Examination of Disruptive Behavior Outcomes and Moderation in a Randomized Psychotherapy Trial for Mood Disorders

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Objective: Multifamily psychoeducational psychotherapy (MF-PEP) is an efficacious treatment for children with mood disorders. Given the comorbidity between disruptive behaviors and mood disorders, this study examined associations between disruptive behaviors and impairment, impact of MF-PEP on disruptive behaviors, and whether disruptive behaviors affected treatment response of mood symptoms. **Method:** Secondary analyses examined a randomized controlled trial of MF-PEP versus waitlist control (N = 165 children 8–11 years old with mood disorders and their parents). Comorbid behavioral diagnoses occurred in 97% of children. All participants continued treatment as usual. **Results:** Greater degree of disruptive behaviors was associated with worse mood symptoms and impairment. Between-group analyses examining outcome of disruptive behaviors were nonsignificant. Within-group analyses and between-group effect sizes suggested that MF-PEP was associated with decreases in attention-deficit/hyperactivity disorder ($d = 0.39$), oppositional defiant disorder ($d = 0.30$), and overall disruptive behavior symptoms ($d = 0.30$), but not conduct disorder symptoms. Baseline severity of disruptive behaviors did not affect treatment response of mood symptoms to MF-PEP. **Conclusions:** MF-PEP is an effective intervention for children with mood disorders and provides some benefit for disruptive behaviors. Given that disruptive behavior severity does not affect children's ability to experience improved mood symptoms, MF-PEP may be an important early intervention for children with comorbid mood and disruptive behavior disorders. Subsequent intervention targeting behavioral symptoms after improvement in mood may be beneficial. Studies examining treatment sequencing for children with comorbid mood and disruptive behavior disorders are needed. Clinical trial registration information—Family psychoeducation for children with mood disorders; *http://clinicaltrials.gov*; NCT00050557. J. Am. Acad. Child Adolesc. Psychiatry, 2013;52(7):699–708. **Key Words:** children, disruptive behavior, family therapy, mood disorders, psychoeducation

Depressive and bipolar disorders are common in prepubertal children. Epidemiologic studies have suggested that depressive disorders affect 2% to 5% of children.[1] Although no epidemiologic studies of bipolar disorders have focused exclusively on school-aged children, a recent meta-analysis, which examined studies of youth 7 to 21 years old, suggested that bipolar disorders (i.e., bipolar I and II disorders, bipolar disorder not otherwise specified, cyclothymic disorder, mania, hypomania) affect 1.8% of youth (prevalence range 0.1–6.3).[2] Childhood mood disorders are associated with chronicity, impairment, and increased risk for development of other psychiatric disorders. Given the psychosocial complexity and psychiatric comorbidities in children with mood disorders, interventions are needed that address mood symptoms, family context, and coexisting difficulties.[3-5]

Childhood mood disorders are highly comorbid with disruptive behavior disorders (DBDs), including attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD). Clinical samples of children with depression have demonstrated rates of DBDs consistently higher than 60%.[6,7] Clinical samples of children with bipolar disorder have shown even higher rates of DBDs.[8] Epidemiologic studies have suggested that ADHD co-occurs in 14% to 16% of children with depression, whereas ODD and/or CD co-occur in

14% to 30%.[9] Similarly high rates of comorbid DBDs have been reported in epidemiologic studies of children and adolescents with bipolar disorders, specifically ADHD (6%–29%), ODD, and/or CD (6%–50%).[10,11]

Despite high rates of comorbidity, the impact of childhood behavioral disturbance on psychosocial mood treatment and the effect of mood interventions on disruptive behaviors have received little research attention. Characteristics of youth with DBDs and their families may negatively affect the treatment of mood disorders. However, treatments that target mood disorders may offer some benefit to children's disruptive behaviors, such that subsequent behavioral interventions may be more likely to be successful. Thus, research in this area may elucidate treatment techniques and sequencing considerations.

Six randomized controlled trials (RCTs) of psychosocial interventions for adolescents with diagnosed depression have evaluated the impact of DBDs on mood outcome, 3 of which detected a signal. In the Adolescents Coping with Depression Course (CWD-A) versus Life Skills/Tutoring Control (LS) study (N = 114; ≥81.6% with DBDs), the presence of ADHD predicted a longer time to recovery (40 versus 14 weeks).[12] In the Treatment for Adolescents with Depression Study (N = 439; 23.46% with DBDs), ADHD moderated the depression treatment response; those with ADHD demonstrated similar improvements among all active treatments (fluoxetine, cognitive behavioral therapy [CBT], CBT plus fluoxetine) compared with control (clinical management plus pill placebo), whereas for those without ADHD, only CBT plus fluoxetine was superior to control.[13] In the Treatment of Resistant Depression in Adolescents study, which focused on second-step treatment strategies (12 weeks of medication switch and CBT or a medication switch alone) in 334 adolescents with selective serotonin reuptake inhibitor treatment-resistant depression (9.6% with ODD or CD; 16.6% with ADHD), ADHD marginally predicted an increased response to a combined CBT and selective serotonin reuptake inhibitor intervention.[14]

However, 3 RCTs found DBDs did not affect mood outcome. An examination of CBT, systematic behavioral family therapy, and nondirective supportive therapy (N = 107; 20.6% with DBDs), found that DBDs did not affect acute treatment response; however, DBDs predicted the need for additional treatment during follow-up (31.1% versus 12.9%).[15] Similarly, in an evaluation of CWD-A versus waitlist control (WLC; N = 151; 19.9% with DBDs), DBDs did not affect the depression treatment response. DBDs were associated with greater baseline impairment and predicted a shorter time to depression recurrence after treatment and a higher likelihood of relapse over follow-up (36.4% versus 13.2%).[16] Although ADHD moderated the treatment response of depression in the Treatment for Adolescents with Depression Study, all DBDs combined did not affect the depression treatment response.[17] In the Adolescent Depression Antidepressants and Psychotherapy Trial, 208 youth (30.3% with DBDs) were treated with routine psychological care and psychopharmacology; half received CBT. CD was associated with higher suicidality, but there were no differences in treatment response.[18]

Four of these RCTs also evaluated the impact of mood treatment on DBD symptoms. All but 1 noted improvement in DBD symptoms, although not always to a significantly greater degree than control.[19] CWD-A decreased oppositionality; however, improvements were nonsignificant when compared with WLC. Additional decreases in oppositionality were observed over 6-month follow-up, although this difference was not compared with control.[20] In addition, booster sessions during follow-up significantly decreased oppositionality compared with assessment-only control.[21] In the RCT of CWD-A versus LS, recovery of CD between interventions was not significant after treatment (CWD-A = 9%; LS = 17%), at 6-month follow-up (CWD-A = 54%; LS = 60%), or at 12-month follow-up (CWD-A = 63%; LS = 63%). In addition, CWD-A and LS showed significant a decrease in oppositionality after treatment and at 6-month follow-up but not at 12-month follow-up.[22] In the Treatment for Adolescents with Depression Study, all active treatments significantly decreased oppositionality; however, those receiving fluoxetine or CBT plus fluoxetine experienced a significantly greater decrease in oppositionality after treatment than those receiving CBT only or control.[23]

Only 1 nonrandomized trial, which included 58 children with diagnosed depression and/or anxiety (32.8% with ODD), examined the impact of psychosocial treatment for youth with internalizing disorders on DBD symptoms. Over 2-year follow-up, children receiving psychodynamic psychotherapy showed significant improvement in externalizing symptoms compared with community services control.[24] No RCTs of