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Comorbidity as a predictor and moderator of treatment outcome in youth with anxiety, affective, attention deficit/hyperactivity disorder, and oppositional/conduct disorders

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ABSTRACT

In the present review, we examine one of the critical issues that have been raised about evidence-based treatments and their portability to real-world clinical settings: namely, the presence of comorbidity in the participants who have been treated in these studies and whether the presence of comorbidity predicts or moderates treatment outcomes. In doing so, we examine treatment outcomes for the four most commonly occurring childhood psychiatric disorders: Anxiety disorders, affective disorders, attention deficit/hyperactivity disorder (ADHD), and oppositional defiant disorder (ODD)/conduct disorder (CD). For each of these disorders, we first review briefly the prevalence of comorbidity in epidemiological and clinical samples and then highlight the evidence-based treatments for these disorders. We next determine the effects of comorbidity on treatment outcomes for these disorders. For the most part, comorbidity in the treated samples is the rule, not the exception. However, the majority of studies have not explored whether comorbidity predicts or moderates treatment outcomes. For the not insignificant number of studies that have examined this issue, comorbidity has not been found to affect treatment outcomes. Notable exceptions are highlighted and recommendations for future research are presented.

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Several evidence-based treatments (EBTs) have been identified for youth (Ollendick & King, 2004; Weisz, Jensen-Doss, & Hawley, 2005). To date, most of these treatments have been behavioral and cognitive-behavioral ones (with the exception of interpersonal psychotherapy for the treatment of depression in adolescents). Unfortunately, we do not really know whether other frequently practiced treatments from different theoretical orientations work (e.g., play therapy, psychodynamic psychotherapy); in many instances, they simply have not been evaluated sufficiently. Nonetheless, the value of identifying and promulgating treatments that have support for their use is evident. Demonstration of efficacy of treatments in well-controlled, randomized trials may point the way to determining the effectiveness of these treatments in real-life clinical settings (Chorpita, 2003; Weisz, Jensen-Doss, & Hawley, 2006).

One of the concerns associated with EBTs resides in differences between what have been labeled *efficacy* versus *effectiveness* studies (Hoagwood, Hibbs, Brent, & Jensen, 1995; Ollendick, King, & Chorpita, 2006; Southam-Gerow, Chorpita, Miller, & Gleacher, 2008). Efficacy studies demonstrate that the benefits associated with a given treatment administered in a fairly standard way (usually with a treatment manual) are due to the treatment and not chance or other factors that threaten the internal validity of the study. These studies are usually conducted under tightly controlled experimental conditions, typically in laboratory or university settings. Most of these studies consist of Randomized Controlled Trials (RCTs) which involve random allocation of subjects to treatments. Appropriate concern has been raised about the portability of these "laboratory-based" treatments to the real world — the world of clinical practice. Arguments have been mustered that the "subjects" in RCTs do not represent real-life "clients" who are heterogeneous in presentation and frequently comorbid with other disorders, and the "experimenters" in these trials do not represent "clinical therapists" in applied practice settings. Moreover, the settings themselves are viewed as different — ranging from tightly controlled laboratory conditions to less controlled conditions in everyday practice settings. In this regard, Weisz, Donenberg, Han, and Weiss (1995) have referred to practice settings as the "proving ground" of EBTs.

Clearly, a number of differences may exist between efficacy and effectiveness studies. In the present review, we examine one of many critical issues that have been raised in these studies: namely, the presence of comorbidity in the "subjects" treated in RCTs and whether comorbidity predicts or moderates treatment outcomes. In doing so, we examine the treatment literature for the four most commonly occurring childhood psychiatric disorders: Anxiety disorders, affective disorders, attention deficit/hyperactivity disorder (ADHD), and oppositional defiant disorder (ODD)/conduct disorder (CD). For each of these disorders, we first briefly review comorbidity in these disorders in epidemiological and clinical samples and then review the psychosocial treatment literature to determine the effects of comorbidity on treatment outcomes.

In treatment outcome research, comorbidity can best be viewed as a potential moderator variable: a variable that influences the strength or direction of the relationship between treatment and outcome. Treatment moderators inform "for whom" or under "what conditions" the treatments work (Kraemer, Wilson, Fairburn, & Agras, 2002). Kraemer and colleagues further specify that a moderator of treatment must be a baseline or pre-randomization characteristic (i.e., exists prior to treatment and not a function of treatment) that can be shown to interact with treatment condition on outcome measures. Thus, comorbidity is a "subject" characteristic not unlike age, sex, ethnicity or severity of the disorder that exists prior to treatment and that may help inform whether the efficacy of the treatment is qualified by comorbidity. Finally, it should be noted that moderators of treatment outcome are not the same as "predictors" of treatment outcome. Kraemer and colleagues, along with others (see Kazdin & Weisz, 2003; March & Curry, 1998), specify that predictors are pre-treatment variables associated with treatment outcomes regardless of treatment assignment. That is, such variables predict response not only to the treatment of interest but also to comparison conditions. In contrast, a moderator variable must *interact* with treatment assignment to specify for whom a specific treatment works. This distinction is an important one because not all predictor variables are moderators of treatment outcome.

1. Procedure

Standard computerized databases (PsycInfo and MEDLINE) were searched. For each of the four substantive areas (anxiety, depression, ADHD, and conduct problems), search terms included psychotherapy, counseling, treatment, clinical trial, child, adolescent, and comorbidity. Only articles written in English and published between 1980 and 2007 were sought. This timeframe was selected because it coincided with the advent of *DSM-III* and progressed through *DSM-III-R* and *DSM-IV* and up to the present time. In addition, published qualitative reviews and meta-analyses of the youth psychotherapy literature were accessed to find studies not located through PsycInfo and MEDLINE. Reference trails of the reviewed studies were also pursued.