Psychotherapy for anxiety disorders in children and adolescents

AUTHORS: Evan Alvarez, MA, Anthony Puliafico, PhD, Kimberly Glazier Leonte, PhD, Ann Marie Albano, PhD, ABPP
SECTION EDITOR: David Brent, MD
DEPUTY EDITOR: Michael Friedman, MD

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INTRODUCTION

Anxiety disorders are the most common psychiatric disorders diagnosed in childhood and adolescence [1,2]. Anxiety disorders that may begin in childhood include generalized anxiety disorder, social anxiety disorder, and separation anxiety disorder (collectively known as the "child anxiety triad"), in addition to selective mutism, panic disorder, agoraphobia, and specific phobia.

Pediatric anxiety disorders are associated with functional difficulty in childhood and tend to persist into adulthood, where they are associated with functional impairment and co-occurring psychiatric disorders [3,4]. The development and testing of psychotherapies for pediatric anxiety disorders has largely been limited to cognitive-behavioral therapy and more recent advances in parent-child therapy in very young children.

This topic describes psychotherapy for anxiety disorders in children and adolescents. The epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis of anxiety disorders in children and adolescents are described separately. Pharmacotherapy for anxiety disorders in children and adolescents is also described separately. Psychosocial treatment for obsessive compulsive disorder and posttraumatic stress disorder in children is also discussed separately. (See "Anxiety disorders in children and adolescents: Epidemiology, pathogenesis, clinical manifestations, and course" and "Anxiety disorders in children and adolescents: Assessment and diagnosis" and "Pharmacotherapy for anxiety disorders in

children and adolescents" and "Posttraumatic stress disorder in children and adolescents: Trauma-focused psychotherapy" and "Obsessive-compulsive disorder in children and adolescents: Treatment overview".)

COGNITIVE-BEHAVIORAL THERAPY

Cognitive-behavioral therapy (CBT) focuses on the interplay between cognitions, behaviors, and emotions, helping patients to recognize and modify maladaptive anxiety-provoking thoughts and to change patterns of avoidance. The content of CBT programs can vary but typically includes psychoeducation and exposure to anxiety producing stimuli and situations, couched within an active and collaborative patient-therapist relationship, and reinforced by the use of patient-centered homework assignments.

Indications — CBT is indicated for all of the childhood anxiety disorders, including separation anxiety disorder, generalized anxiety disorder, social anxiety disorder, and specific phobia in adolescents and children age seven and older [5-7].

Children younger than seven typically do not possess the developmental abilities needed to understand and apply cognitive-behavioral strategies to their symptoms, but CBT has been adapted for delivery to parents of children with anxiety disorders, or to parents and children together [8-12]. (See 'Adaptations for young children' below.)

Conceptualization and components — CBT conceptualizes anxiety as a tripartite construct that involves interaction between physiological, cognitive, and behavioral components. Change in one of these three components sets up a process of change in one or more of the other two. CBT includes several key treatment components, such as psychoeducation, somatic management skills, cognitive restructuring, exposure to feared situations, and relapse prevention. Each component targets mechanisms that are believed to maintain maladaptive anxiety.

Psychoeducation — Psychoeducation involves teaching children and caregivers about their anxiety symptoms and providing an overview and rationale for CBT. Emphasis is placed on:

- Normalizing anxiety symptoms.
- The relationship between anxiety and avoidance; the role of avoidance in maintaining anxiety.
- The process of exposure treatment.

- Creating a detailed list of situations the patient avoids due to anxiety and behaviors the child or caregivers enact to reduce anxiety (eg, providing reassurance).

Patients learn, for example, that the experience and sensations of anxiety are normal, but that maladaptive levels of anxiety interfere with their functioning (eg, leading to poor grades at school, few friendships, or poor work performance). Through self-monitoring of their daily lives and reactions, patients learn to recognize their individual patterns of responding to anxiety-provoking events and triggers with avoidance, increased negative thinking, and greater subjective feelings of distress.

Self-monitoring may be in the form of paper-and-pencil diary forms or through commercially available software applications (eg, MindShift) [13].

Somatic management skills — Somatic management skills, including diaphragmatic breathing and progressive muscle relaxation, are intended to teach the patient to identify and effectively manage physical symptoms of anxiety.

Diaphragmatic breathing involves breathing slowly and deeply from the diaphragm, and is intended to facilitate a parasympathetic response. Progressive muscle relaxation involves systematically tensing and relaxing muscles throughout the body to relieve muscle tension associated with anxiety. Patients are encouraged to use these strategies when facing anxiety-provoking situations.

Software applications such as MindShift and various computer-based programs, such as Camp Cope-A-Lot [14], reinforce the teaching of these skills to children and teens.

Cognitive restructuring — Cognitive restructuring is a process of logically identifying and challenging maladaptive thoughts (eg, cognitive distortions) that may be contributing to or perpetuating anxiety. Common cognitive distortions, often labeled as “thinking traps,” are reviewed with patients and may include:

- Fortune telling – Predicting that negative events will occur in the future
- Mind reading – Assuming that others are thinking negatively about you
- Catastrophizing – Believing that a terrible event is likely to occur

Cognitions serve the same function across the anxiety disorders, to increase anxiety while prompting the child to avoid a situation or to act out with much distress. The focus of the thought varies according to the nature of the anxiety (social fears, general worries, separation concerns, fear of body sensations in panic), yet the process of restructuring these thoughts are the same across the disorders.

Patients are taught to identify these distortions and challenge them with alternative, coping-focused thoughts, such as:

- "What is the worst thing that can happen, and can I handle that?"
- "What are the chances my fear will come true?"
- "I have handled this situation before and I can do it again."

These strategies can be modified for each specific anxiety disorder and to match the age and developmental level of the child. As an example, a therapist may help a child with social anxiety disorder identify his thought, that no one will talk to him at an upcoming party, as "fortune telling" and help him identify a more adaptive alternate thought, such as, "If I'm invited, someone wants me there, and I might end up with a new friend."

A child with separation anxiety typically thinks the parent will not make it home from an evening out due to a catastrophe. The child is taught to address his or her inner thoughts with realistic challenges, "How many times has Mom gone out at night and not come home? She's always returned! I can go to sleep and she'll be happy to see me at breakfast!"

Exposure — Exposure treatment is central to all efficacious CBT for pediatric anxiety disorders; this involves the child gradually but repeatedly experiencing the feared situation with the intent of reducing the associated anxiety or learning to tolerate and manage normal, expected levels of anxiety [15,16].

Exposure directly targets the mechanism of avoidance, which allows symptoms of anxiety to perpetuate and often worsen. Through exposure, patients are guided in repetitions of facing anxiety-provoking situations, which typically causes the anxiety to diminish and in some cases remit. As an example, initial exposure treatment for a child with a specific phobia of dogs might begin with looking at pictures of dogs. Exposure proceeds to being physically near a dog, and then to petting a dog. Of note, exposure treatment of specific phobias is effective in one session, usually two to three hours in length.

For some youth and situations, the goal of exposure would be learning to tolerate the associated anxiety as opposed to the goal of extinguishing it [17]. This would be for situations where anxiety is typical and normal in magnitude(eg, when the child gives an oral report in class or asks someone on a date).

Patients typically complete exposures in session with the therapist, and are then encouraged to complete exposures regularly between treatment sessions. The process of exposure is very similar across pediatric anxiety disorders, with only the content of exposures changing based on the child's fears.

For younger children, it is typically helpful to involve caregivers during in-session exposures so that they can lead their children in exposures at home. Older children and adolescents are often more able to complete exposures independently and may not want their caregivers' involvement.

Relapse prevention — Relapse prevention helps to sustain the effects of treatment by working with the patient to establish a contingency plan in the event that symptoms or functioning worsen after termination. The return of symptoms can be due to a setback, to external events (such as a return to school), or to taking on new, challenging developmental tasks. Further treatment might involve additional "booster sessions" of CBT, check-in calls, or other types of intervention.

Efficacy — Randomized clinical trials have established the efficacy of individual CBT to treat separation anxiety disorder, social anxiety disorder, and generalized anxiety disorder in children as young as seven years and panic disorder through adolescence [7,15,18-25]. As an example, in a meta-analysis of 39 trials including nearly 2700 subjects (age <19) with primary anxiety disorders, CBT resulted in higher remission rates than waitlist or no treatment (49 versus 18 percent; odds ratio [OR] 5.45, 95% CI 3.9-7.6) [24]. Additionally, in a subset of five studies with over 200 subjects, CBT increased remission from anxiety disorders compared with treatment as usual (OR 2.74, 95% CI 1.16-6.46).

By diagnosis

Social anxiety disorder — Clinical trials have found CBT to be efficacious for pediatric social anxiety disorder [26-28]. As an example, a clinical trial randomly assigned 50 youths (ages 7 to 14) to 12 weeks of child-focused CBT, CBT plus parent involvement, or to a waitlist condition [26]. At the end of the treatment period, patients assigned to each of the CBT groups experienced higher remission rates compared with the control group (58 and 87.5 versus 7 percent). At 12-month follow-up, treatment gains were maintained for both CBT groups. A statistically insignificant trend found greater efficacy for the combination of CBT plus parent involvement compared with CBT alone (81 versus 53 percent).

Selective mutism — Several small trials suggest that exposure therapy may be more effective than contingency management for pediatric anxiety disorders [29,30]. As an example, a 2013 trial randomly assigned 21 children ages four to eight years with selective mutism to 24 weeks of integrated behavior therapy for selective mutism or a 12-week waitlist control. The exposure-based therapy group increased speaking behavior among the group by 75 percent compared with the control condition.

Specific phobia — Clinical trials have found a one-session CBT treatment in children diagnosed with specific phobia reduced phobic and anxious symptoms [31,32]. This treatment comprises primarily of continued graded exposure to the feared object over the course of several hours.

Panic disorder — Clinical trials have found cognitive behavioral therapies to be efficacious in panic disorder:

- A clinical trial [33] randomly assigned 26 adolescents ages 14 to 17 and diagnosed with panic disorder to receive 11 weeks of panic control treatment for adolescents (PCT-A), which is a downward extension of panic control treatment [34] or to a control condition involving self-monitoring panic symptoms and meeting with a therapist every two weeks to review monitoring. At post-treatment, the PCT-A group was found to have a greater reduction of panic symptoms compared with the control condition.

- A 2016 trial randomly assigned 54 youth ages 11 to 17 to intensive CBT or to a waitlist condition [35]. Panic disorder diagnosis, severity, and number of feared or avoided situations were assessed at baseline and after six weeks. Results showed intensive CBT was more efficacious at reducing both symptoms and criteria for diagnosis compared with the control condition.

Moderators of treatment outcome — Specific factors have been found to moderate treatment outcome in CBT for childhood anxiety disorders. For example:

- Family-based treatment may be superior for younger children [21] and when both parents also had an anxiety disorder [20].

- Low anxiety sensitivity and high caregiver burden were predictors of poorer response to treatment [36].

- Children diagnosed with social anxiety disorder responded more poorly to CBT compared with children with generalized anxiety disorder or separation anxiety disorder [36].

Administration

Treatment modalities — Most trials evaluating CBT in children and adolescents involved individual treatment rather than group therapy. Participants typically received CBT over 12 to 20 weekly sessions of 45 to 60 minutes each. However, individualized treatment may not be available for all patients. In cases where individual treatment is unavailable or ineffective, we suggest the following treatments options. They may also be useful as augmentation of individual treatment for specific diagnosis (eg, social anxiety disorder):

- **Group-based treatment** – Group-based CBT has been found to be effective in social anxiety disorder but has not been compared directly with individual CBT [37].

- **Online administration** – Online administration of CBT has shown promise in the treatment of children and adolescents with anxiety disorders [38,39], both with and without therapist guidance [40].

  Additional information about empirically supported treatments for pediatric anxiety disorders can be found at the following websites:

  - www.effectivechildtherapy.org
  - www.childanxietysig.com

- **Manualized** – There are multiple semistructured, manualized CBT programs for pediatric anxiety disorders that have been found to be efficacious when delivered by a trained clinician [7,41]. In manualized programs, the patient follows a manual that focuses on psychoeducation and symptom management.

  The most well-researched and prominently used program for treating anxiety is the Coping Cat program, which was developed for children ages 7 to 13 diagnosed with generalized anxiety disorder, social anxiety disorder, or separation anxiety disorder [18]. The C.A.T. Project adapts this program for adolescents ages 14 to 17 with the same disorders [42]. Both programs help teach youth core skills including management of somatic symptoms, cognitive restructuring, and problem-solving skills. They also provide psychoeducation to patients and caretakers.

Once these skills are taught, treatment focuses on gradual exposure to feared situations.

- **Modular approaches** – A modular approach may be particularly helpful for children exhibiting anxiety disorders and comorbid depression or disruptive behavior disorders [43,44]. In this approach, the clinician is instructed to apply specific treatment modules, such as cognitive restructuring, exposure, or parenting strategies, based on child and caretaker feedback and clinician judgment. When children present with multiple problems requiring more than one treatment, the modular approach provides guidance with sequencing treatments [45].

Adaptations for young children

Parent-child CBT — A growing body of research suggests that clinical interventions with parents or parent and child may be efficacious for treating anxiety disorders in children [23,46-48] and for children with separation disorder [49], both between age four and seven. These

treatments are primarily adaptions of cognitive-behavioral treatment strategies applied to older children and adolescents, but with greater parental involvement.

In a clinical trial, 64 children ages four to seven years with an anxiety disorder were randomly assigned to receive a parent-child CBT intervention (up to 20 sessions over six months) or a six-month waitlist condition [23]. After six months, children assigned to active treatment were more likely to experience reduced anxiety compared with the control group (59 versus 30 percent). Gains were maintained at one-year follow-up.

Patient specific applications

Separation anxiety disorder — Parent-child interaction therapy (PCIT), a behavioral treatment originally developed to treat disruptive behavior disorders in young children, was adapted to treat separation anxiety disorder. In PCIT, therapists teach caregivers strategies to reinforce desired behaviors and extinguish unwanted behaviors, and coach them to apply them while interacting with their child.

A randomized trial comparing an adaptation of PCIT with a waitlist control for children ages four to seven with separation anxiety disorder found that a greater proportion of children receiving PCIT no longer met criteria for an anxiety disorder compared with the control group (73 versus 0 percent) [49].

OTHER PSYCHOTHERAPIES

Psychotherapies for pediatric anxiety disorders other than cognitive-behavioral therapy based therapies have not been tested in clinical trials.

COMPARING MEDICATION AND PSYCHOTHERAPY

Clinical trials comparing the efficacy of serotonin reuptake inhibitor medication versus cognitive-behavioral therapy (CBT) for anxiety disorders in children have had mixed results:

- Social effectiveness therapy for children (SET-C), a behavioral therapy, was found in a clinical trial to be superior to fluoxetine for social anxiety disorder [50]. The 12-week trial randomly assigned 122 children with social anxiety disorder (ages 7 to 17) to fluoxetine, SET-C, or pill placebo. At the end of 12 weeks, a greater proportion of participants receiving SET-C no longer met diagnostic criteria for social anxiety disorder compared with patients receiving fluoxetine or placebo (53 versus 21.2 or 3.1 percent). SET-C was superior

to fluoxetine; both were superior to placebo in reducing social distress and behavioral avoidance, and increasing general functioning.

- A clinical trial randomly assigned 488 children (ages 7 to 17) with a primary diagnosis of social anxiety disorder, generalized anxiety disorder, or separation anxiety disorder to receive CBT, sertraline, combined CBT-sertraline, or a drug placebo [36]. A greater proportion of patients assigned to receive CBT alone or sertraline alone experienced a symptom reduction compared with patients assigned to placebo, with no significant difference between groups receiving active treatments (59.7 and 54.9 versus 23.7 percent). Adverse events, including suicidal and homicidal ideation, were no more frequent in the sertraline group than in the placebo group.

COMBINING MEDICATION AND PSYCHOTHERAPY

A clinical trial found that the combination of cognitive-behavioral therapy (CBT) and a selective serotonin reuptake inhibitor (SSRI) was more efficacious compared with the individual modalities [36]. In the trial (described above) of 488 children with social anxiety disorder, generalized anxiety disorder, or separation anxiety disorder, a greater proportion of participants who received combined CBT-sertraline were rated as “much improved” or “very much improved” on the Clinician Global Impression-Improvement scale compared with patients who received either CBT or sertraline as monotherapy (80.7 versus 59.7 or 54.9 percent).

Combined SSRI/CBT strategies have not been tested for specific phobia, panic disorder, selective mutism, or agoraphobia. A clinical trial found similar results for combined treatment in a related condition, school refusal [51]. The trial randomly assigned 63 children (ages 12 to 18) with school refusal to receive either the combination of CBT and imipramine or imipramine and placebo, finding that CBT/imipramine led to greater improvement in school attendance compared with the tricyclic medication alone.

TREATMENT SELECTION

First-line treatment

- **Mild to moderate anxiety disorder** – We suggest cognitive-behavioral therapy (CBT) as a first-line treatment of children with an anxiety disorder of mild to moderate severity rather than an SSRI or other treatment. Clinical trials comparing CBT with selective serotonin reuptake inhibitors (SSRI) treatment for pediatric anxiety disorders are mixed, with the larger trial finding no difference in remission rates between groups and another finding

CBT to be superior to sertraline. Selection between these modalities may also be influenced by availability of CBT and by child/parent preferences. (See 'Comparing medication and psychotherapy' above.)

- **Severe anxiety disorder** – For children with a severe pediatric anxiety disorder, we suggest first-line treatment with a combination of CBT and an SSRI. Combined CBT-SSRI treatment performed better than either modality individually in clinical trials of children with social phobia, generalized anxiety disorder, or separation anxiety disorder [36], as well as in a trial of a related childhood condition, school refusal [51].

- **Co-occurring anxiety disorder and major depression** – A combination of CBT and SSRI medication may be beneficial for children with an anxiety disorder and comorbid major depression, although this treatment combination has not been tested directly in clinical trials. Emerging studies of transdiagnostic treatment, which is a novel, modified version of CBT designed to concurrently treat both anxiety and depressive symptoms, have shown limited but promising results [43,44].

There is an absence of strong evidence or clear consensus on treatment approaches for children and adolescents whose anxiety symptoms do not improve after receiving CBT and/or SSRI medication [52]. As many as half of patients treated with one of these regimens have been found to relapse, with no difference in relapse rates across treatment conditions [53]. Increasing access to care and tailoring treatment to predictors of relapse (eg, starting treatment at later age) is strongly encouraged and necessitates further investigation.

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Anxiety and trauma-related disorders in children".)

SUMMARY AND RECOMMENDATIONS

Cognitive- and behavioral-based therapies are the only psychotherapies that have been tested in randomized clinical trials in children and adolescents. (See 'Cognitive-behavioral therapy' above and 'Other psychotherapies' above.)

- Cognitive-behavioral therapy (CBT) focuses on the interplay between cognitions, behaviors and emotions, helping patients to recognize and modify maladaptive anxiety-provoking

thoughts and to change patterns of avoidance. The content of CBT programs can vary but typically includes psychoeducation and exposure to anxiety producing stimuli and situations, couched within an active and collaborative patient-therapist relationship, and reinforced by the use of patient-centered homework assignments. (See 'Cognitive-behavioral therapy' above.)

- Exposure treatment is central to all efficacious CBT for pediatric anxiety disorders; this involves the child gradually but repeatedly experiencing the feared situation with the intent of reducing the associated anxiety, or learning to tolerate and manage normal, expected levels of anxiety. (See 'Cognitive-behavioral therapy' above.)

- Randomized clinical trials have established the efficacy of individual CBT to treat separation anxiety disorder, social anxiety disorder, and generalized anxiety disorder in children as young as seven years. CBT for panic disorder has empirical support in adolescence. Smaller trials suggest that CBT may be efficacious for selective mutism, separation anxiety disorder and comorbid anxiety and depression. (See 'Efficacy' above and 'Treatment modalities' above.)

- A growing body of research suggests that clinical interventions with parents or parent and child may be efficacious for treating anxiety disorders in children and for children with separation disorder, both between age four and seven. These treatments are primarily adaptions of CBT strategies applied to older children and adolescents, but with greater parental involvement. (See 'Adaptations for young children' above.)

- We suggest CBT as a first-line treatment of children with an anxiety disorder of mild to moderate severity rather than an SSRI or other treatment (**Grade 2C**). (See 'Comparing medication and psychotherapy' above.)

- For children with a severe pediatric anxiety disorder, we suggest first-line treatment with a combination of CBT and an SSRI (**Grade 2B**). (See 'Combining medication and psychotherapy' above.)

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