Letters

Comorbid bipolar disorder and obsessive-compulsive disorder: A child and adolescent perspective

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To the Editor

More than half of patients with bipolar disorder (BD) also have an additional psychiatric diagnosis, one of the most difficult to manage being obsessive-compulsive disorder (OCD) (Amerio et al., 2014). Overlapping clinical criteria

for many diagnoses, in particular mood and anxiety disorders, produced by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), might lay behind these high prevalence rates.

Although recent studies have investigated the co-occurrence of anxiety disorder and BD, the topic is insufficiently studied especially in children and adolescents, and the relationship between BD and OCD remains unclear.

We updated our recent systematic review (Amerio et al., 2015) and performed a meta-analysis of the evidence from the literature to define the prevalence of comorbid BD-OCD in children and adolescents (Table 1).

We pooled individual study data on the prevalence of OCD in BD using DerSimonian–Laird proportion method utilizing a random effects model with Comprehensive Meta-analysis Software (Version 3). Heterogeneity was assessed with the Q statistic for each analysis; publication bias was assessed using the Begg–Mazumdar Kendall's tau and Egger bias test. When we encountered publication bias, we conducted a trim and fill adjusted analysis.

We pooled data from 345 adolescents with BD (mean age = 12.7 ± 2.5 years; 54.7% male; range = 36.3–76.8) across four studies to establish a pooled prevalence of OCD of 23.2% (95% confidence interval [CI] = [11.5%, 41.3%], $Q = 30$) (Figure 1). There was no significant publication bias (Egger intercept = -9.1 ; Begg = 0.08). These results showed higher comorbidity rates in youths compared to adults

(13.56%; 95% CI = [10.4, 16.25], $n = 4539$) (Amerio et al., 2015) and need to be interpreted in the context of the available literature.

As reported by recent studies (Cederlöf et al., 2014), obsessive-compulsive (OC) symptoms in childhood and adolescence may be expression of vulnerability to BD increasing the risk of a later BD diagnosis, and being suggestive of partially shared etiopathogenetic mechanisms between these severe mental disorders.

OCD symptoms would initially coexist with BD symptoms—more often, and sometimes exclusively, during depressive episodes—even cycling together and remitting during manic/hypomanic episodes (Amerio et al., 2014). OCD symptoms would gradually tend to decrease in the adulthood.

The clinical features of comorbid BD-OCD patients would explain why OCD and BD symptoms respond to adequate mood stabilizer treatment. Addition of low doses of antidepressants could be considered only in a minority of comorbid patients with persistent OCD while strictly monitoring emerging symptoms of mania or mixed states (Amerio et al., 2014).

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Authors M.T., A.A. and A.O. designed the study and wrote the protocol. Studies were identified and independently reviewed for eligibility by two authors (A.A. and A.O.) in a two-step based process. Data were extracted by one author (A.A.) and supervised by a second author (S.N.G.) using an ad hoc developed data extraction spreadsheet. The same authors

Table 1. Studies that met inclusion/exclusion criteria for systematic review.

References	Study design	Country	Study population	Sample size	Diagnosis assessment	Quality ^a
Dilsaver et al. (2006)	Case control study	United States	Pt. (n=313): BD (n=115, mean age=14.6 ± 1.5)	115	SCID-CV; DSM-IV	18/31
Joshi et al. (2010)	Case control study	United States	OCD Pt. (n=125, age range=6–17), BD Pt. (n=82, age range=6–17)	207	K-SADS-E; DSM-III-R	19/31
Shon et al. (2014)	Cross-sectional study	South Korea	Pt. (n=198): BD (n=55), MDD (n=143)(age range=6–18)	55	K-SADS-PL; DSM-IV	22/31
Tillman et al. (2003)	Case control study	United States	BD Pt. (n=93, mean age=10.9 ± 2.6)	93	WASH-U-K-SADS; DSM-IV	20/31

BD: bipolar disorder; OCD: obsessive-compulsive disorder; MDD: major depressive disorder; Pt.: patients; DSM-IV: *Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition*; DSM-III-R: *Diagnostic and Statistical Manual of Mental Disorders—Third Edition, Revised*; SCID-CV: Structured Clinical Interview for DSM Disorders—Clinical Version; DICA-R: Diagnostic Interview for Children and Adolescents—Revised; K-SADS-E: Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children—Epidemiologic Version; K-SADS-PL: Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children—Present and Lifetime Version; WASH-U-K-SADS: Washington University in St. Louis Kiddie Schedule for Affective Disorders and Schizophrenia; DAWBA: Development and Well-Being Assessment.

^aChecklist for measuring study quality developed by Downs and Black.

Figure 1. Pooled prevalence of OCD in BD patients.

who performed data extraction (A.A. and S.N.G.) independently assessed the quality of selected studies using the checklist developed by Downs and Black both for randomized and non-randomized studies. Author B.S. performed the meta-analysis and meta-regression of data. M.T., A.A., B.S. and A.O. have been involved in drafting the manuscript and S.N.G. revised it critically. S.N.G. has given final approval of the version to be published. All authors read and approved the final manuscript. M.T. and A.A. contributed equally to this work.

Declaration of interest

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