Parent-only Group Cognitive Behavioral Intervention for Children with Anxiety Disorders: A Control Group Study

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Abstract

Objective: Parents play an important role in development and continuation of anxiety disorders in children. Yet the evidence on parent contribution in cognitive behavioral therapy (CBT) for childhood anxiety is limited. This open randomized trial examined the effectiveness of a parent-directed group CBT to manage children with anxiety disorders. Method: Parents of 42 children aged 6-12 with primary anxiety disorders were allocated to a six, two-hour weekly intervention and a wait-list (WL) control. The Revised Children's Manifest Anxiety, Children's Depression Inventory, Strengths and Difficulties Questionnaire-Home Version, Depression-Anxiety-Stress Scale, Children Global Assessment Scale, and Global Relational Assessment of Functioning were used to assess children's and parents' functioning and emotional symptoms. Parents completed consumer satisfaction questionnaire. Results: Parents in the CBT group reported significant improvement in their depressive symptoms (p=0.006) and the family functioning (p=0.04), as well as reduction in children's emotional symptoms (p=0.007). Clinician rating of children's functioning showed significant improvement in the CBT group (p=0.001). There was no significant difference in children rating of their anxiety within groups from pre- to post-intervention. Parents were satisfied mostly with the intervention. Conclusion: A brief parent-only CBT based intervention can be effective in the management of childhood anxiety.

Key Words: cognitive-behavioral, anxiety, child, parent

Résumé


Mots clés: cognitivo-comportementale, anxiété, enfant, parent
Introduction

Concerns have arisen about the role of parents in developing and maintaining anxiety disorders in children, e.g. by overprotection or over-criticizing parenting styles (Ginsburg, & Schlossberg, 2002; McLeod, Wood & Avny, 2011) or supporting children’s avoidant behavior (Williams., et al. 2009). Moreover, parents with anxiety disorders could model their anxious pattern of thinking and avoidant behavior beyond genetic transmission (Fisak, & Grills-Taquechel, 2007; Mineka, & Zinbarg, 2006).

It has been proposed that involving family in the treatment of childhood anxiety could have some beneficial effects (Heyne et al., 2002; Sequeland, & Diamond, 1998). Cognitive-behavioral therapy (CBT) has been proved as an effective intervention in children suffering from anxiety disorders with an average remission rate of 60% at post-treatment (James, James, Cowdrey, Soler, & Choke, 2013). Some CBT studies showed more improvement when children were treated with their parents than individually (Barrett, Dadds, & Rapee, 1996; Cobham, Dadds, Spence, & McDermott, 2010; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006), while others did not find any advantage to adding parents (Bodden et al., 2008; Nauta, Scholing, Emmelkamp, & Minderaa, 2003; Öst, Cederlund, & Reuterskiöld, 2015). Moreover, few studies have examined parent-only interventions for childhood anxiety disorders (Smith, Flannery-Schroeder, Gorman, & Cook, 2014; Thienemann, Moore, & Tompkins, 2006), mainly performed for preschool age children (Monga, Rosenbloom, Tanha, Owens, & Young, 2015; van der Sluis, van der Bruggen, Brechman-Toussaint, Thissen, & Bögels, 2012; Waters, Ford, Wharton, & Cobham, 2009). Based on the “transfer of control model” (Silverman, & Kurtines, 1996), parents are trained to be lay therapists for their anxious children and assist them on in real-time situations. However, the evidence on parent-only intervention in school-aged children is limited and controversial.

The present study examines the effectiveness of a six-session parent training program in the improvement of anxiety symptoms in a group of school-aged children with anxiety disorders, versus a wait-list control group.

Method

Participants

Forty-two children with anxiety disorders were recruited from the outpatient clinic at Roozbeh psychiatric hospital, a university-affiliated teaching center with referrals from all over the country. The children had DSM-IV-TR criteria for a primary diagnosis of generalized anxiety disorder (GAD), separation anxiety disorder (SAD), social phobia, or specific phobia, aged 6-12 years, and received one of SSRI medicine at a stable dose for at least eight weeks before baseline assessments and during the study. They were excluded if: 1) diagnosed as major psychiatric/neurologic disorders; 2) there was a change in medication during the study; and, 3) parents missed more than two of six sessions of treatment.

Procedure

For children with clinical diagnosis of anxiety disorders by a board-certified child psychiatrist, the Kiddie schedule for affective disorders and schizophrenia -present and lifetime version (K-SADS-PL) was used to confirm the diagnoses and comorbidities. All self-report measures were conducted by a fellowship of child psychiatry. Post-treatment, the measurements were repeated and satisfaction ratings were collected.

Parents were randomly allocated to either parent training (N=20) or a six-week wait-list (N=22) group. Two intervention groups ran separately, each group included ten parents attending six, two-hour weekly sessions. The waiting list group underwent the active treatment plan at the end of the study.

Written consent forms were obtained from parents. They were neither charged nor paid for participation in the study. The study was approved by the ethics committee of the Tehran University of Medical Sciences.

Group CBT protocol

“FRIENDS for life” program is among the most successful interventions in prevention and management of anxiety in children and adolescents (Shortt, Barrett, & Fox, 2001). Its’ parent training component (Barret, Lowry-Webster, & Turner, 2000,) was aimed at empowering parents to recognize and deal with their own anxiety appropriately and using these skills to help children overcome their anxiety problems.

After translation and back-translation of the protocol program by a bilingual psychologist, the Persian content was reviewed and modified in terms of its meaning and fluency by two child psychiatrist expert in parent training and CBT. Some handouts and slides were also created for parents’ sessions.

The therapy was provided by a board-certified child psychiatrist and co-lead by a fellow of child psychiatry who distributed the study questionnaires and completed the treatment protocol adherence ratings. Protocol elements have been described in Table 1.
Table 1. Protocol elements

<table>
<thead>
<tr>
<th>Session</th>
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<tbody>
<tr>
<td>1 Psycho education about physiology, cognitive and learned aspects of anxiety</td>
</tr>
<tr>
<td>2 Practicing deep breathing and progressive muscle relaxation training</td>
</tr>
<tr>
<td>3 Parents learn to identify their own thoughts and challenge unhelpful thoughts</td>
</tr>
<tr>
<td>4 Parents learn problem solving skills and discuss ideas for graded exposure hierarchy</td>
</tr>
<tr>
<td>5 Discussing concepts of observational learning, reinforcement, praise and ignoring</td>
</tr>
<tr>
<td>6 Discussing strategies for promoting positive family skills</td>
</tr>
</tbody>
</table>

**Measures**

**Kiddie Schedule for Affective Disorders and Schizophrenia -Present and Lifetime Version (K-SADS-PL)**

This semi-structured interview is used to make diagnostic decisions based on the DSM-IV criteria (Kaufman et al., 1997). The validity & reliability of its Persian version has been confirmed in Iranian samples (Shahrivar, Kousha, Moallemi, Tehrani-Doost, & Alaghband-Rad, 2010).

**Revised Children’s Manifest Anxiety (RCMA)**

This self-report questionnaire assesses children’s chronic or trait anxiety (Reynold & Richmond, 1978). It has achieved a high internal consistency and moderate test-retest reliability (Reynolds, 1982).

**Children’s Depression Inventory (CDI)**

This self-report inventory has 27 items related to cognitive, affective and behavioral signs of depression (Kovacs, 1981). In a community sample of Iranian youth, the Cronbach’s Alfa and the coefficient for test-retest reliability were 0.88 and 0.81, respectively (Rajabi & Attari, 2005).

**Strengths and Difficulties Questionnaire (SDQ) Home Version**

The scale generates five subscales and a total difficulties score (Goodman, 1997). We used the Emotional Symptoms Scale as a parent measure of child anxiety. The validity and reliability of SDQ have been confirmed in Iranian children (Ghanizadeh, & Izadpanah, 2007).

**Depression-Anxiety-Stress Scale (DASS)**

This 42 item self-report instrument was used to measure parents’ negative emotional states. It possesses satisfactory psychometric properties (Brown, Chorpita, Korotitsch, & Barlow, 1997).

**Children Global Assessment Scale (CGAS)**

This 0-100 rating scale is a clinician-report child-specific measure of functioning and shows the overall severity of disorders (Shaffer et al. 1983).

**Global Relational Assessment of Functioning (GRAF)**

The measure reviews problem-solving, organization, and emotional atmosphere in the family. Its validity is supported by expected correlations with other measures of family and couple distress and functioning (Ashcraft., 1996).

**Assessment of Consumer Satisfaction**

Post-treatment, the intervention group completed a questionnaire to report if they were satisfied with the program.

**Statistical Analysis**

Using the SPSS-11.5, chi-square and Fisher’s exact tests were used for qualitative variables, paired t-test and repeated measure ANOVA for quantitative variables with normal distribution. All statistical references were made at $\alpha=0.05$.

**Results**

Figure 1 shows the enrollment and drop-out of the participants. The data on dropouts were not included in the analysis. No differences at pretreatment occurred across the two groups with respect to demographic and clinical variables of both children and parents.

**Children’s characteristics**

The mean age was 8.5(2.5) years in the intervention group (52.6% male) and 8.1(1.9) years in the WL group (78.6% male). SAD and GAD were the most common disorders in the intervention and WL groups, respectively. Among both groups, attention-deficit hyperactivity disorder was the most prevalent comorbidity. Comparison of the two groups regarding the children’s emotional and behavioral symptoms has been shown in Table 2. There was no significant difference in the RCMA scores from pre- to post-treatment in each group except for the Worry/Over-sensitivity and Social Concerns/Concentration subscale which significantly increased in the intervention group. The difference between the two groups regarding these two subscales was significant as well.

With regard to the CGAS, CDI, and SDQ, the only significant results were related to an increase in CGAS and a decrease in Emotional Symptoms Subscale mean score in the intervention group from pre- to post-treatment.
Parents’ characteristics

The mean ages of the intervention and WL groups were 35.5 (5.2) and 34.1 (4.8) years, respectively. The participating parents in the intervention group were mostly mothers (85.71%); 80-90% of whom were housekeepers and educated at the level of high school and higher. The most common psychiatric disorders in parents were anxiety and depressive disorders.

As Table 3 demonstrates, the only significant finding was shown on the DASS Depression subscale scores which decreased in the intervention group from pre- to post-treatment. Comparison of the two groups’ Depression scores was significant as well. For the GRAF scores, the improvement for the intervention group was significantly greater than for the WL group.

On a scale from 1 (not useful) to 7 (very useful), parents rated the program usefulness in controlling their own anxiety (5.23±0.92), in managing child anxious behavior (5.21±1.05), in improving the family relationships...
Table 2. Comparison of the children outcome measures scores between the intervention and control groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>Intervention Group (N=15)</th>
<th>Control Group (N=19)</th>
<th>Between groups comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within group mean changes</td>
<td>T</td>
<td>P</td>
</tr>
<tr>
<td>RCMA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Anxiety</td>
<td>1.5 (4.5)</td>
<td>-1.04</td>
<td>0.322</td>
</tr>
<tr>
<td>Physiological Anxiety</td>
<td>-0.63 (3.4)</td>
<td>0.60</td>
<td>0.557</td>
</tr>
<tr>
<td>Worry / Oversensitivity</td>
<td>1.75 (1.7)</td>
<td>-4.43</td>
<td>0.006*</td>
</tr>
<tr>
<td>Social Concerns / Concentration</td>
<td>1.18 (9.8)</td>
<td>-3.99</td>
<td>0.003*</td>
</tr>
<tr>
<td>Lie Scale</td>
<td>0.25 (1.4)</td>
<td>-0.58</td>
<td>0.571</td>
</tr>
<tr>
<td>CGAS</td>
<td>7.14 (6.1)</td>
<td>-4.3</td>
<td>0.001*</td>
</tr>
<tr>
<td>CDI</td>
<td>-2.57 (5.8)</td>
<td>-1.68</td>
<td>0.287</td>
</tr>
<tr>
<td>SDQ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Difficulties Score</td>
<td>-2.07 (4.6)</td>
<td>1.59</td>
<td>0.137</td>
</tr>
<tr>
<td>Emotional Symptoms</td>
<td>-1.76 (2)</td>
<td>3.11</td>
<td>0.009*</td>
</tr>
<tr>
<td>Conduct Problems</td>
<td>-0.69 (1.3)</td>
<td>1.81</td>
<td>0.095</td>
</tr>
<tr>
<td>Inattention / Hyperactivity</td>
<td>-0.42 (2.7)</td>
<td>0.59</td>
<td>0.564</td>
</tr>
<tr>
<td>Peer Problems</td>
<td>0.46 (1.1)</td>
<td>-1.38</td>
<td>0.190</td>
</tr>
<tr>
<td>Pro social Behavior</td>
<td>0.53 (1.5)</td>
<td>1.28</td>
<td>0.222</td>
</tr>
</tbody>
</table>

Note: SD = standard deviation; RCMA: Revised Children’s Manifest Anxiety; CGAS: Children Global Assessment Scale; CDI: Children Depression Inventory; SDQ: Strengths and Difficulties Questionnaire

Table 3. Comparison of the parents’ outcome measures scores between the intervention and control groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>Intervention Group (N=15)</th>
<th>Control Group (N=19)</th>
<th>Between groups comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean changes within group</td>
<td>T</td>
<td>P</td>
</tr>
<tr>
<td>DASS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-3.28 (6.5)</td>
<td>1.33</td>
<td>0.231</td>
</tr>
<tr>
<td>Depression</td>
<td>-2.45 (3.4)</td>
<td>2.34</td>
<td>0.041*</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.0 (3.4)</td>
<td>0.00</td>
<td>1.000</td>
</tr>
<tr>
<td>Stress</td>
<td>-1.66 (3.5)</td>
<td>1.42</td>
<td>0.191</td>
</tr>
<tr>
<td>GRAF</td>
<td>1.53 (1.3)</td>
<td>-1.46</td>
<td>0.104</td>
</tr>
</tbody>
</table>

DASS: Depression-Anxiety-Stress Scale; GRAF: Global Relational Assessment of Functioning.

Discussion

This study was conducted to test if a parent-directed CBT-based group intervention would help lessen the level of anxious symptomatology in children with anxiety disorders, compared to a wait-list group.

The results showed that children’s emotional problems decreased significantly based on the parents’ report. This is in good agreement with Cartwright-Hatton et al (2011) and Thienemann, Moore, & Tompkins (2006) who showed that parents’ report on children scores of anxiety was significantly reduced after a parent-based group CBT. Smith, Flannery-Schroeder, Gorman, & Cook (2014) found that following the parent individual sessions, mothers reported lower functional impairment in children. Yet, there was no decrease in children’s or parents’ report of child anxiety. Findings of the present study as well did not support the effectiveness of the intervention based on the children self-reports of anxiety, while we found clinician’s rated functional improvement in these children. These results are in line with the above-mentioned studies.

Altogether, it seems that there is a disagreement between the parents/clinicians and children ratings. Child
functioning and anxiety symptoms improve based on family and therapist measures, however, children themselves do not report any positive change. This can be explained by lack of sensitivity of measurement tools or reluctance of children to accurately report their degree of anxiety (Thiennemann, Moore, & Tompkins, 2006). Another possibility is that functional improvement may happen or can be detected by external observers, sooner than the children’s experience of anxiety decreasing (Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006). Based on the transfer of control model, post-intervention changes in behavior and attitude of parents help children approach the feared situations and cope with their worry more appropriately than before. These changes are detected by parents and clinicians, whereas it may need much longer time for children to acquire the knowledge and skills essential for anxiety management and habituation with fears. The children in this study rated higher worry/oversensitivity and social concern/concentration at post-treatment, unexpectedly. A hypothesis is that children might feel more comfortable in reporting their anxiety post-treatment as a result of more emotional awareness to their anxiety and parents’ more accepting attitude toward their worries. Besides, evidence from pre-treatment RCMA scores showed that the children’s anxiety level was in nonclinical range. Following use of new acquired anxiety-fighting skills; the parents perhaps rewarded children’s approaching behavior to previously avoided situations, leading to higher anxiety. It is likely that if longer follow-up assessments were conducted, children would be habituated to anxiety-provoking situations more appropriately than before and their anxiety would be decreased.

In this study, the level of parents’ reports of their stress and anxiety did not change post-treatment. This corroborates with the results of Smith et al. (2014), showing no significant decrease in parents’ anxiety after receiving individual CBT sessions for their anxious child. Waters et al. (2009) as well did not find any significant changes in parents’ DASS scores following each of parent-only and child + parent conditions. Besides, they showed a decrease in parents’ competence in both conditions. In contrast, parents’ depression and family functioning in this study improved significantly post-intervention. It is plausible that a more positive attitude and judgment regarding children behavior played a potential role in the parents’ ratings on children’s improvement. Nevertheless, a bias in parents and therapists engaged in CBT should be considered as a factor affecting their report of therapeutic efficacy. The parents were also highly satisfied with participation in the program and rated themselves relatively efficient in controlling their children’s anxiety, justifying the immediate benefit of the study.

Strengths and limitations
The study used a semi-structured interview as well as a child self-report measure of anxiety symptomatology, gathering data from children, parents, and clinician. Group format of intervention was more favorable in terms of its cost-benefit. Enrolling only the parents helped children from facing the mental health systems difficulties while providing clinical benefits to them. However, several factors limit the generalizability of study findings. Besides the low sample size of the study, it was an open trial and the assessor of function measurements was aware of the study groups, making a bias toward the scorings. Second, all participants were among referrals to a specialized psychiatric hospital with a high rate of comorbidities, which is associated with weaker therapeutic outcomes (Cartwright-Hatton, McNicol, & Dobleday, 2006), and may limit generalization of findings to other population. Third, as the parent training component of FRIENDS program was originally designed to be complimentary of the child component, the procedure of implementing it solely may be deficient. Finally, post-treatment assessments were conducted during two weeks after termination of the sessions which could be too early to note an effect.

Conclusion
This study evaluated a brief parent-directed group CBT for children with anxiety disorders. Parents and clinician reported improvement in anxious problems and functional level of children, as well as the family functioning and parents’ emotional problems. These findings support the role of parent-only cognitive-behavioral interventions to address childhood anxiety without the direct involvement of the children. However, as the participants were a relatively limited group of children with comorbid anxiety and externalizing problems, the findings can be applicable to similar referrals to tertiary psychiatric hospitals, not all anxious children and their families. The results should be considered preliminary until future studies with larger sample size, with an active control group and longer follow up assessments be undertaken.

Acknowledgements / Conflicts of Interest
The authors have no financial relationships to disclose.

References


