

Bipolar Spectrum Disorder in Youth with Chronic Tic Disorder/ Obsessive-Compulsive Disorder Spectrum Conditions

Lilian Ebner, MD^{1,2}, Lanette Choi³, Robyn Thom, MD^{1,2,4} and Erica Greenberg, MD^{1,2}

¹Department of Psychiatry, General Hospital, Boston, MA, USA; ²Department of Psychiatry, Harvard Medical School, Boston, MA, USA; ³Sargent College of Health & Rehabilitation Sciences, Boston University, Boston, MA, USA; ⁴Massachusetts General Hospital Lurie Center for Autism, Boston, MA, USA

BACKGROUND

- Developmental neuropsychiatric conditions such as chronic tic disorders (CTD) and early-onset obsessive-compulsive disorder (OCD) are commonly associated with comorbidities.
- The estimated prevalence of pediatric bipolar disorder (BD) in the general population ranges 0.9% to 3.9% (Van Meter et al., 2019; Liu et al.; 2022).
- Despite frequent observation, few studies have examined the comorbidity rates of BD in OCD or CTD.

METHODS

- A retrospective analysis of medical records of patients with CTD/OCD spectrum conditions seen at the Pediatric Psychiatry OCD and Tic Disorders Program at Massachusetts General Hospital.
- Collected factors included demographic information, diagnoses of *CTD*, *OCD*, *PANS/PANDAS*, *BD*, and *severe affective dysregulation** diagnoses; *comorbidities*; *medical and family history*; and *medications*.
- To ensure data quality, every 5th patient was double-coded by a clinician expert; after achieving satisfactory interrater reliability, the ratio was increased.
- Descriptive statistics were used for analysis.

*an umbrella category defined to include diagnoses of disruptive mood dysregulation disorder (DMDD), episodic/unspecified mood disorder

PARTICIPANTS

- 179 youth were assessed.
- 162 youth were on the CTD/OCD spectrum (Tourette syndrome, persistent chronic motor/vocal tic disorder, tics only, OCD, obsessive-compulsive symptoms).
- 148 youth had OCD or CTD diagnoses.

Youth on the CTD/OCD spectrum (n=162)

Age at first appointment (in years)	13.4 ± 3.4
Age at last appointment (in years)	15.9 ± 3.7
Average time in the program (in years)	2.5 ± 2.4
Sex assigned at birth (n=160)	Male: 48% (77); Female: 52% (83)
Race (n=152)	White: 87% (132); Asian: 3% (5), Black or African American: 3% (4), Multiracial: 7% (11)
Ethnicity (n=155)	Hispanic: 7% (10); Not Hispanic: 94% (145)
Age of onset of CTD symptoms (in years)	6.5 ± 3.5
Age of onset of OCD symptoms (in years)	8.5 ± 3.6

RESEARCH AIM

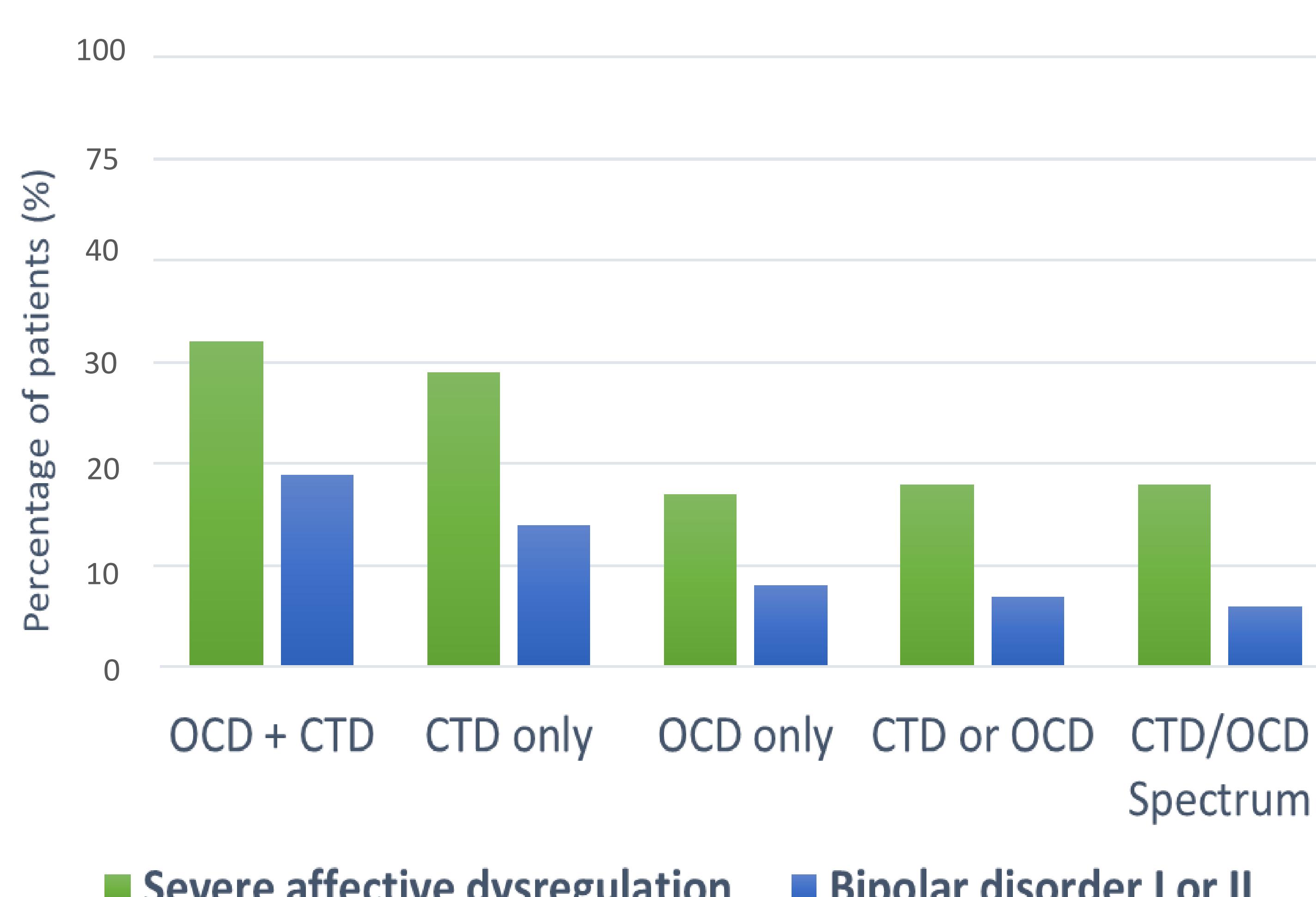
To explore the rates of bipolar disorder and severe affective dysregulation in youth with CTD/OCD spectrum conditions.

PRELIMINARY RESULTS

	CTD+OCD	CTD only	OCD only	CTD or OCD	CTD/OCD Spectrum
N	47	63	132	148	162
BD I or II (%)	19	14	8	7	6
Severe affective dysregulation (%)	32	29	17	18	18
PANS or PANDAS (%)	4	5	7	7	6
Other comorbid diagnosis (%)	98	95	96	95	96
• ADHD	79	76	60	61	60
• IED	21	17	14	13	13
• BFRB	28	21	27	24	27
• ASD	21	16	14	13	12
• LD	28	25	17	17	16
• Depression	45	41	37	36	36
• Sleep/wake disorder	21	16	11	9	9
Fam Hx CTD or OCD	55	51	50	49	47
Fam Hx BD I or II	21	21	14	15	15
SSRI < 12y	47	37	35	32	31

ADHD: Attention-deficit/hyperactivity disorder; ASD: Autism spectrum disorder; BFRB: Body-focused repetitive behavior; Hx: History; LD: Learning disorder; PANDAS: Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections; PANS: Pediatric acute-onset neuropsychiatric syndrome

Patients with BD I/II with prior severe affective dysregulation	70% (7)
Age of onset of symptoms of severe affective dysregulation (in years)	10.3 ± 3.5
Age of onset of BD I/II symptoms (in years)	15.3 ± 3.5
Years between the onset of symptoms of severe affective dysregulation and BD I/II	7.4 ± 2.7



CONCLUSIONS & FUTURE DIRECTIONS

- Youth with OCD and CTD show elevated rates of BD I/II, with youth with co-occurring OCD and CTD cases showing the highest rates.
- The majority of patients with BD I/II had a prior diagnosis of severe affective dysregulation.
- More data is needed to identify risk factors for BD development in youth with OCD/CTD spectrum conditions and to identify those at risk of transitioning from severe affective dysregulation to BD.