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Long-term effectiveness of cognitive behavioral therapy for youth with anxiety disorders☆

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ABSTRACT

Cognitive behavioral therapy (CBT) has demonstrated favorable long-term outcomes in youth with anxiety disorders in efficacy trials. However, long-term outcomes of CBT delivered in a community setting are uncertain. This study examined the long-term outcomes of individual (ICBT) and group CBT (GCBT) in youth with anxiety disorders treated in community mental health clinics. A total of 139 youth (mean age at assessment 15.5 years, range 11–21 years) with a principal diagnosis of separation anxiety disorder (SAD), social anxiety disorder (SOP), and/or generalized anxiety disorder (GAD) were evaluated, on average, 3.9 years post-treatment (range 2.2–5.9 years). Outcomes included loss of all inclusion anxiety diagnoses, loss of the principal anxiety diagnosis and changes in youth- and parent-rated youth anxiety symptoms. At long-term follow-up, there was loss of all inclusion anxiety diagnoses in 53%, loss of the principal anxiety diagnosis in 63% of participants as well as significant reductions in all anxiety symptom measures. No statistical significant differences in outcome were obtained between ICBT and GCBT. Participants with a principal diagnosis of SOP had lower odds for recovery, compared to those with a principal diagnosis of SAD or GAD. In conclusion, outcomes of CBT for youth anxiety disorders delivered in community mental health clinics were improved at nearly 4 years post-treatment, and recovery rates at long-term follow-up were similar to efficacy trials.

1. Introduction

Cognitive behavioral therapy (CBT) is a well-established treatment for anxiety disorders in children and adolescents (hereafter youth) (Higa-McMillan, Francis, Rith-Najarian, & Chorpita, 2016). Meta-analyses have shown that approximately 60% of youth recover from their anxiety disorders and experience significant symptom reduction following treatment (James, James, Cowdrey, Soler, & Choke, 2013; Warwick et al., 2017). However, there has been less focus on the question of whether treatment outcomes are maintained in the long term. Relapse can lead to detrimental consequences at individual, family, and societal levels, as early anxiety disorders predict later emotional, social, academic, and vocational problems (Copeland, Angold, Shanahan, & Costello, 2014; Kendall & Ollendick, 2004). Successful CBT treatment for youth anxiety disorders on the other hand, provides protection from later sequelae (Puleo, Conner, Benjamin, & Kendall, 2011; Wolk, Kendall, & Beidas, 2015). Furthermore, investigating long-term outcomes is essential in establishing treatment efficacy in youth anxiety disorders (Chambless & Hollon, 1998).

Long-term follow-up is commonly defined as follow-up at least two years post-treatment (Gibby, Casline, & Ginsburg, 2017; Nevo & Manassis, 2009). To date, five studies based on separate samples have

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examined the long-term effects of CBT protocols in youth with mixed anxiety disorders in the form of separation anxiety disorder (SAD), social anxiety disorder (SOP), and/or generalized anxiety disorder (GAD) (Barrett, Duffy, Dadds, & Rapee, 2001; Benjamin, Harrison, Settipani, Brodman, & Kendall, 2013; Ginsburg et al., 2014; Kendall & Southam-Gerow, 1996; Kendall, Safford, Flannery-Schroeder, & Webb, 2004), over follow-up periods ranging from 2 to 19 years post-treatment (M = 7.9 years; Mdn = 6.2 years). These studies indicate that post-treatment outcomes were either maintained or improved at long-term follow-up, with 46.5–85.7% of study participants no longer fulfilling the diagnostic criteria for anxiety disorders (e.g. Barrett et al., 2001; Ginsburg et al., 2014). A recent review of long-term follow-up studies of youth treated for any anxiety disorder (with the exception of obsessive-compulsive disorder and post-traumatic stress disorder), with follow-up assessments a mean of 5.9 years post-treatment, found that 64.6% of youth were in remission. More specifically, 57.0% and 76.7% had lost all inclusion anxiety diagnoses and their primary anxiety diagnosis, respectively (Gibby et al., 2017). In addition, different treatment formats in the form of individual CBT (ICBT) and group CBT (GCBT) in youth with anxiety disorder were examined by Saavedra et al.; the authors found no difference in long-term outcomes between ICBT and GCBT at a mean of 9.8 years post-treatment (Saavedra, Silverman, Morgan-Lopez, & Kurtines, 2010), consistent with previous meta-analyses of studies of short-term outcomes which showed similar effect sizes for both ICBT and GCBT (In-Albon & Schneider, 2006; Silverman, Pina, & Viswesvaran, 2008).

Long-term outcome studies differ considerably in reported outcome measures, e.g., absence of the principal inclusion anxiety diagnosis (Kendall et al., 2004), absence of all inclusion anxiety diagnoses (Barrett et al., 2001), or absence of all anxiety diagnoses (Benjamin et al., 2013). However, loss of one anxiety diagnosis does not necessarily indicate the absence of further anxiety-related impairments. Furthermore, heterogeneity in reported outcomes makes comparisons across long-term follow-up studies difficult and hence challenges the generalizability of the study findings. Consequently, this calls for more detailed information on diagnostic outcomes following treatment, including loss of the principal anxiety diagnosis, all comorbid anxiety diagnoses, as well as symptom measure outcomes (Gibby et al., 2017; Warwick et al., 2017).

All of the above-cited studies are *efficacy* trials conducted at specialized university clinics. Efficacy trials allow for high levels of methodological rigor and control, thus achieving high internal validity. However, to what extent findings from such studies are transferable to community clinical settings is unclear (Hunsley & Lee, 2007; Santucci, Thomassin, Petrovic, & Weisz, 2015). Factors that may influence treatment outcomes differentially in community clinics, compared to university clinics, include differing patient populations (e.g., different inclusion and exclusion criteria, greater population heterogeneity in the community setting), therapist-related factors (e.g., training, caseloads, access to expert supervision), treatment context (e.g., availability of research resources, treatment monitoring) and treatment content (e.g. potential less use of exposure exercises) (Smith et al., 2017). It is argued that these factors contribute to reduced effect sizes of treatment when efficacy-supported therapies are transferred to community clinics (Weisz et al., 2013).

To our knowledge, no study to date has examined the long-term outcomes of CBT for anxiety disorders in community mental health clinics, i.e., the *effectiveness* of long-term treatment. Several short-term effectiveness studies with follow-up assessments 3–15 months post-treatment (M = 9.8 months, Mdn = 9 months) reported recovery rates ranging from 52% to 78% (Barrington, Prior, Richardson, & Allen, 2005; Bodden et al., 2008; Chorpita et al., 2013; Lau, Chan, Li, & Au, 2010; Nauta, Scholing, Emmelkamp, & Minderaa, 2001; Nauta, Scholing, Emmelkamp, & Minderaa, 2003). Overall, the studies confirmed the maintenance of treatment gains from post-treatment to follow-up, albeit with slightly lower recovery rates compared to those obtained from efficacy trials. However, there is a need to examine effectiveness of CBT for mixed anxiety disorders in youth beyond 15 months post-treatment.

It has been argued that the three main anxiety disorders SAD, SOP, and GAD are manifestations of the same underlying anxiety construct and therefore are amenable to treatment with the same CBT protocols (Crawley, Beidas, Benjamin, Martin, & Kendall, 2008; Silverman & Kurtines, 1996). However, recent short-term studies showed that children with SOP had poorer treatment outcomes from generic CBT protocols, compared to those with GAD and/or SAD (Hudson et al., 2015; Reynolds, Wilson, Austin, & Hooper, 2012). Based on an efficacy trial, Kerns, Read, Klugman, and Kendall (2013) reported comparable outcomes for SOP, SAD, and GAD immediately following CBT but found youth with SOP were significantly less improved at 7.4-year follow-up. On the other hand, Barrett et al. (2001) found no evidence that pre-treatment diagnosis, including SOP, differentially affected long-term treatment outcomes. Thus, further studies on the long-term effects of CBT in youth with SOP are warranted.

The primary aim of the present study was to investigate the long-term outcomes of CBT in youth with anxiety disorders treated in community mental health clinics. Based on previous long-term efficacy studies and on short-term effectiveness studies, we expected that outcomes of CBT would be maintained or improved in the community setting, yet below comparative efficacy studies. The secondary aim was to investigate the effects of using different treatment formats (i.e., GCBT versus ICBT) on long-term outcomes. Based on existing evidence, we expected the effects of both treatment formats to be maintained during the follow-up period and to be equivalent at long-term follow-up. The third aim was to assess for disorder-specific differences in treatment outcomes, for which we predicted that outcomes in youth with a principal diagnosis of SOP would be inferior, compared to those with a principal diagnosis of GAD and/or SAD.

2. Method

2.1. Participants

Eligible participants were selected from a total of 179 youth who participated in a randomized controlled trial (RCT) investigating the effectiveness of ICBT and GCBT, compared to a waitlist control, in youth with mixed anxiety disorders treated in community mental health clinics (Wergeland et al., 2014). The study was conducted from 2008 to 2012. Age of participants ranged from 8 to 15 years at the time of recruitment. The inclusion criterion was a principal diagnosis of SAD, SOP, and/or GAD. The only exclusion criterion included pervasive developmental disorder, psychotic disorder, severe conduct disorder, and/or mental retardation. Participants were assessed pre- and post-treatment, and at 1-year follow-up. A detailed description of the original sample, method, and outcomes has been published elsewhere (Wergeland et al., 2014).

A total of 139 youth participated in the present study. Youth were assessed an average of 3.9 years post-treatment (SD = 0.8, range 2–6 years). Age of participants at long-term follow-up ranged from 11 to 21 years (M = 15.5, SD = 2.5), and 54.7% were female. Youth participating in this long-term follow-up study (N = 139) were compared to those from the original RCT not participating in the present study (n = 40) in terms of pre-treatment socio-demographic characteristics (i.e., age, gender, ethnicity, parent occupational status) and pre-treatment clinical variables (i.e., clinical severity rating (CSR) of the principal anxiety diagnosis, anxiety and depressive symptoms, comorbidity, principal anxiety diagnosis present at post-treatment). There were no significant differences on any of these variables between youth participating and those not participating in the long-term follow-up study (see Table 1). Furthermore, no differences were found in post-treatment outcomes (loss of the principal diagnosis and loss of all inclusion anxiety diagnoses, changes in symptom measures) between youth in the