EVALUATING A COGNITIVE BEHAVIORAL THERAPY GROUP PROGRAM FOR ANXIOUS FIVE TO SEVEN YEAR OLD CHILDREN: A PILOT STUDY

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Background: Cognitive Behavioral Therapy (CBT) has demonstrated benefits for anxious school-aged children and adolescents; however, treatment programs have not been developed to teach CBT strategies to children under the age of eight. This pilot study examined a novel treatment program for children aged 5–7 years with anxiety disorders. Methods: Thirty-two children (19 females) aged 5–7 years (mean age = 6.51 years) with DSM-IV anxiety disorders and their families completed a 12-week, manualized CBT group program. Parent and child groups (5–8 children per group) were held separately but concurrently. Multiple measures of anxiety (Screen for Child Anxiety Related Emotional Disorders, Anxiety Disorders Interview Schedule for DSM-IV—Parent Version, and clinician Children’s Global Assessment Scale ratings) were completed pre and post each treatment series. A subset of participants (n = 11; 8 females; mean age = 6.34 years) completed an initial assessment followed by a wait period of approximately 3.5 months (range 2.5–5 months) with a second assessment just before treatment start. No treatment was received during this wait time. Results: With treatment, 43.8% of children no longer met criteria for any Axis I anxiety disorders whereas 71.9% had at least one anxiety disorder resolve. A series of paired, two-tailed t-tests revealed significant reduction in anxiety symptoms on standardized measures. Children who waited for treatment showed no significant change in anxiety symptoms during nontreatment but demonstrated improvement after program attendance. Conclusions: This pilot study suggests that CBT can be used effectively to treat anxious children as young as 5 years of age. Further research is warranted. Depression and Anxiety 26:243–250, 2009. © 2009 Wiley-Liss, Inc.

Key words: cognitive behavioral therapy (CBT); young children; anxiety disorders; group therapy

INTRODUCTION

ANXIETY DISORDERS IN CHILDREN

Anxiety disorders are one of the most prevalent psychiatric conditions in childhood affecting 15–20% of children and adolescents. Anxious children and adolescents as a group, however, are often undiagnosed or misdiagnosed. Co-morbidity among the anxiety disorders and between anxiety disorders and other psychiatric conditions, such as Oppositional Defiant Disorder (ODD), Mood Disorder, Attention Deficit Hyperactivity Disorder (ADHD), and adolescent...
substance abuse,\[^3,4\] contributes to this difficulty in diagnosis and treatment. Parents and teachers often do not recognize the quiet, internal distress experienced by anxious children or the anxiety is misperceived as behavioral issues due to the tendency of many young children to exhibit their anxiety as “acting out” behaviors.\[^2,3\] Despite the difficulty in diagnosis, there is evidence that anxiety disorders have a very early onset and that anxiety disorders are common in young children\[^6\] with many of them requiring treatment.

Once an anxiety disorder develops, it can be very debilitating, affecting all aspects of a child’s life including social adjustment, academic achievement,\[^7,8\] family life,\[^9\] and cognitive, linguistic demands of CBT are too difficult for these children. Preschoolers, however, have the ability to understand complex problems, which can then be further enhanced by providing concrete examples and avoiding the use of open-ended questions.\[^28\]

**MANUAL DEVELOPMENT**

Experienced cognitive behavioral therapists developed a manual for child and parent groups, Taming “Sneaky Fears”: Child Treatment Manual\[^29\] and Parent Treatment Manual.\[^30\] The Child Manual is not a modification of other manuals and is a unique approach to CBT that was developed specifically with the anxious 5–7-year-old child in mind. In particular, the manual utilized stories, games, and activities designed to be intrinsically appealing to young children to enhance the learning of cognitive behavioral strategies.

Early child sessions focus on helping children recognize and label various feeling states. Relaxation strategies such as muscle tension relaxation, deep breathing, and imagery are taught in session four. Cognitive strategies such as talking and labeling your feeling states to adults when anxious, ignoring the scary thoughts, and thinking of alternative or “brave thoughts” when feeling anxious are taught in later sessions. Each weekly session starts with a review of key concepts learned in previous sessions thus providing necessary reinforcement to solidify previously presented concepts. Strengths of the child program include the use of puppets, crafts, games, and stories, which make learning difficult concepts more engaging.

The goal of the parent program is to teach parents cognitive behavioral strategies to use with their children. The initial focus of the parent program is on teaching children cognitive behavioral strategies to support parents as they begin to distinguish anxiety symptoms from more general behavioral issues. Later parents are taught relaxation exercises and desensitization strategies to help their child confront rather than avoid their fears. Key elements of the parent program are the parental support obtained from sessions and the experiences of group problem solving.

Fourteen children and their parents participated in a trial of the manual and using parent and therapist feedback, elicited through structured questionnaires and interviews, revisions were made before this pilot study. In the manual development stage parents were interviewed at the start and conclusion of the group program and completed the Screen for Child Anxiety Related Emotional Disorders (SCARED: Parent Version).\[^31\] pre- and postgroup. At postgroup interview parents reported positively on the content of the parent and child groups; felt more aware of the role anxiety played in their child’s behavior; found their child more cooperative and easier to manage. In addition, child anxiety as measured by the SCARED: Parent Version improved postgroup. Therapists also noted an improvement in the children’s abilities to recognize and
verbalize their anxiety over the course of the group as measured by therapist ratings of children’s understanding of concepts after each group session and improvement using a modified Clinical Global Impression Scale.[32]

This revised manualized child and parent CBT group program was used in this pilot study with a new sample of children. This pilot study was designed to examine the effects and feasibility of implementing a novel, CBT group intervention program for various DSM-IV anxiety disorders in children aged 5–7 years.

MATERIALS AND METHODS

PARTICIPANTS

Physicians and mental health professionals referred the families for treatment to the Anxiety Disorders clinic of a large children’s hospital. All children were between the ages of 5 and 7 and met criteria for at least one DSM-IV anxiety disorder based on clinical interview and semi-structured interview utilizing the Anxiety Disorders Interview Schedule for DSM-IV— Parent Version (ADIS-P).[33] Co-morbid ODD and ADHD were not exclusionary criteria as long as anxiety was the main and most impairing clinical condition. Although children on psychotropic medications were not excluded from the program, only one child in the pilot study was on Fluoxetine, which had been started several months before the start of the study. No adjustments to the dose of Fluoxetine were made for 3 months before the start of the group therapy program and there were no dosage adjustments during the course of the treatment program.

Children who had a psychotic disorder, pervasive developmental disorder, a medical condition that would interfere with treatment, or who were not proficient in the English language were excluded from participation. Children who had significant learning problems that would interfere with the understanding and participation in treatment (based on school information and clinician judgment) were also excluded from participation.

Thirty-two children (13 males and 19 females) aged 5–7 years (mean age = 6.51 years) and their parents completed the pilot program. At least one parent was required to attend the parent group in order for the child to be enrolled in the child group. Although 34 children entered the program, two boys and their families dropped out of the program (both at session three) in different groups because of scheduling conflicts. Primary diagnoses included: Social Anxiety Disorder (37.5%), Separation Anxiety disorder (21.9%), Generalized Anxiety Disorder (21.9%), and Selective Mutism (18.7%). Co-morbidity among the anxiety disorders was common with 20 children (62.5%) having two or more anxiety disorders whereas 12 children (37.5%) had only one anxiety disorder. Six of the 32 children (18.7%) had co-morbid ODD whereas 43.8% had identified temperamental difficulties based on parental completion of the Behavioral Style Questionnaire (BSQ). The majority (84.4%; n = 27) of the sample was Caucasian whereas 12.5% (n = 4) were Asian, and 3.1% (n = 1) were of African descent.

MEASURES

The SCARED Parent Version (SCARED):[34] A 41-item instrument for parents that elicits anxiety symptoms rated on a 3-point scale. Five factors screen for School Refusal and DSM-IV diagnostic categories of Generalized Anxiety Disorder, Separation Anxiety Disorder, Panic Disorder, and Social Anxiety Disorder. The SCARED demonstrates good internal consistency and test–retest reliability.[35] It discriminates among anxiety disorders, between anxiety and disruptive disorders,[36] and between anxiety and mood disorders.[37]

Anxiety Disorders Interview Schedule for DSM-IV: Parent Version (ADIS-P):[38] A semi-structured interview that generates DSM-IV diagnoses for child anxiety disorders, mood disorders and externalizing disorders. Test–retest reliability ranges from good to excellent.[39,40] The ADIS-P Clinical Severity Rating (CSR) provides an estimate of the degree of functional impairment and distress engendered by the disorder based on an 8-point scale.[33] A score of 4 or greater is necessary for diagnosis.

Children’s Global Assessment Scale (CGAS):[41] A clinician rating of adaptive functioning during the previous month for children aged 4–16 years. It is rated on a 100-point scale with 1 being most impaired and 100 being least impaired with descriptors for each 10-point interval. A CGAS Score of 41–50 indicates a moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area whereas a score of 51–60 indicates variable functioning with sporadic difficulties or symptoms.

Revised Conner’s Parent Rating Scale: Long Version (CPRS-R:L):[42] An 80-item instrument that screens for behavioral difficulties. It has good test–retest reliability,[43] and inter-rater reliability,[44] and has been shown to reliably discriminate normal children from behaviorally disordered children.[45] Three of the seven factors or subscales were utilized in the study: Oppositional Subscale (A); Anxious/Shy Subscale (D); and Psychosomatic Subscale (G).

Behavioral Style Questionnaire (BSQ):[46] A 100-item instrument rated on a 6-point scale of frequency that measures child temperament characteristics. It has good internal consistency and excellent test–retest reliability.[47] This instrument was used to assess each child’s temperament. Although temperament is known to be a stable trait,[46] it has been identified to be a risk factor in the development of anxiety in children[44,45] and thus hypothesized to have a possible effect on treatment outcome.

PROCEDURE

Pre-group assessment. Children between the ages of 5 and 7 years inclusive who were seen for clinical assessment by a child and adolescent psychiatrist and diagnosed with a primary anxiety disorder according to DSM-IV criteria[48] were invited to participate in the pilot study. All invited families agreed to participate in the treatment phase of the pilot study and provided parental consent and child assent before study enrollment.

A pre-group assessment occurred 1–2 weeks before the start of each group treatment series. At the time of the pre-group assessment, a child psychiatrist trained in the ADIS-P completed the ADIS-P with the parent(s). Primary and co-morbid diagnoses were based on clinical interview and ADIS-P interview. A consensus CGAS rating of the child was completed by an independent group of experienced clinicians within the Anxiety Disorders Treatment team in which the study was based. The CGAS ratings were based on case descriptions from the clinical and ADIS-P interviews. Parents also completed standardized child report measures describing their child’s anxiety symptoms (SCARED) and behaviors (CPRS-R:L) and their child’s temperament (BSQ) as part of the pregroub assessment. In this pilot study, children did not complete any self-report measures although they were seen in a clinical interview with their parents before enrollment in the program.

Group treatment program. The group program consisted of twelve weekly, 1 hour sessions. Only parents attended the first week thus allowing for discussion of any separation or other anxiety-related concerns parents had about their children. The second group session began with both parents and children together in one room for a portion of the session to allow children to familiarize themselves with Depression and Anxiety.
the therapists. All other group sessions were held for parents and children separately but concurrently. A child therapist joined the parent group for the last few minutes of each session to review with the parents the material their children had learnt. At the mid-point of the group program, an interview with each parent was conducted by a child therapist to review each child's progress.

A total of five group programs made up the pilot study with 5–8 children per group. Overall attendance was very good (range 83–100%), with no family missing more than two sessions in total. If a session was missed, a child therapist contacted the parent to review general themes before the next session.

Wait time for treatment. Most children in the pilot study were assessed just a few weeks before a treatment group starting. However, a small subset of our sample (n = 11; 3 males, 8 females; mean age = 6.34) was assessed at a time when the wait for the next group was between 2.5–5 months. This longer delay between assessment and group was necessitated because groups were only run twice a year in the fall (September–December) and in the spring (March to June). Children were assessed based on their referral date rather than the immediate availability of treatment groups. As there were no significant differences between the sub-set and the full sample we decided to compare children who needed to wait for treatment with those who received treatment shortly after their initial assessment as this may provide further information on the effect of the treatment. Children in the longer wait condition had two research assessments (ADIS-P and questionnaires) before the start of the treatment group; one shortly after the initial clinical assessment; and the other occurring 1–2 weeks before the commencement of the treatment group. CGAS ratings were determined for both assessment points. Wait times for treatment varied from 2.5 to 5 months (mean wait time = 3.5 months) and during this time the children and their families did not receive treatment of any kind. For this subset it was possible to determine whether the passage of time alone, without active treatment intervention, had any effect on symptom change.

Postgroup assessment. Within 2 weeks of the completion of the group program, parents were brought in for a postgroup visit. Parents completed the SCARED and the CPRS-R:L and the pre-treatment child psychiatrist completed a short clinical interview and re-administered the ADIS-P. As all children and parents who participated in this pilot study were treated with the same program, the psychiatrist completing the ADIS-P was not blind to treatment. Experienced clinicians completed a consensus CGAS based on postgroup ADIS-P and parent postgroup clinical interview.

DATA ANALYSIS

Data was evaluated using the Statistical Package for the Social Sciences (SPSS Version 13.0). Questionnaires with multiple missing responses were considered invalid and were not used (5 for SCARED data; 2 for CPRS-R:L data). Given that we are reporting on multiple comparisons, the probability of a type 1 error is increased therefore we report the actual P values and interpret the results as significant at an α level of .01 rather than the .05 level.

To test for treatment effect, paired two-tailed t-tests were performed on pre- and posttreatment CGAS ratings. Paired two-tailed t-tests were also performed on pre- and posttreatment CSR for the primary ADIS:P diagnosis. Postgroup mean CSR (3.1 SD = 2.2) was below the clinically significant level (CSR = 4.0) for ADIS:P diagnosis and was significantly lower than the mean pregroupe CSR (5.6 SD = 0.98) t = 6.82 (1,31), P = .001. A large effect size (d = 1.48) was obtained on the change in number of anxiety disorders.

Furthermore, as presented in Figure 1, 20 of the 32 children in our sample had two or more anxiety disorders pretreatment and only five continued to have two or more anxiety disorders posttreatment. 71.9% of the children (n = 23) had at least one anxiety disorder resolve posttreatment whereas fourteen children (43.8%) no longer met criteria for any major DSM-IV anxiety disorders posttreatment as diagnosed by the ADIS-P. Remission rates in children with only one anxiety disorder resolve posttreatment were higher (66.7%) compared to remission rates in those children with two or more anxiety disorders (30%).

RESULTS

SCARED AND CPRS-R:L RESULTS

Child anxiety, as measured by parent reports on the SCARED are presented in Table 1. Parent SCARED total ratings were significantly decreased from pre- to postgroup as were parent scores on four of the five factors of the SCARED (generalized anxiety factor 2, separation anxiety factor 3, social anxiety factor 4, and school refusal factor 5).

Parent ratings on the CPRS-R:L as presented in Table 1 significantly declined from pre- to postgroup on the Anxious/shy subscale (D) and a large treatment effect (d = 0.82) was demonstrated while a small effect size (d = 0.42) was seen on the Psychosomatic subscale (G). Despite a specific focus on behavioral strategies to deal with oppositional behavior covered within the parent groups, no significant change was noted on posttreatment parent ratings on the Oppositional subscale (A), t = 1.423 (1,29), P = .166. In addition, when a sub-sample of children who met criteria for ODD pretreatment (n = 6) were examined independently, no significant change in ratings of on the Oppositional subscale (A) t = 2.753 (1,4) P = .051, was found.

CHANGE IN NUMBER OF ANXIETY DISORDERS WITH TREATMENT

Paired two-tailed t-tests were performed on pre- and posttreatment CSR for the primary ADIS:P diagnosis. Postgroup mean CSR (3.1 SD = 2.2) was below the clinically significant level (CSR = 4.0) for ADIS:P diagnosis and was significantly lower than the mean pregroupe CSR (5.6 SD = 0.98) t = 6.82 (1,31), P = .001. A large effect size (d = 1.48) was obtained on the change in number of anxiety disorders.

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CGAS RESULTS

Paired two-tailed t-tests were also performed on children's adaptive functioning as measured by clinician pre- and postgroup CGAS ratings presented in Figure 2. In the full sample, mean CGAS improved.
from 45.9 pretreatment to 57.1 posttreatment, \( t = -8.14 \) (1,31), \( P = .001 \) with a large effect size \( (d = 1.5) \) demonstrated. A small subset of the total sample \( (n = 11) \) who inadvertently were required to wait for treatment were analyzed with repeated measures ANOVAs using Helmert planned contrasts to compare three time points: initial assessment, pretreatment, and posttreatment to determine whether there was any change in anxiety during the wait time of no treatment. During the time period from initial assessment to pretreatment, (no treatment phase), the mean CGAS (initial mean CGAS = 49.1, SD = 8.72; pretreatment mean CGAS = 46.2, SD = 4.45) demonstrated a trend toward deterioration \( F(1, 10) = 6.51, P = .029 \). Posttreatment mean CGAS (61.2, SD = 10.31) scores in this subgroup improved significantly \( F(1, 10) = 30.94, P < .001 \) as compared with pretreatment mean CGAS scores. These results suggest that treatment rather than time had an effect on improving CGAS scores over the three time points.

**DISCUSSION**

The major focus of this study was to pilot a cognitive behavioral treatment program developed specifically for children aged 5–7 years with DSM-IV anxiety.
disorders and their families and to assess the effectiveness of such an intervention program. Results from this pilot study suggest that young children aged 5–7 years of age can benefit from CBT when taught in an innovative, age-appropriate manner. Over 40% of anxious children in this pilot study no longer met criteria for any anxiety disorder according to a structured diagnostic assessment following treatment and 71.9% had at least one anxiety disorder resolve with treatment. Furthermore, children posttreatment were seen as demonstrating only sporadic difficulties in functioning on clinician rated CGAS scores. These results are comparable to a recent review by Cartwright-Hatton et al., indicating that older children and adolescents show overall remission rates of 56.5% with CBT. Although the effects of co-morbidity were not specifically examined in this study, children in this study with only one anxiety disorder had better remission rates (67%) compared with children with two or more anxiety disorders (30%).

Parent ratings of the most common forms of childhood anxiety, such as separation anxiety, generalized anxiety, social anxiety, and school refusal (SCARED Factors 2–5) all improved significantly with treatment. There however, was no significant change post-treatment on Factor 1 of the SCARED, which measures somatic or panic symptoms such as “My child feels dizzy.” It is interesting to note that this somatic/panic factor was also the only factor that was not elevated within the clinical range before treatment. Thus, the lack of improvement may reflect the relatively low initial scores on this factor.

In the sample as a whole, parent ratings for oppositional behavior also did not change with treatment even though there was a behavioral management component to the parent sessions. This lack of change may reflect the relatively small sub-sample of anxious children who also met criteria for ODD \(n = 6\) in our sample. Future studies with larger samples of co-morbid ODD will need to be conducted.

One significant limitation of this pilot study is the lack of a randomized control comparison group. We however, were able to take advantage of the inadvertent wait time that some children experienced to examine the possibility that time alone would be sufficient to ameliorate symptoms. This subset (11 of 32 children) who waited for treatment did not demonstrate any change in anxiety as measured by CGAS scores, while waiting for active treatment to start and in fact a trend toward deterioration was noted during this wait time. This same subset then went on to attend the treatment group and demonstrated significant improvement with treatment. Although only a small number of our sample experienced a wait time, these observations are a promising indication that improvement of child CGAS scores was due to the effect of the group treatment rather than the process of time alone. Future research will have to further assess the effect of wait time and/or include an appropriate control group.

Subsequent studies will also benefit from assessing whether such a parent child program provides any added benefit to a parent only program which to date has been the general mode of treatment for young children with anxiety disorders. Although it would be ideal for children to report on their anxiety symptoms there is a general lack of suitable, reliable, valid self-report instruments for young children to report anxiety symptoms. Future studies would benefit from child self-report as an additional measure of anxiety. As well, an exploration of contextual and family variables, such as measures of parental anxiety and family functioning, that may influence therapy outcomes in this age group are important factors to include in future studies. And finally, it will be important to follow these young children over the course of time to determine the long-term effects of such a group intervention.

**CONCLUSIONS**

CBT has clinically demonstrated effectiveness in the treatment of anxiety disorders in adolescents and school-aged children. Young children aged 5–7 years develop major DSM-IV anxiety disorders, but to date there is little in the way of evidence-based treatments developed specifically for this age group. Anxious children aged 5–7 years who participated in this novel, group CBT program improved with treatment on several anxiety measures. This pilot study suggests that CBT can be used effectively to treat anxious children as young as 5 years of age. Further studies in this area are necessary to extend these findings.

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