Psychosocial Treatment Efficacy for Disruptive Behavior Problems in Very Young Children: A Meta-Analytic Examination

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Objective: Service use trends showing increased off-label prescribing in very young children and reduced psychotherapy use raise concerns about quality of care for early disruptive behavior problems. Meta-analysis can empirically clarify best practices and guide clinical decision making by providing a quantitative synthesis of a body of literature, identifying the magnitude of overall effects across studies, and determining systematic factors associated with effect variations. **Method:** We used random-effects meta-analytic procedures to empirically evaluate the overall effect of psychosocial treatments on early disruptive behavior problems, as well as potential moderators of treatment response. Thirty-six controlled trials, evaluating 3,042 children, met selection criteria (mean sample age, 4.7 years; 72.0% male; 33.1% minority youth). **Results:** Psychosocial treatments collectively demonstrated a large and sustained effect on early disruptive behavior problems (Hedges' g = 0.82), with the largest effects associated with behavioral treatments (Hedges' g = 0.88), samples with higher proportions of older and male youth, and comparisons against treatment as usual (Hedges' g = 1.17). Across trials, effects were largest for general externalizing problems (Hedges' g = 0.90) and problems of oppositionality and noncompliance (Hedges' g = 0.76), and were weakest, relatively speaking, for problems of impulsivity and hyperactivity (Hedges' g = 0.61). **Conclusions:** In the absence of controlled trials evaluating psychotropic interventions, findings provide robust quantitative support that psychosocial treatments should constitute first-line treatment for early disruptive behavior problems. Against a backdrop of concerning trends in the availability and use of supported interventions, findings underscore the urgency of improving dissemination efforts for supported psychosocial treatment options, and removing systematic barriers to psychosocial care for affected youth. J. Am. Acad. Child Adolesc. Psychiatry; 2012;52(1):26–36. **Key Words:** externalizing problems, preschool, early childhood, parent training, aggression.

Disruptive behavior disorders and related difficulties—characterized by problems of conduct and oppositionality—constitute one of the most prevalent classes of problems affecting children less than 8 years of age.[1–4] Estimates suggest that one in 11 preschoolers meets formal criteria for a disruptive behavior disorder: one in 14 meets criteria for oppositional defiant disorder (ODD), and one in 30 meets criteria for conduct disorder (CD).[3,5] Early disruptive behavior problems are reported across cultures,[6] exhibit considerable stability,[5,7–13] are associated with profound disability, and confer risk for later life psychopathology, family dysfunction, and criminality.[14–16] Effective early intervention is critical.

National service use trends raise concerns about the quality of care for young children with disruptive behavior problems. In recent years, the proportion of very young children prescribed psychotropic medications in outpatient care has steadily increased.[17–20] For example, between 1995 and 2001 there was a fivefold increase in the use of antipsychotic medications in Medicaid-insured 2- to 4-year-olds.[21] From 1999–2001 to 2007, the rate of antipsychotic medication prescriptions to privately insured 2- to 5-year-olds with disruptive behavior disorders roughly doubled. Importantly,

controlled evaluations of the efficacy of antipsychotic treatment for early child disruptive behavior problems have not been conducted. Potential adverse effects of antipsychotic treatment in youth, including metabolic, endocrine, and cerebrovascular risks, have been well documented.[22,23] Although consensus guidelines accordingly recommend that psychosocial interventions constitute first-line treatment for preschool disruptive behavior disorders,[24] the proportion of 2- to 5-year-olds receiving psychotherapy significantly decreased in recent years.[18]

The decreasingly prominent role of psychosocial interventions in the management of early disruptive behavior problems, and the increasing proportions of very young children receiving unsupported treatment regimens for these difficulties, collectively bring a sense of urgency to quantitatively synthesize and clarify that which we have learned from controlled evaluations of treatment for early disruptive behavior problems. Meta-analysis provides a quantitative synthesis of a body of empirical literature. By summarizing the magnitude of overall effects found across studies, determining systematic factors associated with variations in the magnitude of such relationships, and establishing relationships by aggregate analysis, meta-analytic procedures provide more objective, systematic, and representative conclusions than qualitative reviews.[25]

Although controlled evaluations of psychotropic interventions for disruptive behavior problems are lacking outside of an emerging literature on the effects of stimulant medications for early attention-deficit/hyperactivity disorder (ADHD), there is now a substantial body of rigorous empirical work evaluating the efficacy of various psychosocial treatments relative to control comparisons. The present study used meta-analytic procedures to empirically evaluate the overall effect of psychosocial treatments on early disruptive behavior problems, as well as potential moderators of treatment response which delineate the conditions under which a given treatment is related to outcome—i.e., moderators identify for whom and under which circumstances different treatments have different effects.[26] Cross-literature meta-analytic moderation testing is essential to optimally informing clinical decision making by suggesting which patients may be the most responsive to particular treatments, and for which patients alternative treatments should be pursued.

METHOD

Study Selection Criteria

Studies published before January 1, 2012 that satisfied seven criteria were included. First, the clinical trial had to have prospectively examined a defined psychosocial treatment intentionally targeting disruptive behavior problems—including symptoms of externalizing behavior, aggression, oppositionality/noncompliance, and/or impulsivity/hyperactivity. Accordingly, studies examining incidental disruptive behavior outcomes after treatments targeting other clinical problems (e.g., depression) without an intentional impact on disruptive behavior were not included. Studies were included, however, across clinical populations when disruptive behaviors were in fact specifically targeted by the intervention (e.g., a treatment specifically targeting aggression in youth with pervasive developmental disorders). Retrospective evaluations and chart reviews were also not included. Second, the mean age of study participants had to be less than 8 years at baseline. Third, the study had to have entailed a randomized, between-subjects, controlled comparison. Open trials, nonrandomized designs, crossover designs, and comparisons of active treatments in the absence of a control condition were not included. Fourth, the sample size must have been large enough to afford statistical analyses (i.e., five or more subjects/condition). Fifth, the study must have included quantitative (not qualitative) analyses. Sixth, the study must have provided specific statistical information or enough data for the authors to obtain additional information to calculate the effect sizes needed for meta-analysis. Finally, for quality control, the study had to have undergone peer review (dissertations and data in book chapters were not included). Figure 1 presents a description of the flow of studies included.

Several strategies identified studies satisfying these criteria: (1) computerized searches were conducted in MEDLINE and PsycINFO using keywords for youth, crossed with keywords for disruptive behavior problems, crossed with keywords for clinical trials (a list of all search terms used is available upon request); the references of articles found via computer search were reviewed for unidentified articles; tables of contents for the past 2 years of the study inclusion frame in journals that typically include clinical trials were reviewed (a list of these journals is available upon request); and a search was conducted by author name, using the names of known experts in the area.

Variable Coding

Eligible studies were reviewed and coded for study methodology, treatment, and child variables, as well as disruptive behavior symptoms. Mean age, percentage of male participants, and percentage of racial/ethnic minority youth were coded for each study. Individual effect sizes were extracted or computed for the following: aggression and serious rule violations; oppositionality/noncompliance; impulsivity/hyperactivity; and