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Review

Efficacy of cognitive-behavioral therapy for childhood anxiety and depression

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ABSTRACT

A review of meta-analyses of cognitive-behavioral therapy (CBT) for childhood anxiety and depression was conducted. A total of 36 meta-analyses were identified that met inclusion criteria for this review. In most cases, medium-to-large effect sizes for treatment reduction were observed when CBT was compared to non-active control conditions. Small-to-medium effects were observed when CBT was compared to active control treatments. The available meta-analyses generally did not examine, or data were not sufficient to evaluate, potential moderators of outcome, differential effects for parental involvement, or changes in quality of life or functional outcomes associated with treatment. Accordingly, while CBT should be broadly considered an effective treatment approach for childhood anxiety and depression, additional research is warranted in order to establish guidelines for service delivery for complicating factors in client presentation.

1. Introduction

Anxiety disorders tend to emerge early in life and are some of the most prevalent mental health conditions in youth (Costello, Egger, & Angold, 2005; Merikangas et al., 2010). Anxiety disorders cause significant impairment in children's functioning across various settings, including at home, at school, and with their peers (Ezpeleta, Keeler, Alaatin, Costello, & Angold, 2001). Psychosocial treatments for anxiety have been well-developed and refined for adults with efficacy established for cognitive-behavioral approaches (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). However, cognitive behavioral therapies (CBT) for anxiety in youth populations continue to develop, and it is as yet unclear if the efficacy of these approaches is comparable to those for adults.

A similar situation exists for childhood depression, with typically early onset and high prevalence (Shanahan, Copeland, Costello, & Angold, 2011). Anxiety and depressive symptoms are commonly comorbid in children (Seligman & Ollendick, 1998), with the former generally predating the latter (Cummings, Caporino, & Kendall, 2014). While depression in childhood is less common than anxiety, it also represents a significantly interfering condition (Ezpeleta et al., 2001). According to the World Health Organization (WHO), depression has onset in youth, is recurrent, and is the leading cause of disability worldwide (Marcus, Yasamy, van Ommerman, & Chisholm, 2012). CBT for depression in adult populations has not been as well supported in the literature as CBT for anxiety based on lower effect sizes (Hofmann et al., 2012), though cognitive therapy and behavioral therapy for depression are both considered treatments with strong research support by Society of Clinical Psychology (SCP; Division 12) of the American Psychological Association (APA; see http://www.div12.org/psychological-treatments/disorders/depression/). The degree of empirical support for CBT for childhood depression is less well developed, although it is listed as an empirically-based practice by the Society of Clinical Child & Adolescent Psychology (Division 53) of the APA.[1]

CBT refers to a collection of techniques that are applied to treat a wide range of psychological conditions, such as depression or anxiety. It is based in a framework that assumes that thoughts, emotions, and behaviors are all connected, and more specifically, that thoughts drive emotions and behaviors. Thus, an underlying assumption in CBT is that in identifying and changing one's dysfunctional thoughts, one's maladaptive emotions and behaviors will consequentially be changed as well. Most CBT protocols for children have been adapted from protocols originally developed for adults. While the content must be altered so as to be age-appropriate, many of the core components are comparable. Common techniques in CBT for children include psychoeducation, self-monitoring, identification of emotions, problem-solving, coping skills, and reward plans. Specific cognitive strategies include identification of cognitive errors, Socratic questioning, and cognitive restructuring

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[1] Division 53 does not maintain a list of empirically supported intervention protocols on its website, but instead there is a link to EffectiveChildTherapy.com, which specifically lists CBT as an efficacious approach for depression (https://www.clinicalchildpsychology.org/effectivechildtherapycom-0).

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including the development of coping thoughts. Behavioral strategies typically include imagined or in vivo exposure—particularly for anxiety disorders.

To address the question of CBT's efficacy for childhood anxiety and depression, numerous meta-analytic investigations of such treatments have been conducted in recent years. Meta-analysis is a methodologically robust form of data analysis that allows for the calculation of the overall efficacy of an intervention by integrating findings across multiple studies of the intervention (Card, 2012). In doing so, statistical power is maximized, thereby reducing the likelihood of Type II error, and external validity increases. A review of multiple meta-analyses on a particular topic allows for a comprehensive commentary to be made, and the current state of the literature on CBT for childhood anxiety and depression provides the opportunity for such a review at this time. This is of particular importance given the recent call for a new system of evaluating the quality of psychological treatments that has been adopted by SCP (Tolin, McKay, Forman, Klonsky, & Thombs, 2015). Specifically, under the revised criteria for determining empirical support for a treatment protocol, evaluation of efficacy would be through existing meta-analytic reviews (Tolin, Forman, Klonsky, McKay, & Thombs, 2015). These revised criteria call for evaluations of treatment protocols from multiple trials, and across multiple domains of functioning (i.e., symptom reduction, social and educational functioning) in order to declare a treatment empirically supported. As part of these criteria, a strong recommendation for a treatment would come from evaluations of meta-analyses. Establishing that a treatment or set of treatments is empirically supported has important implications for policy makers and other health care stakeholders since it sets the stage for dissemination and implementation of high quality interventions. In the case of child and adolescent anxiety and depression, evaluations of the efficacy of CBT, and areas where additional research is warranted, could influence future research in applied settings, such as through intervention research supported by the Patient Centered Outcomes Research Institute (PCORI) and other healthcare research organizations.

Accordingly, the present review had two aims. First, this review was undertaken to provide a broad picture of the efficacy of CBT for anxiety disorders and depression with children and adolescents by reviewing the existing meta-analyses of CBT for these conditions. Both symptom reduction and improvements in functioning/quality of life were of interest. Second, this review was undertaken to identify future directions in research to improve treatment programs for childhood anxiety and depression by evaluating the differential efficacy of CBT for particular diagnostic presentations in childhood. Specifically, this review was conducted to examine the acute post-treatment effects of CBT, the maintenance of gains at follow-up assessment, and the effects of other relevant treatment factors on outcome, such as session format, length of therapy, parental involvement, and child's age at time of intervention.

2. Methods

2.1. Data sources and study selection

In order to conduct this review, the authors searched the online databases PsycINFO, PubMed, and the Cochrane Database. Combinations of the following keywords were entered in order to identify possibly relevant meta-analyses: *anxiety, depression, obsessive compulsive disorder, phobia, panic disorder, post traumatic stress disorder, trauma, psychotherapy, cognitive behav*, CBT, child, adolescent, youth, meta-analysis*, and *review*. Of the articles identified as possibly relevant, abstracts were reviewed in order to determine fit with the current investigation based on the inclusion and exclusion criteria (described below). Any article that appeared to meet criteria for this investigation based on the abstract was then read in full to conclusively determine whether the meta-analysis would be included. Further, the reference lists of such articles and relevant journals were manually searched in order to identify additional possibly relevant meta-analyses for inclusion. A flow diagram of articles identified and reviewed for this study is presented in Fig. 1.

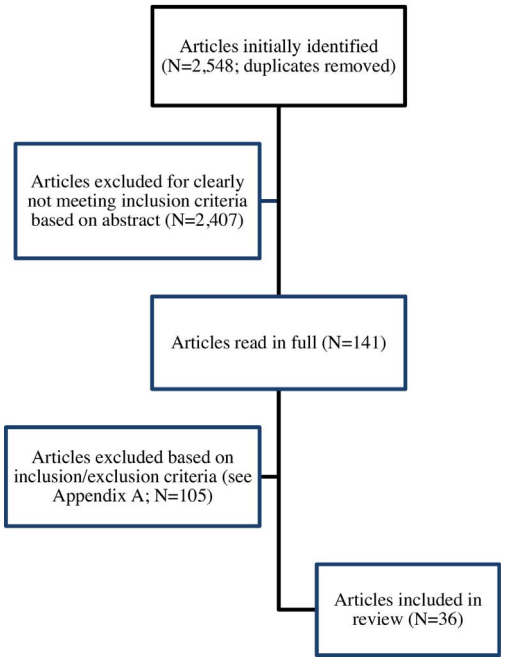

Fig. 1. Flow diagram of articles identified and reviewed for inclusion.

2.2. Inclusion and exclusion criteria

Inclusion criteria for this review were the following: (1) published or unpublished (i.e., doctoral dissertations) manuscript of a meta-analysis that (2) was written in English, and (3) included effect sizes derived from studies that had investigated CBT as an intervention against at least one type of control group (e.g., waitlist, attention placebo, treatment as usual).[2] The scope of the meta-analysis was restricted to (4) child and/or adolescent populations and (5) at least one of the following conditions: an anxiety disorder, obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD), or depression as classified by the Diagnostic and Statistical Manual of Mental Disorders (DSM), permitting diagnostic criteria from any DSM edition within DSM-III through DSM-5 (American Psychiatric Association, 1980, 1987, 1994, 2000, 2013). We included OCD and PTSD in the scope of this review as these disorders were classified in DSM-IV-TR as anxiety disorders, and candidate meta-analyses covered treatment trials that would have classified these two disorders as members of the broader anxiety disorder category.

Exclusion criteria for this review were the following: (1) the meta-analysis examined CBT as part of a broader category of psychotherapy and did not provide separate analyses for CBT; (2) the meta-analysis examined anxiety, depression, OCD, or PTSD symptoms as part of a broader category of child psychopathology and did not provide separate analyses for at least one of these symptom categories; (3) the meta-analysis examined CBT as compared only to psychotropic medication; or (4) the meta-analysis examined CBT as delivered only via the internet or mobile technology.

The search revealed 141 articles that appeared relevant for inclusion in this review based on the article abstract. After reading the articles in full, 105 were deemed to not meet the inclusion and

[2] Some meta-analyses included both studies that had control groups and studies that did not have control groups—this was permitted for inclusion in our review.