at significance level 0.05. In case of significant associations, multivariable analyses were carried out using binary logistic regression analysis.

3. Results

The total number of patients diagnosed with BD I was 500. 10 were excluded because they were older or younger than the study age-group, 8 because of the presence of substance use meeting the criteria for substance induced mood disorder, 6 due to other medical/neurological conditions identified as the cause of mood swings, such as brain injury, and 7 due to missing information.

The number of patients included in the study was 469 (N = 469).

OCD was present in 35 of 469 patients with BD I, 7.5% of the total patient population.

The demographic characteristics of BD I patients with and without OCD are reported in Table 1.

Course of illness, medication prescription patterns, and medical comorbidities of patients with BD I − OCD and patients without OCD are reported in Table 2.

In the BD I − OCD patients, a total of 14 (40%) had symptoms of OCD during the manic phase, with 8 males and 6 females, and 8 of the 14 under 30 years of age; 8 (20%) had OCD symptoms during the depressive phase, with 6 females and 2 males, and 4 of the 8 under 30 years of age; in the remaining 13 (37.1%) the OCD symptoms persisted during remission. In the BD I − OCD group 15 out of 35 (42.8%) had contamination as the main theme, pathological doubts were present in 5, sexual thoughts in 3, religious thoughts and rituals in 2, blasphemous

Table 1
Demographics of bipolar I disorder with/without obsessive compulsive disorder.

Variable	BD I with OCD n = 35 n (%)	BD I without OCD n = 434 n (%)	Chi-square Value	P value
Age in years				
11-20	6 (17.1)	40 (9.2)	6.91	0.329
21-30	12 (34.3)	131 (30.2)		
31-40	3 (8.6)	98 (22.6)		
41-50	9 (25.7)	84 (19.4)		
51-60	3 (8.6)	44 (10.1)		
61-70	2 (5.7)	25 (5.8)		
71 and above	0	12 (2.8)		
Gender				
Male	17 (48.5)	215 (49.5)	0.012	0.912
Female	18 (51.4)	219 (50.4)		
Marital Status				
Married	19 (54)	265 (61)	3.89	0.566
Single	14 (40)	132 (30)		
Divorced	2 (5.7)	13 (2.99)		
Education				
No formal education	3 (8.5)	15 (3.4)	10.25	0.175
Primary	2 (5.7)	15 (3.4)		
Secondary	3 (8.5)	16 (3.6)		
Matric (10 years)	5 (14.2)	40 (9.2)		
Intermediate (12 years)	8 (22.8)	86 (19.8)		
Graduate (14 years)	8 (22.8)	88 (20.2)		
Post graduate (16 years or more)	2 (5.7)	76 (17.5)		
Not answered	4 (11.4)	98 (22.6)		
Occupation				
Unemployed	3 (8.5)	40 (9.2)	15.78	0.072
Homemakers	9 (25.7)	92 (21.1)		
Students	8 (22.8)	49 (11.2)		
Teachers	4 (2.8)	27 (6.2)		
Businessmen	6 (17.1)	48 (11)		
Retired	2 (5.7)	11 (2.5)		
Skilled labor	1 (2.8)	37 (8.5)		
Other profession	0	42 (9.6)		
Landlord	0	11 (2.5)		
Not answered	2 (5.7)	77 (17.7)		
Family history				
OCD	1 (2.9)	1 (0.2)	28.28	0.008
Bipolar disorder	7 (20)	40 (9.2)		
Depression	1 (2.9)	34 (7.8)		
schizophrenia or psychotic illness	2 (5.7)	9 (2)		
Not significant	16 (45.7)	253 (58)		
Suicide	0	3 (0.7)		
Epilepsy	0	2 (0.5)		
Dementia	0	2 (0.5)		

BD I – Bipolar I disorder; OCD – Obsessive compulsive disorder.

thoughts in 2, and mixed themes among the rest.

OCD was diagnosed prior to BD I in 6 patients (17.1%), while in the majority of the patients (82.8%) BD I was the first diagnosis. Of the 6 patients in whom OCD was diagnosed first, 4 were males and 2 females, most were older than 30 years of age, and contamination was the major theme in 5 of 6.

4. Discussion

The association of BD I with OCD has been reported in the literature. This is the first study to explore this association in the Pakistani population. In our sample 7.5% of the patients with BD I were found to have a diagnosis of OCD, which is strikingly similar to the study in India that reported the frequency of OCD as 7.6% in patients with BD I (Shashidhara, Sushma, Viswanath, Math, & Reddy, 2015). Because of their similar cultural and historical backgrounds and geographical

Table 2
Clinical profile of bipolar I disorder with/without obsessive compulsive disorder.

Variable	BD I with OCD n = 35 n (%)	BD I without OCD n = 434 n (%)	Chi- square Value	P value
Duration of illness				
Less than 1 year	2 (5.7)	26 (5.9)	8.45	0.133
1-5 years	13 (37.1)	238 (54.8)		
5-10 years	6 (17.14)	59 (13.5)		
10-15 years	3 (8.5)	34 (7.8)		
More than 15 years	10 (28.5)	55 (12.6)		
Treatment (Medications)				
SSRIs only	1 (2.9)	12 (2.7)	9.84	0.363
Mood stabilizer plus anti-psychotic plus anti-depressant/ anxiolytic	14 (40)	87 (20)		
Mood stabilizer plus anti-psychotic	9 (25.7)	135 (31)		
Anti-psychotics only	5 (14.2)	64 (14.7)		
Anti-depressant/ anxiolytic plus mood stabilizer/ anti-psychotic	6 (17.1)	98 (22.5)		
Mood stabilizer monotherapy	0	32 (7.3)		
Co morbid conditions				
None	18 (51.4)	138 (31.7)	29.24	0.001
Cardiovascular conditions	9 (25.7)	63 (14.5)		
Migraine	1 (2.9)	3 (0.7)		
Thyroid disorder	0	14 (3.2)		
Asthma	0	8 (1.8)		
Seizures	0	4 (0.9)		
Autoimmune disorders	0	4 (0.9)		
Dementia	0	2 (0.5)		

SSRI- Selective serotonin reuptake inhibitor.

proximity, it is possible that the two countries have similar behavioral and psychopathological patterns that would be worth studying. In other hospital based studies the prevalence of OCD in BD is reported to be between 3% and 16% (Zutshi, Reddy, Thennarasu, & Chandrashekhar, 2006). In our population, the average age at the time of presentation was slightly younger in the BD I-OCD patients and there were more single patients in this group as compared to the BD I patients without OCD. It is possible that the ego dystonic nature of OCD symptoms may result in BD I−OCD patients seeking treatment a little earlier in BD I−OCD group. There may be decreased recognition of mood symptoms in BD I patients without OCD, due to limited insight, the ego syntonic nature of manic/hypomanic symptoms, and people's limited knowledge of such symptoms leading to late presentation. There was an almost equal distribution of males and females in both groups. The patients in the BD I−OCD group had a relatively lower level of education than those with BD I without OCD; the percentage of unemployed patients was about the same in both groups, and there was a higher number of students in the group of BD I with OCD probably because the patients in this group were relatively younger. It is also interesting to note that a higher percentage of patients in the BD I−OCD group had a positive family history for bipolar disorder as compared to the BD I without OCD group, whereas only one patient in BD I−OCD group had positive family history for OCD, which is in line with findings in the literature (Amerio, Tonna, Odone, Stubbs, & Ghaemi, 2015), supporting the idea from prior studies that OCD symptoms in this group may be a manifestation of BD itself (Masi et al., 2009).

The duration of illness/chronicity was a little longer in patients with BD I−OCD as compared to those without OCD. As pointed out earlier, this could be due to the early diagnosis of BD I−OCD cases as compared to BD I without OCD. It is interesting to note that among patients with BD I−OCD only 1 patient was on SSRI monotherapy indicating that most of these patients were diagnosed and treated as bipolar patients. 60% of patients with BD I−OCD were, however, on some form of antidepressant/anxiolytic, with a mood stabilizer or antipsychotic or both, as compared to 45.8% of patients with BD I without OCD, who received antidepressants/anxiolytics. Thus, a higher number of patients in BD I−OCD group received SSRIs/antidepressants/anxiolytics. Significantly more patients in the BD I−OCD group were on psychotropics from three different classes, possibly suggesting treatment difficulties or a more severe form of illness in patients in this group. Polypharmacy is

frequently reported in the literature in BD I−OCD patients (Masi et al., 2009).

None of the patients in the BD I−OCD group was on mood stabilizer monotherapy. None of the patients in the BD I−OCD group received ECT, whereas a few patients in the BD I without OCD group did receive ECT, a finding which differs from the reports in the literature (Mahasuar, Janardhan Reddy, & Math, 2011). The BD I−OCD group in general had fewer medical comorbidities but a higher frequency of cardiovascular conditions. The literature reports a higher prevalence of cardiovascular conditions in patients with BD (34.5%) than in the general population (Martin et al., 2016). The BD I without OCD group had a few cases of thyroid disorder, asthma, and autoimmune disorders, while the BD I−OCD group had none.

An interesting finding in our population is that a majority of patients in the BD I−OCD group had OCD symptoms during the manic phase or in remission, and a minority had OCD symptoms during the depressive phase, a result which differs from that commonly reported in the literature (Magalhães, Kapczinski, & Kapczinski, 2010), although a few studies have documented the persistence of OCD symptoms during hypomanic episodes (Perugi, Akiskal, Toni, Simonini, & Gemignani, 2001). We hypothesize that increased or racing thoughts and an increase in energy or activity in mania (American Psychiatric Association, 2013) may have been labelled as obsessions and compulsions in some patients in our population. As we have reported in our prior work, manic symptoms in the Pakistani population, especially increased or racing thoughts, and increased energy or activity, may be differently expressed than in the Western world, where these are described as an increase in goal directed actions, such as occupational, social, or sexual activities, and risk taking and impulsive behaviors such spending sprees, sexual indiscretion, increased alcohol consumption, etc. It should be remembered that in societies like Pakistan many people, especially home-bound women but also many men, do not have an active occupational or social life; sexual activity is not acceptable outside of the marital relationship, many married women have no interaction with men other than their husbands; unmarried or single females and males are not supposed to have romantic relationships until they get married due to strict social and religious norms and strictly defined gender roles. Overspending is often not an option for the majority of men and women because of limited financial resources and women's financial dependence on men and having no direct access to money.

Very few people, especially among women, have access to bank accounts or check cards, and a clear majority of people live under the poverty line. Smoking and alcohol consumption are almost nonexistent in females because of cultural prohibitions, whereas men smoke but do not have free access to alcohol, as drinking is forbidden in Islam. Increased or racing thoughts and increased activity or energy may manifest differently in Pakistani society and in men and women. Women, especially in home settings, may overdo household chores, such as cooking, washing and cleaning, or may pray more than usual. We have also made and reported the observation that delirious mania symptoms, including confusion, psychomotor agitation, and psychosis, may present in various forms such as repetitive actions and may be confused with OCD by health care providers (Khan & Sanober, 2016). It is also possible that in our study some patients who are diagnosed as being in remission had hypomanic symptoms that were missed or not documented in the charts. In our study contamination was the most common theme of OCD symptoms in the BD I − OCD patients, followed by pathological doubts, sexual, and religious thoughts. In the literature contamination is generally found to be the more common theme in pure OCD patients with pathological doubts, religious, and sexual obsessions more common in BD OCD patients (Tükel et al., 2007). In most of our patients BD I was diagnosed first and OCD second, and all were treated with a combination of mood stabilizer/antipsychotic and anti-depressant/anxiolytic. Given the cyclical symptoms of OCD and the response to mood stabilizers, the literature suggests that most patients with comorbid BD and OCD probably have primary BD (Zutshi, Kamath, & Reddy, 2007) and our findings also support this notion.

This study has certain limitations. This is a cross sectional retrospective study. The data was collected from hand written records which may be difficult to comprehend or understand at times on account of loose format and legibility. The study involves patients from both inpatient and outpatient settings, with the result that the patient population and the severity of psychiatric conditions may be different. The data were collected from a tertiary care, private psychiatric hospital and may have limited generalizability to the general population. However, the diagnoses were made by trained psychiatrists and the data were also collected by psychiatry residents who were fully familiar with psychiatric diagnoses and findings. The sample size of the study was good. The findings need replication by further studies.

Ethical statement

The study was approved by the Ethics Review Committee at the Aga Khan University Hospital 3648-Psy-ERC-15.

Funding

Declaration of Competing Interest

The authors declare no conflict of interest.

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