Comorbidity of obsessive-compulsive disorder in early and late onset manic depressive disorder

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Abstract

Introduction: The aim of this study was to compare obsessive-compulsive disorder (OCD) comorbidity in early and late onset bipolar I disorder and to explore the pattern of obsessive symptoms in these two groups.

Methods: A total of 100 inpatients with early and late bipolar disorder were admitted in the child, adolescent and adult psychiatric ward. They were recruited to the study through convenience sampling. All patients had a current DSM-IV episode based on using K-SADs and SCID. They were evaluated to about obsessive-compulsive disorder comorbidity using Y-BOCS. Clinical data were compared using multivariate test.

Results: Fifty-two percent with early onset versus twenty-eight percent of late onset bipolar cases had a comorbidity of OCD and the difference was significant (p<0.05). Obsessive symptoms in early onset group were more religious, aggressive, sexual and somatic types.

Conclusion: Our study showed high comorbidity rate of OCD among patients with early onset bipolar disorder. Future large-scaled prospective studies are required for better understanding of factors related to bipolar and OCD co-occurrence.

Declaration of Interest: None.

Keywords: OCD, Bipolar disorder, Comorbidity.

Introduction
Bipolar disorder in children and adolescents has recently become the focus of increasing attention. It is now generally accepted that clinical presentation of mania in childhood may be atypical by adult standard (1). Carlson et al. reported that patients with early onset mania were more likely to have comorbid behavior disorders in childhood and had fewer episodes of remission in a 2-year period than those with adult mania (2). Premorbid psychiatric problems are common in early onset bipolar disorder, especially difficulties with disruptive behavior disorders, irritability and behavioral dyscontrol (3,4,5,6,7,8). Clinical researches found that 24% to 79% of bipolar subjects present at least one anxiety disorder during their lifetime.
compared to late onset (age at onset >18 years).

**Methods**

For this cross-sectional study data were gathered from 100 patients with bipolar disorder admitted in the child, adolescent and adult psychiatric service between 2004-2006 at the Imam Hossein hospital, Tehran, Iran. In the consecutive case ascertainment, every new admitted patient who was diagnosed by his/her clinician to have bipolar disorder was evaluated by semistructured interviews. Inclusion criteria were males and females above six year old with current bipolar I disorder based on using Kiddi-Schedule for Affective Disorder and Schizophrenia (K-SADS) for children and adolescents, and Structured Clinical Interview for DSM-IV (SCID) for adults [23,24,25,26,27]. Exclusion criteria were IQ<70, previous developmental disorders, epilepsy or other major medical or neurological disorders. The rational for these inclusion and exclusion criteria included the following: subjects needed to have bipolar I disorder to avoid diagnosing mania only by symptoms that overlapped with those for ADHD especially in early onset group. They need to have an IQ of at least 70 to cooperate in interview and to recall obsessive symptoms in the past. The participants were divided into two groups, corresponding to age at onset of bipolar disorder. Early onset was considered when the main symptoms of the bipolar disorder began before age of 18 and late onset of 18 or above. It was supposed to recruit equal numbers in each group. Informed consent was obtained from each patient’s parent or guardian and the subjects above 18 were consented themselves before participation in the study. The diagnosis of bipolar disorder which had been made clinically by general psychiatrist (in adult group) and child and adolescent psychiatrist (in children and adolescents group) was confirmed using semistructured instruments (K-SADS and...
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SCID). A range of demographic and clinical variables were analyzed. Age, gender, age at onset (AAO) of bipolar disorder and age at onset of OCD were obtained from medical record and interview with the patient and one family member. AAO of bipolar disorder was considered the age at the first admission in hospital. Age at onset of OCD was defined the age at the first identified episode meeting criteria for OCD. Diagnosis of lifetime OCD and its subtypes was made using K-SADS and the Yale-Brown scale (children and adults version) (28,29). They were assessed following recovery from the acute affective phase and within one week before discharge to increase reliability. Obsessions and compulsions were grouped according to four categories described by factor analysis studies (30,31,32). In our study, patients were included in a specific symptoms dimension only when severity and impairment of symptoms was clinically significant according to the researcher’s judgement. Data analysis used SPSS 10.0 R software for windows. Clinical data were compared using the Fisher Exact Test, chi square, independent sample t-test and multivariate tests. The statistical significance level was defined as \(p<0.05\).

Results

One hundred patients were enrolled in the study. Subjects were divided into early onset (50 patients) and late onset (50 patients) groups.

Subjects in early onset group had a mean age of 15.6 ± 1.62 and in late onset group, the mean age was 32.90 ± 0.52. Mean AAO of bipolar disorder were 14.30 ± 2.02 in early onset and 25.40 ± 7.67 in late onset group. Table 1 shows sex ratio, OCD comorbidity and subtypes of OCD in both groups. There was no statistical difference between two groups in relation to gender variable. However, there was a significant difference in terms of the presence or absence of comorbid OCD in the two groups. There was no significant difference in comorbidity rate based on gender factor. Table 1 displays the types of obsessions and compulsions in two groups.

Table 1. Clinical variables in early and late onset bipolar disorder

<table>
<thead>
<tr>
<th></th>
<th>Early onset n (%)</th>
<th>Late onset n (%)</th>
<th>P</th>
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<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>27(54)</td>
<td>26 (52)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23 (46)</td>
<td>24 (48)</td>
<td></td>
</tr>
<tr>
<td>Age at onset of BD (Mean ± SD)</td>
<td>1430±2.02</td>
<td>25.40±7.67</td>
<td></td>
</tr>
<tr>
<td>Comorbidity with OCD</td>
<td>26 (52)</td>
<td>14 (28)</td>
<td>0.024</td>
</tr>
<tr>
<td>Obsessive symptoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Contamination</td>
<td>11 (22)</td>
<td>9 (18)</td>
<td>0.655</td>
</tr>
<tr>
<td>-Symmetry &amp; ordering</td>
<td>4 (8)</td>
<td>2 (4)</td>
<td>0.414</td>
</tr>
<tr>
<td>-Religious, aggression and sexual</td>
<td>11 (22)</td>
<td>6 (14)</td>
<td>0.033</td>
</tr>
<tr>
<td>-Hoarding</td>
<td>0</td>
<td>0</td>
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</table>

Contamination obsessions and cleanliness and washing compulsions were reported in 22% of young and 18% of adults without significant difference between two groups. Symmetry obsessions and ordering, counting and repeating compulsions were reported in 8% of young and 4% of adults without significant difference. Aggressive, sexual, religious and somatic obsessions and checking compulsions were obtained in 22% of the young and 6% of the adults and the difference is statistically significant (\(p<0.05\)). In both groups, no one displayed hoarding symptom. There was no significant differences between mean and standard deviations of obsession, compulsions and total scores between two groups.

The average age at onset of OCD in early onset group who were comorbid with OCD was 12.69 ±
2.44. It shows the priority of the AAO of OCD compared to the AAO of bipolar disorder in children and adolescents (p<0.05). There was no significant correlation between age and YBOC scores in the cases with comorbidity in both groups (Spearman's rho=.048, p=.772).

**Conclusion**

The aim of this study was to compare the comorbidity rate of OCD and the pattern of obsessive symptoms in early and late onset bipolar disorder. The average age at onset of bipolar disorder was 14.30 ± 2.02 and 25.40 ± 7.67 in the first and second group respectively, and it was consistent with two subtypes of early and intermediated onset of (bipolar disorder) BPD in Believier’s study and early and late onset BPD in Carte's project (33,21). In our sample of BP subjects, those with an earlier onset had a higher frequency of comorbidity with OCD (52%) in comparison with BP subjects with later onset (28%). The frequency of OCD comorbidity in patients with later onset of BPD is similar to the findings of the most clinical and epidemiological studies (13,34,14,35,16).

However, one study reported low frequency of current comorbidity of OCD (7%) (36), which can be due to making diagnosis of lifetime OCD in the present study. Higher frequency of OCD comorbidity among younger group is consistent with two recent and similar studies, which reported OCD comorbidity in 44.2% and 48.9% of children and adolescents with bipolar disorder respectively (47,19). Tillman et al., reported OCD comorbidity in 24.7% of children with bipolar I disorder (38). The discrepancy among studies about comorbidity rate of OCD included differences in setting or methodology such as the phase of BPD during which subjects were assessed for comorbidity, in the use of epidemiologic data versus clinical data from inpatients or outpatients, in choice of diagnostic interview and in whether lifetime or current diagnoses of OCD were made. In the present study there was no significant difference between all subjects with BPD and OCD regarding to gender, which is comparable to the results of some previous studies (39,13,40). However, we found three studies with different results. Kruger et al. showed all subjects with OCD and BPD were male with bipolar II disorder (36). In contrast to the findings of Tamam (2002), reported subjects with the first episode and male sex had lower rates of anxiety disorders (35). In another study, early age at onset of bipolar disorder was associated with female gender and greater overall comorbidity (51). Our findings regarding to subtypes of obsessions and compulsions showed subjects with earlier age at onset had more aggressive, sexual, religious and somatic obsessions and checking compulsions compared to patients with later onset of BPD (22% compared to 6%). As a whole religious obsessions and checking compulsions are one of the most common obsessions and compulsions in children and adolescents while they are not more frequent in adults. Masi et al. reported more existentialist, philosophical, bizarre and superstitious obsession in the group with comorbidity of BPD and OCD compared to the group with only OCD (37). Perugi et al. in a study of episodic course in OCD reported significantly higher rates of sexual obsessions and significantly lower rates of order rituals than non-bipolar OCD patients (51). In other studies adolescents’ obsessions in cases without bipolar comorbidity typically focus on dirt and germ, fear of an ill fate befalling loved ones, exactness or symmetry and religious scrupulousness (43). Bodily functions, lucky numbers, sexual or aggressive preoccupation and fear of harm to oneself are less common. In adults these remain frequent, but

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aggressive and sexual obsessions are more common (44,45,46). In the present study, sexual or aggressive preoccupations were high in early onset bipolar and these results were not in line with what would be expected from development perspective. On the other hand, nobody had hoarding symptoms in our finding and this is in contrast to the finding of Mataix-cols in a pediatric OCD sample. They found a large proportion of children and young people with OCD endorse clinically significant hoarding symptoms (47). Perhaps there is a cultural variation in types of OCD symptoms in different countries or it may be due to bipolar comorbidity. Additional finding was the priority of AAO of OCD to AAO of bipolar in early onset group. It is keeping with the results of the study done by Masi et al., which reported the earlier age at onset of OCD in children with the comorbidity of OCD and bipolar disorder compared to those with only OCD (48,37). However, we did not register the AAO of OCD in late onset group and we cannot compare them according to AAO of OCD. Moreover, this finding supports epidemiologic data suggesting the presence of anxiety disorders may predict the onset of BPD.

Limitation of our study includes the relatively small sample size of patients with bipolar disorder. Our samples are not representative of bipolar population and are limited to bipolar I disorders and inpatient subjects. Individuals presenting to specialty treatment setting have more severe symptomatology, are more impaired and some from families that feel more burdened by their children’s problems, than are individuals with psychiatric disorders who do not present for treatment (49). However, it is important to consider clinical samples for the study of comorbidity, which are very useful when their limitations are appreciated. For example, when the target groups to which one wishes to generalize ones results are other clinical samples. In addition, most patients with disorders such as bipolar can be expected to present for treatment (50). Another limitation of our study is a likelihood of recall bias on age at onset, and this is the limitation of these retrospective data. The only way to avoid this apparent problem is to measure concurrent and successive comorbidity prospectively in longitudinal studies (50). Future researches might be required to clarify the correlation and etiological factors responsible for this comorbidity. Identifying specific comorbidity in two age groups of bipolar disorder will help refining phenotypic descriptions and subtyping of bipolar disorder. Such studies aim at optimizing treatment strategies.

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