Differences in Real World Executive Function between Children with Pediatric Bipolar Disorder and Children with ADHD.

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Abstract

BACKGROUND:
Recent research evidence suggests that executive function (EF) is impaired in both pediatric bipolar disorder (PBD) and attention deficit-hyperactivity disorder (ADHD), although the underlying cognitive mechanisms are still unclear. In this study we examined EF, including cognitive and emotional control, in three pediatric groups with overlapping symptoms.

METHODS:
Sixteen children and adolescents with PBD, 17 children and adolescents with ADHD, Type Combined, and 13 children and adolescents with PBD and comorbid ADHD (PBD+ADHD) (mean age=12.70, SD=2.21) were assessed using the Behavioral Rating Inventory of Executive Function - Parental Report (BRIEF-PR), clinical scales and neuropsychological tests of attention, working memory and executive function.

RESULTS:
All groups showed impairment on the Trails A and B tests. However, there were no significant group differences. On the BRIEF-PR while all three groups were impaired in General Executive Functioning and Metacognition only the two PBD groups revealed more extensive EF dysfunction, in both cognitive and emotional control domains, relative to the ADHD group. Conversely, the ADHD group exhibited selective deficits in cognitive domains such as working memory, planning/organization, monitoring, and metacognition. The two PBD groups showed greater impairment than the ADHD group in the domains of Inhibition, Shifting, Monitoring and Emotional Control. Furthermore, results from regression analyses suggest cognitive predictors of EF impairment in ADHD and mood predictors for inhibition in PBD.

CONCLUSIONS:
The current results contribute new knowledge on domain-specific similarities and differences in executive dysfunction between PBD, ADHD, and the comorbid phenotype, which may inform the diagnostic process and cognitive intervention.