

Anxiety Disorders in Children and Adolescents

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Anxiety disorders are one of the most common psychiatric disorders in children and adolescents, but they often go undetected or untreated. Identification and effective treatment of childhood anxiety disorders can decrease the negative impact of these disorders on academic and social functioning in youth and their persistence into adulthood.

This article reviews assessment and focuses on evidence-based treatment interventions for childhood anxiety disorders: cognitive-behavioral therapy (CBT) and SSRIs. The following anxiety disorders are discussed: separation anxiety disorder (SAD), generalized anxiety disorder (GAD), specific phobia, panic disorder, social phobia, and selective mutism. Obsessive-compulsive disorder and posttraumatic stress disorder are not covered in this article.

The prevalence of any anxiety disorder in youths ranges from 2% to 4%, with 6- and 12-month estimates between 10% to 20%, and lifetime estimates only slightly higher.¹ Anxiety disorders are common in preschool children, and they follow patterns similar to those in older children. The impact of anxiety symptoms in young children may be clinically significant even if full criteria are not met.

One anxiety disorder is often comorbid with another anxiety disorder, as well as with other psychiatric disorders—especially depression and attention-deficit/hyperactivity disorder (30%). Anxiety often precedes depression; the co-occurrence of anxiety and depression increases with age and is associated with

greater impairment. Furthermore, the presence of anxiety disorders in childhood increases the risk of abusing alcohol in adolescence.

Screening and assessment

During the diagnostic evaluation, clinicians need to distinguish transient and developmentally appropriate worries and fears from anxiety disorders. In addition, the impact of stressors or traumas on the development or maintenance of anxiety symptoms needs to be assessed.

Common fears among infants include loud noises, being dropped, and later, normal separation anxiety. Toddlers typically experience fear of imaginary creatures (monsters) and darkness. From age 5 to 6 years, children experience worries about physical well-being (eg, injury, kidnapping) and later, fears of natural events (storms) develop. School-aged children worry about school performance, behavioral competence, rejection by peers, health, and illness. In adolescence, worries about social competence, social evaluation, and psychological well-being are prominent.

The American Academy of Child and Adolescent Psychiatry Practice

CHECK POINTS

- ✓ **The American Academy of Child and Adolescent Psychiatry recommends routine screening for anxiety in childhood, gathering information from various sources about anxiety symptoms (child, parent, teacher), assessing for comorbid disorders, and evaluating severity and functional impairment.**
- ✓ **Assessing somatic symptoms such as headaches, abdominal complaints, muscle tension, restlessness, and difficulty in sleeping before initiating treatment can decrease later confusion with adverse effects from medication.**
- ✓ **Exposure-based cognitive-behavioral therapy (CBT) is the psychotherapy of choice for children and adolescents with anxiety disorders.**
- ✓ **SSRIs are currently the only medications that have consistently shown efficacy for anxiety disorders in children and adolescents in placebo-controlled trials.**
- ✓ **Combining exposure-based CBT with SSRI medications may improve functioning in youths with moderate to severe anxiety disorders better than either intervention alone.**
- ✓ **Parental involvement in treatment is important but is especially critical when a parent is anxious.**

Parameter for the Assessment and Treatment of Children and Adolescents With Anxiety Disorders² recommends the following: routine screening for anxiety in childhood, gathering information from various sources about anxiety symptoms (child, parent, teacher), assessing for comorbid disorders, and evaluating severity and functional impairment. Children may be more aware of their inner distress (GAD), parents are more likely to appreciate the impact of anxiety on family life (SAD), and teachers are skilled at observing social functioning relative to same-age peers (social phobia).

Table 1 reviews the clinical presentation for each anxiety disorder and considers the anxious thoughts, physical sensations, and behavior related to children and adolescents.

Self-report measures for anxiety, such as the Multidimensional Anxiety Scale for Children (MASC)³ and Screen for Child Anxiety-Related Emotional Disorders (SCARED),⁴ can help clinicians screen for anxiety symptoms at baseline and monitor response to treatment. Children and parents can use visual analogues, such as a feelings thermometer, to rate severity of anxiety symptoms and impairment during the diagnostic evaluation. Younger children may prefer other visual tools for rating, such as smiley faces and upset faces.

Somatic symptoms, such as headaches, abdominal complaints, muscle tension, restlessness, and difficulty in sleeping, commonly accompany childhood anxiety disorders. Early screening for anxiety can help decrease excessive medical workups. Assessing somatic symptoms before initiating treatment can decrease later confusion with adverse effects of medication.

Disorder	Key Features
Specific phobia	Marked or disproportionate fear or anxiety about a specific object or situation that is not dangerous or significantly disruptive to functioning. The fear or anxiety is persistent, occurs on most occasions, and is out of proportion to the actual or imagined threat.
Social anxiety disorder	Marked or disproportionate fear or anxiety about social situations or activities involving other people. The fear or anxiety is persistent, occurs on most occasions, and is out of proportion to the actual or imagined threat.
Separation anxiety disorder	Marked or disproportionate fear or anxiety about separation from attachment figures. The fear or anxiety is persistent, occurs on most occasions, and is out of proportion to the actual or imagined threat.
Panic disorder	Recurrent attacks of discrete fear that occur unexpectedly, are not attributable to a medical condition, and are not due to the direct effects of a substance. The attacks are recurrent and cause significant distress or impairment.
Agoraphobia	Marked or disproportionate fear or anxiety about being in places or situations from which escape might be difficult or embarrassing, or from which getting help might be difficult.
Posttraumatic stress disorder	Marked or disproportionate fear or anxiety about a traumatic event or situation. The fear or anxiety is persistent, occurs on most occasions, and is out of proportion to the actual or imagined threat.

Treatment

Treatment of children with anxiety disorders of mild severity and minimal impairment should begin with psychotherapy.² Combining psychotherapy with medication treatment may be necessary in children with moderate to severe anxiety, when treating a comorbid disorder, or when there is a partial response to psychotherapy alone.⁵ To investigate monotherapies versus combined treatment, the Child/Adolescent Anxiety Multimodal Study (CAMS), a placebo-controlled trial in youths with moderate to severe SAD, GAD, and/or social phobia, compared CBT, sertraline, or placebo with combination treatment with sertraline and CBT.6 CBT (60% improved) and sertraline (55% improved) showed relatively equal efficacy and were superior to placebo (24% improved) for the treatment of childhood anxiety disorders, and the combination of CBT and sertraline (81% improved) had a response rate superior to either modality alone. All 3 of these active treatments were recommended with clinicians considering availability, family preferences, and cost in choosing a treatment.⁶ Unfortunately, CBT is not widely available and thus may not be a treatment option for many anxious children until more clinicians in the community and schools integrate CBT into their practice. Family assessment can help clinicians identify possible environmental triggers and reinforcements, parenting styles (especially controlling, critical, overprotective), family responses to the child’s anxiety symptoms, parental expectations, and coping strategies modeled by parents.⁷ In addition, if anxiety disorders are present in either or both parents, psychoeducation and treatment for parental anxiety disorders should be considered.

Cognitive-behavioral therapy

Exposure-based CBT has empirical support from wait-list–controlled studies for the treatment of childhood anxiety disorders and is the psychotherapy of choice for this population.⁸ However, studies that compare CBT with alternative psychotherapies have not been done.

Velting and colleagues⁹ describe several components of CBT for childhood anxiety disorders as follows:

- **Psychoeducation with child and parents about anxiety and CBT for anxiety disorders**
- **Somatic management skills training:** self-monitoring, muscle relaxation, diaphragmatic breathing, relaxing imagery
- **Cognitive restructuring:** challenging negative thoughts and expectations, learning positive self-talk
- **Practicing problem solving:** generate several potential solutions for anticipated challenges and generate a realistic action plan ahead of time
- **Exposure methods:** imaginal and live exposure with gradual desensitization to feared stimuli
- **Relapse prevention plans:** booster sessions and coordination with parents and school

Along with these components, parents are taught to provide consistent and frequent positive reinforcement for the child’s efforts and successes. This increases the child’s motivation to attempt exposures that initially increase anxiety

and discomfort levels. Over the course of treatment, learning to self-reward is emphasized. Parents learn anxiety-management skills so they can function as CBT coaches. Clinicians need to be flexible in considering child and family factors, comorbidity, and psychosocial stressors to achieve treatment success.¹⁰

Children with GAD benefit from CBT strategies that target uncontrollable worry and physical signs of anxiety.¹¹ Relaxation techniques such as diaphragmatic breathing and muscle relaxation target physical symptoms of anxiety. Cognitive restructuring assists children with GAD to identify and challenge persistent worries and anxious thoughts in a range of situations. Practicing problem solving is helpful to children with GAD.

Systematic desensitization for specific phobias involves relaxation, development of a fear hierarchy, and graduated pairing of items in the hierarchy with relaxation. Modifications for children include use of real-life desensitization programs, narrative stories, live modeling (demonstrating adaptive response), participant modeling (the child has physical contact with the model-therapist and the phobic object or situation), and contingency management.¹² Children with SAD benefit from cognitive restructuring to examine anxious thoughts of bad things happening when they are away from parents and to generate alternative thoughts. Parents and school staff need to take an active role **in treatment to forestall the child's refusal to go to school**. Tantrums, irritability, and physical resistance related to anticipation of separation is common in children with SAD, and parents benefit from behavioral strategies to shape and extinguish these responses. Parent training is important to increase the **child's independent functioning**.

CBT strategies for children with panic disorder include psychoeducation about physiological processes that lead to physical sensations, progressive muscle relaxation, breathing and relaxation, cognitive coping, and gradual exposure to agoraphobic situations.¹³ Interoceptive exposure can reduce worry about future panic attacks.

Treatment for social phobia has included exposure-based CBT with an emphasis on social skills training and increased social opportunities. One treatment approach added an opportunity to practice skills learned with non-anxious peers in a group activity, with good results.¹⁴

There is good evidence to support behavioral interventions for selective mutism within a multimodal psychosocial treatment approach for social phobia with selective mutism.¹⁵ In addition, addressing comorbid communication deficits, developmental delays, or second-language acquisition is helpful clinically. Other people are encouraged not to speak for the child. Efforts at nonverbal communication (pointing and participation in activities) are positively reinforced and, over time, verbal behaviors (mouthing words, whispering, speaking in a soft voice) are rewarded as the child learns to manage anxiety through standard CBT strategies.

Table 2 gives examples of fear/exposure hierarchies in children for each of the anxiety disorders.

Family interventions

Family interventions that strengthen family problem-solving skills and communication, reduce parental anxiety, and foster parenting skills that decrease avoidant coping and encourage self-efficacy in the child can be helpful for anxious children.² Parental involvement in treatment is critical when the parent is anxious.

School interventions

Classroom-based accommodations can assist the child when anxiety disorders impair school functioning. A key worker can be identified in the school setting to assist the child with problem-solving or anxiety-management strategies. The school is encouraged to help the child reduce anxiety and remain at school whenever possible to reduce the risk of the child refusing to go to school. If performance or test anxiety is present, then testing in a private environment with extended testing time may be helpful. Accommodations for the anxiety disorder can be written into **the student's 504 Plan or Individualized Educational Plan (IEP)**.

Pharmacotherapy

Placebo-controlled trials have demonstrated short-term effectiveness of SSRIs for the treatment of childhood anxiety disorders (**Table 3**). SSRIs are the first-line pharmacological treatment for anxiety disorders in this population.¹⁶ Although the FDA has issued a black-box warning for use of antidepressants in the pediatric population, including SSRIs, the benefit to risk ratio for anxiety disorders may be more favorable than that for depression.¹⁶ Clinicians should monitor for worsening depression, agitation, or suicidality, particularly at the beginning of medication treatment or when there is a change in dosage.

SSRIs have been well tolerated by children with anxiety disorders. Common adverse effects include GI symptoms, headache, increased motor activity, and insomnia. These adverse effects are often mild or temporary. Less common adverse effects include disinhibition and more severe forms of behavioral activation, such as agitation or aggression. These adverse effects may improve by reducing the dose of the SSRI. Disinhibition can present with acute symptoms of defiance or increased emotional reactivity and needs to be distinguished from positive treatment effects such as increased initiative

and assertiveness in anxious children. The clinician should screen for symptoms of bipolar disorder or family history of bipolar disorder before initiating treatment with an SSRI or other antidepressant.

Clinicians can consider increasing the SSRI dose by the fourth week of medication treatment if significant improvement in anxiety severity or impairment is not achieved.^{4,17} Studies of long-term risks and benefits of SSRIs are limited. Clinicians can consider a medication-free trial after 1 year of SSRI treatment for those children who achieve marked improvement in anxiety or depressive symptoms and impairment. This decrease or discontinuation of medication can occur during a low-stress period, with close monitoring for relapse so that medication can be restarted promptly if necessary.

A study of paroxetine in youths with social phobia showed some significant adverse effects, such as vomiting, decreased appetite, and insomnia, in the active-treatment group.¹⁸ Relative suicide risk in this trial was elevated, although not statistically significant.

There are no controlled medication studies in youths with panic disorder. Clinically, SSRIs are considered first-line pharmacotherapy and may be combined with benzodiazepines (clonazepam or lorazepam) when severe panic symptoms are present.¹⁹

SSRIs have not been compared with one another for the treatment of childhood anxiety disorders, but clinicians can consider adverse-effect profile, duration of action, patient adherence or preference, and positive response in a first-degree relative. Some differences in dosing effects by age are emerging in SSRIs, with children showing more adverse effects and higher peak plasma concentration than adolescents at similar doses. Clinicians are advised to start at low doses, monitor adverse effects closely, and titrate slowly on the basis of treatment response and tolerability. In young children who have selective mutism or other anxiety disorders, using the liquid form of an SSRI medication and starting at a very low dose may reduce the likelihood of adverse effects.

The safety and efficacy of medications other than SSRIs for the treatment of childhood anxiety disorders have not been established. Venlafaxine, tricyclic antidepressants (TCAs), buspirone, and benzodiazepines have been used as clinical alternatives, either alone or in combination with SSRIs. Switching to another SSRI to treat resistant anxiety has been shown to be helpful, and adding a second type of medication may be useful when there is a partial response. Comorbid diagnoses must be considered in the selection of medication.^{2,19}

Although the combined results were positive, only 1 of 2 trials with extended-release venlafaxine showed significant improvements relative to placebo in children with GAD.²⁰ On the basis of significant changes in blood pressure, pulse, and cholesterol levels with treatment, venlafaxine is considered only after several failed trials of SSRIs. Also, relative risk of suicidality with venlafaxine may be higher than with SSRIs.

TCAs are not often used in children because of the need for close cardiac monitoring and greater medical risks with overdose. Controlled trials of TCAs for youths with anxiety disorders have demonstrated conflicting results.

Buspirone is used clinically as an alternative to SSRIs for GAD in children and adolescents or as an adjuvant medication, but there are no published controlled studies for its use in children with anxiety disorders. Buspirone may be tolerated at higher doses in adolescents than in children with anxiety. The most common adverse effects are light-headedness, headache, and dyspepsia.

Benzodiazepines have not shown efficacy in controlled trials in children with anxiety disorders. Clinically, they can be used short term to achieve acute reduction in severe anxiety symptoms while an SSRI is started or to permit initiation of the exposure phase of CBT for children who refuse to go to school or who have panic disorder or specific phobia. However, benzodiazepines should be used cautiously in youths because of the risk of developing dependence, and they are contraindicated in youths with a history of substance abuse.^{2,19} Possible adverse effects include sedation, disinhibition, behavioral dyscontrol, and cognitive impairments. If benzodiazepine treatment is stopped abruptly, there is risk of severe withdrawal symptoms, including insomnia, anxiety, GI upset, and seizures.