

# Cognitive Behavioral Therapy for Children and Adolescents with Anxiety Disorders



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## KEYWORDS

- Anxiety disorders • Children • Adolescents • Cognitive behavioral therapy • CBT
- Exposure • Case vignette

## KEY POINTS

- Cognitive behavioral therapy (CBT) is an empirically supported psychotherapeutic treatment of childhood anxiety disorders.
- Exposure therapy is the active component underlying the efficacy of CBT for childhood anxiety disorders.
- Clinicians using CBT for childhood anxiety disorders should incorporate a thorough assessment, case conceptualization, and treatment plan that adapts to the needs of all patients.

Anxiety disorders—such as specific phobias, generalized anxiety disorder, social phobia, and separation anxiety disorder—are the most common class of psychiatric conditions among children and adolescents, with estimated lifetime prevalence rates between 15% and 30% before adulthood.<sup>1,2</sup> Comorbidity among different anxiety disorders in youth is high,<sup>3</sup> and comorbid mood and externalizing disorders are also common.<sup>4</sup> Further, children and adolescents with anxiety disorders often experience significant functional impairment in educational, social, and familial domains, which lead to continued impairment in adulthood and increased economic burden.<sup>1,5</sup> The distress and impairment experienced by youth with anxiety disorders underscores the need for evidence-based interventions for these conditions. As reviewed below,

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cognitive behavioral therapy (CBT) has strong theoretic foundations, comprises core treatment components informed by theory and practice, and has substantial research support that highlight it as the gold standard treatment of childhood anxiety disorders.

## COGNITIVE BEHAVIORAL MODEL OF CHILDHOOD ANXIETY

The cognitive behavioral model of child anxiety describes anxiety as a tripartite construct consisting of physiologic, cognitive, and behavioral components.<sup>6</sup> Maladaptive cognitive patterns (eg, excessive worry, dysfunctional beliefs, obsessions) lead to the subjective experience of anxiety, which prompts maladaptive behaviors intended to reduce such anxiety (eg, avoidance, reassurance-seeking).<sup>7</sup> Physiologic arousal (eg, somatic symptoms) plays an important role in this process, wherein a child's physiologic arousal can trigger maladaptive thoughts that contribute to anxiety (eg, "My heart is beating fast, which means something is wrong"). Both theory and empirical evidence underscore the following cognitive and behavioral factors that precipitate and maintain child anxiety.

### **Cognitive Factors**

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*Theories of cognitive processing* propose that cognitive biases contribute to the development and maintenance of childhood anxiety disorders.<sup>8</sup> First, children with anxiety disorders attend more heavily toward threatening information than neutral or positive information (ie, *attention biases*).<sup>9</sup> Second, children with anxiety disorders are predisposed to making negative or threatening interpretations of neutral or ambiguous stimuli (ie, *interpretation biases*). Greater levels of interpretation biases are associated with more severe anxiety symptoms,<sup>10</sup> especially when the content of ambiguous stimuli matches the anxiety subtype.<sup>11</sup> Interpretation biases are also stable over time and predict changes in anxiety.<sup>12</sup> Third, children with anxiety disorders are more likely to encode and recall threatening information over neutral or positive information (ie, *memory biases*).<sup>13</sup> These cognitive biases independently and additively contribute to anxiety problems in youth.<sup>14</sup>

The *expectancy model* of anxiety<sup>15</sup> posits that fear and avoidance are a function of one's expectations of, and sensitivity toward, a feared outcome. Anxiety sensitivity—the predisposition to interpret physical, cognitive, and social consequences of anxiety as threatening (eg, temperature changes, mind-racing, or other people noticing one's anxious responses)—is a cognitive factor that contributes to the development and maintenance of anxiety disorders in youth.<sup>15,16</sup> Anxiety sensitivity is associated with anxiety symptom severity in children and adolescents,<sup>17</sup> and youth with anxiety disorders report greater levels of anxiety sensitivity than nonanxious youth.<sup>18</sup> Anxiety sensitivity precedes and prospectively predicts anxiety symptoms across time,<sup>19</sup> further highlighting its contribution to the development of anxiety disorders.

### **Behavioral Factors**

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Behavioral factors also play a significant role in reinforcing problematic anxiety. *Learning theory*<sup>20</sup> proposes that anxiety develops through several learning-related pathways, including aversive classic conditioning, observational learning or modeling, and information transmission.<sup>21</sup> When a neutral stimulus is paired with an aversive event, that neutral stimulus becomes capable of eliciting an anxiety response—a process known as aversive classic conditioning. For example, a child bitten by a dog may pair dogs (ie, neutral stimulus) with being bitten (ie, aversive event); as a result, the child generalizes their fear to all dogs, and thus any dog may elicit a phobic response. Children can also acquire fears vicariously through observational learning. A child who

observes their parents' trepidation at approaching a new group of people may indirectly learn that such social encounters are dangerous, which can contribute to the development of social anxiety symptoms. Finally, children can acquire fears indirectly although verbal information received from others.<sup>22</sup>

Once fear learning has been established, avoidance behaviors maintain this learned fear. When children with anxiety disorders encounter a feared stimulus, and consequently experience anxiety, their instinctive response is to avoid this feared stimulus. Such avoidance provides temporary relief from anxiety and thus is negatively reinforced (ie, more likely to occur again). However, when children repeatedly undergo this process, they learn to think that the feared stimulus is in fact dangerous, and that they are incapable of handling the anxiety it provokes. Over time, anxious responses can become entrenched and increasingly severe.

## **CORE TREATMENT ELEMENTS OF COGNITIVE BEHAVIORAL THERAPY FOR CHILDHOOD ANXIETY**

Although some CBT programs for anxiety are disorder-specific (eg, Social Effectiveness Therapy for Children),<sup>23</sup> CBT programs have typically adopted a broad approach that targets a range of anxiety disorders (eg, Coping Cat).<sup>24</sup> Although detailing individual CBT programs is outside the scope of this review, an overview of the core treatment elements commonly shared across treatment programs is offered.<sup>6,25</sup>

### ***Psychoeducation***

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At the beginning of treatment, children and caregivers are provided psychoeducation about the nature of anxiety, anxiety disorders, the CBT model, and treatment details. An emphasis is placed on developing rapport with children and their parents in the first session because therapeutic alliance predicts positive treatment outcomes.<sup>26</sup> They are taught that anxiety is a normal response to perceived threats and serves an evolutionary purpose of keeping us safe. Anxiety disorders, however, are characterized by anxiety that is out of proportion to the actual situation and interferes with the child's day-to-day functioning (eg, a "faulty fire alarm").<sup>24</sup> Psychoeducation about anxiety disorders is shared to normalize the child's experience. An overview of the CBT model is presented, with a focus on the interactions between the child's physiologic sensations, thoughts, behaviors, and feelings. Finally, details of the treatment are outlined to set clear expectations and explain the rationale behind treatment.

### ***Anxiety Management Strategies***

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#### ***Emotional awareness training***

The goal of emotional awareness training is for children to recognize somatic, behavioral, and cognitive cues of anxiety so that they use other anxiety management techniques more effectively. Children are taught strategies to recognize their anxiety, distinguish anxiety from other feelings, and use the Subjective Units of Distress Scale (SUDS) to rate anxiety severity, which is often rated from 0 (no anxiety) to 10 (maximum anxiety).

#### ***Relaxation training***

Given the role of physiologic arousal in anxiety, relaxation training is commonly included in CBT programs. Diaphragmatic breathing exercises and progressive muscle relaxation may be taught to decrease physiologic arousal. However, recent research suggests that relaxation training may be a less central component of CBT for childhood anxiety disorders.<sup>27</sup>

### **Problem-solving**

Children are taught to problem-solve anxiety-provoking situations using a step-by-step process: identify the problem, generate multiple solutions, evaluate the costs and benefits of each solution, choose and implement the best solution, and assess the outcomes. Typically, solutions generated during this process include variants of avoidance behaviors or “approach behaviors” (ie, facing the feared situation). Children learn to evaluate the pros and cons of these behaviors, in favor of choosing approach behaviors.

### **Cognitive restructuring**

Consistent with cognitive theories of childhood anxiety disorders, children are taught to identify maladaptive cognitions that contribute to their anxiety and balance these with more adaptive thoughts. To help generate alternative thoughts, children systematically ask themselves a series of questions to assess and challenge overestimation of threat (eg, “How likely is the worst-case scenario?”) and overestimation of negative consequences (eg, “How bad would it actually be?”). Children may be assigned a thought log for in-between sessions, in which they record situations that triggered anxiety, automatic negative thoughts, alternative thoughts, changes in SUDS, and their behavioral responses.

### **Exposure**

Exposure is the key active ingredient in CBT for childhood anxiety disorders.<sup>28</sup> Exposure techniques are based on extinction learning principles, or that repeated presentations of a feared stimulus without a negative outcome would result in extinction of a fear response.<sup>27,29</sup> Recently, the *inhibitory model of learning* has been proposed to explain the process of change during exposures. The inhibitory model of learning argues that, rather than unlearning their fear, through exposure to their feared situation across diverse contexts, children learn new information (eg, “that spider probably will not bite me, and even if it does, I will be able to handle it”) that inhibits the fear (eg, “That spider is going to bite me and that would be really bad!”).<sup>30</sup>

Children and clinicians collaboratively develop an exposure hierarchy, which lists a series of feared situations in order of the child-perceived difficulty. Exposures can be imaginal (an exposure involving the imagination, such as writing a story or drawing a picture), in vivo (an exposure done while interacting with the actual feared situation), or a combination of the 2. Although determining exposures is a collaborative process, clinicians must ensure that the child’s core fear is being targeted. The first exposure chosen should be one that the therapist expects the child can reasonably handle, such that it is likely to be successful and provide the child a mastery experience. Mastery can be enhanced by practicing the same exposure several times to test whether the feared outcome occurs and by showing children that they can tolerate the distress that they previously perceived as unbearable. To facilitate engagement, clinicians can also propose exposure tasks that youth may find enjoyable, such as having children order food from their favorite restaurant if they have social anxiety.

Habituation-based exposures are typically conducted in a graduated fashion, from easier exposures to harder exposures. Although this may be more palatable for the child, it is not necessary for positive outcomes, assuming the child is willing to attempt exposures that evoke different levels of anxiety. The child and clinician may instead choose to move between easier and harder tasks or combine exposures in creative ways; this approach may improve outcomes by facilitating generalization of inhibitory learning.<sup>31</sup> That said, for children who are reluctant to try more difficult exposures, progressing from easier to more difficult is one strategy that may help facilitate engagement.

Clinicians monitor child-reported SUDS throughout exposures. Habituation-based models of exposure recommend a common rule-of-thumb that an exposure continues until the child reports at least a 50% reduction in SUDS from baseline, to ensure that habituation has occurred. Inhibitory learning models of exposure, however, recommend that exposures only need to continue until the child's expectation (eg, that something bad will happen) is violated and inhibitory learning occurs.<sup>31</sup> Regardless of the exposure duration, clinicians must ensure children are not using maladaptive coping strategies, both overt (eg, looking away from the feared stimulus) and covert (eg, mentally disengaging). To ensure children are practicing and generalizing their learning to other situations, exposure exercises are given as homework, and a reward program can be used to reinforce exposure homework completion.

### ***Relapse Prevention***

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Near the end of treatment, clinician, children, and caregivers consider how children will handle anxiety-provoking situations in the future. Termination occurs *not* when the child is able to tolerate situations facilitated by the clinician but rather when the child becomes adept at generalizing their skills to various situations independently. Following termination, “booster sessions” may also be offered at increasingly wide intervals, to ensure therapeutic gains are maintained posttreatment.

## **RESEARCH SUPPORT FOR COGNITIVE BEHAVIORAL THERAPY FOR CHILDHOOD ANXIETY**

CBT—exposures in particular—is the gold standard for treating anxiety disorders in children, as supported by empirical evidence.<sup>25,32–35</sup> Randomized controlled trials (RCTs) demonstrate its efficacy, with recovery rates posttreatment ranging between 47% and 66%<sup>35</sup> and response rates ranging between 57% and 60%.<sup>36–38</sup> CBT for childhood anxiety disorders also shows acceptability and safety, with no adverse effects and lower dropout rates than pharmacotherapy or pill placebo.<sup>34</sup>

### ***Comparisons with Waitlist Control***

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Meta-analyses consistently show that CBT outperforms waitlist or no treatment controls in terms of improvement in primary anxiety symptoms.<sup>34,39</sup> CBT is more than 4 times more likely to increase remission and treatment response than waitlist or no treatment.<sup>34</sup> Brief, intensive, and concentrated versions of CBT also outperform waitlist controls at posttreatment.<sup>32</sup>

### ***Comparisons with Active Treatment***

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Evidence of the superiority of CBT to other active treatments is promising. A meta-analysis found that CBT outperformed attention control (eg, psychoeducation for family members, relaxation, therapist support).<sup>39</sup> Although this meta-analysis found that CBT did not significantly differ from treatment-as-usual, there was significant heterogeneity between trials,<sup>39</sup> which indicates that these results should be interpreted with caution. Brief, intensive, and concentrated CBT outperform attention control (eg, education/support, nondirective therapy) at posttreatment but do not significantly differ from other active treatment conditions (eg, eye movement desensitization reprocessing therapy).<sup>32</sup> With regard to pharmacotherapy, CBT outperforms fluoxetine alone and sertraline alone, and the combination of CBT and sertraline outperforms either treatment alone as well as placebo.<sup>34</sup> Finally, a meta-analysis examining the effect CBT for childhood anxiety on secondary outcomes found that, in comparison to active

control (eg, another treatment, self-monitoring, attention placebo, treatment-as-usual), CBT led to greater improvements in depressive symptoms and general functioning.<sup>40</sup>

### ***Key Ingredients***

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Although typical CBT protocols begin with anxiety management strategies (ie, emotion awareness, relaxation training, cognitive restructuring), recent dismantling studies suggest that *exposure* is the key ingredient contributing to positive treatment outcomes.<sup>28,41</sup> Anxiety management strategies alone are not associated with improvements in anxiety symptoms and may even be negatively associated with improvements in functioning.<sup>28,41</sup> In the seminal Child/Adolescent Anxiety Multimodal Study, the introduction of exposure and cognitive restructuring accelerated children's improvement in symptoms; in contrast, the introduction of relaxation techniques had little impact.<sup>42</sup> Further, more time devoted to difficult exposures (rather than easy or moderate) and increased child compliance and mastery within exposure sessions has been linked to better outcomes.<sup>43</sup> Relatedly, introduction of cognitive skills may *slow down* treatment progress.<sup>44</sup> A meta-analysis of RCTs comparing CBT conditions to no-treatment control found that more in-session exposure was associated with larger effect sizes (ie, larger difference between CBT condition and no-treatment control), and inclusion of relaxation training was associated with smaller pretreatment to posttreatment effect sizes.<sup>27</sup>

### ***Family Involvement in Treatment***

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Family accommodation (ie, parents modify their behavior to help children avoid/decrease distress from anxiety) has been linked to increased symptom severity, impairment, and worse treatment outcomes for childhood anxiety disorders; therefore, several CBT programs have included parents in treatment.<sup>45,46</sup> Past studies have shown mixed results regarding the increased efficacy of including parents in child anxiety treatment<sup>45,47</sup>; however, these studies may not have emphasized certain types of family involvement (eg, parental involvement focused on contingency management).<sup>48</sup> In contrast, when family involvement specifically targets parental accommodation, as has been the case in obsessive-compulsive disorder (OCD), it seems that including families bolsters outcomes.<sup>49</sup> Accordingly, stand-alone parent-based treatments aimed at decreasing family accommodation have shown noninferiority to individual child CBT among children with non-OCD anxiety disorders,<sup>50</sup> although comparison to family-based CBT is needed. Further, a meta-analysis that compared family CBT to child-only CBT found that parent-child interventions were most effective in treating anxiety disorders in children.<sup>51</sup> Parental involvement may be more important for girls, younger children of either sex, and children with anxiety comorbid with ADHD.<sup>52,53</sup> Overall, parental involvement is likely an important element of CBT for childhood anxiety disorders.

### ***Innovation in Cognitive Behavioral Therapy Delivery***

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Recent CBT research has examined digital mental health interventions to improve access and efficiency of treatment.<sup>54</sup> A meta-analysis of the effectiveness of telehealth versus face-to-face CBT interventions for anxiety disorders in youth and adults found no differences in anxiety symptom reduction, therapist-reported or client-reported working alliance, or client satisfaction between the 2 treatment-delivery modalities.<sup>55</sup> In the studies reviewed, participants had a primary diagnosis of OCD or generalized anxiety disorder, so future research is needed to generalize these findings to all anxiety disorders. Additionally, a meta-analysis of computer-based programs that deliver CBT for youth anxiety, such as BRAVE<sup>56</sup> and Woebot,<sup>57</sup> found that computer-based CBT yielded similar effects compared with active treatment controls (ie, face-to-face

CBT or treatment as usual). Of the 24 studies in the meta-analysis, 10 interventions were self-guided, whereas 14 were guided by a therapist or researcher, which included telephone and/or email contact with participants, chat sessions, or face-to-face guidance during module completion. Methodological limitations in this literature, such as primarily using self-report measures for outcome data and inappropriate handling of missing data, necessitate additional research.<sup>58</sup> Further, several studies have demonstrated improvements in anxiety symptoms after virtual reality exposure therapy (VRET).<sup>59</sup> Gutiérrez-Maldonado and colleagues<sup>60</sup> (2009) showed better treatment outcomes for children in VRET compared with wait-list control, whereas St-Jacques and colleagues<sup>61</sup> (2010) demonstrated similar outcomes between VRET and CBT-based in vivo exposure. However, future controlled trials with larger sample sizes are needed.<sup>59</sup> Finally, mobile apps are another tool that could be used as adjuncts to CBT treatment to help monitor homework compliance and guide exposure implementation. Anxiety Coach and SmartCat are 2 mobile apps that have demonstrated preliminary effectiveness as adjuncts to treatment.<sup>62,63</sup>

### **Predictors of Treatment Outcomes**

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Identifying predictors of treatment outcomes inform efforts to personalize CBT for childhood anxiety disorders. Poorer treatment outcomes are predicted by greater anxiety severity at baseline, comorbid externalizing symptoms/disorders, and a primary diagnosis of social anxiety disorder.<sup>64</sup> Comorbid depression, parental psychopathology, and parental anxiety may also predict poor treatment outcomes but this evidence is less consistent.<sup>64</sup> Other predictors of poorer treatment outcomes for anxiety-disordered children undergoing CBT have included female gender<sup>65</sup> and higher levels of caregiver strain.<sup>66</sup>

### **Practice Guidelines**

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Consistent with empirical evidence, the American Academy of Child and Adolescent Psychiatry's Clinical Practice Guidelines<sup>33</sup> provides a Level 1 recommendation (ie, the strongest recommendation) for CBT in treating children and adolescents with social anxiety, generalized anxiety, separation anxiety, panic disorder, and specific phobia.<sup>33</sup> Similarly, based on a review of 111 treatment outcome studies, the Society for Clinical Child and Adolescent Psychology's practice guidelines identify CBT as a "well-established" evidence-based treatment (ie, the strongest level of empirical support) for youth with anxiety disorders.<sup>25</sup>

### **Limitations**

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Although extensive, the literature of RCTs for CBT in treating childhood anxiety disorders is limited by inconsistent or limited reporting of outcome measures, long-term effects of CBT, and clinically relevant variables (eg, demographic information).<sup>34,35</sup> Further, relatively few RCTs include children outside the 7 to 14-year age range, compare CBT with active treatment conditions, examine inpatient or intensive outpatient settings, assess for adverse effects, or examine adaptations of CBT (eg, technology-assisted CBT, parent-based CBT).<sup>34,35</sup> Finally, given that RCTs are commonly conducted in controlled settings with highly trained and closely supervised therapists, less is known about reproducibility of these outcomes in routine care.<sup>35</sup>

### **CASE VIGNETTE**

Sarah was a 13-year-old girl who presented for treatment with her mother because of worries related to completing school assignments and being late for events, and anxiety

associated with eating in front of others and speaking with unfamiliar adults.<sup>a</sup> When completing homework, Sarah wanted her parents in the same room to respond to her reassurance-seeking questions regarding schoolwork. In addition, Sarah worried about being late to school and other activities, such as basketball practice. Further, Sarah struggled with eating in front of people because she feared judgment. Instead of eating lunch at school, she would eat small snacks throughout the day when others were not watching. Finally, she never ordered food for herself at restaurants, and at stores, she asked her mother to go to self-checkout to avoid talking with store clerks.

After a comprehensive evaluation, Sarah was diagnosed with generalized anxiety disorder and social anxiety disorder. A family-based CBT treatment plan was implemented, which included an initial assessment of symptoms, functional impairment, and family accommodation. Sarah was hesitant to speak with the therapist during the initial session, so most of the first session was focused on building rapport by playing a game and discussing her hobbies. Sarah and her mother were also provided with psychoeducation, which included an explanation of the development and maintenance of anxiety symptoms and the impacts of avoidance and reassurance seeking. Further, the therapist discussed the CBT treatment model using developmentally appropriate language. A motivational reward program was implemented, in which Sarah earned tokens for attending sessions, completing out-of-session homework, and participating in sessions.

In subsequent sessions, Sarah and her mother developed an exposure hierarchy with the therapist, which included a list of potential exposure exercises that Sarah rated on a 0 to 10 SUDS rating scale (Table 1). Sarah started with easier exposure exercises, with most exposures implemented in session before being completed for homework. For instance, Sarah ate in front of the therapist in session before completing her at-home exposure of eating in front of her family at dinner. The therapist also introduced a thought log (Table 2), in which Sarah tracked the triggers, thoughts, and behaviors associated with her anxiety symptoms. She was taught how to identify anxious thoughts and replace them with more realistic alternative thoughts.

Most of the treatment sessions involved the following format: (1) review exposure homework from the previous week, (2) discuss the thought log from the previous week (for situations in which Sarah struggled to develop more realistic counter thoughts, the therapist used collaborative questioning to help generate alternative thoughts), and (3) complete an in-session exposure exercise. During exposures, Sarah understood not to use her cognitive restructuring techniques, and the therapist reminded her to focus on the feared situation. Throughout treatment, the therapist encouraged Sarah's mother to coach Sarah during the in-session exposure exercises to help prepare them for exposure practice at home. The therapist also talked with Sarah's mother about the importance of not accommodating at home (eg, leaving for school and basketball practice early, providing Sarah with reassurance about schoolwork, ordering for her at restaurants).

However, as the exposure exercises became more challenging, Sarah's parents were hesitant to complete certain exposures, such as mom not helping Sarah with her homework and showing up to school 5 minutes late. A parent-only session was scheduled to explore how parents' anxiety may be related to hesitancy in completing the more challenging assignments. Parents reported that they felt guilty because not

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<sup>a</sup> This case was based on the combination of several children with anxiety disorders that were treated in our clinical work. It was intended to show how CBT is administered in practice. The case is not based on a specific patient.



**Table 1**  
**Sample hierarchy for a 13-year-old girl with generalized anxiety disorder and social anxiety disorder**

<b>Exposure Exercise</b>	<b>0–10 Rating</b>
Show up late to basketball practice	9
Eat messy food at school lunch	9
Turn in school homework assignment without every question completed	9
Eat messy food at family dinner	7
Show up late to school	7
Eat safe food at school lunch	7
Parents do not check homework assignment before turning it in	7
Complete homework/study for test alone (first for a few minutes, then gradually increase the amount of time)	5–7
Order for self at a sit-down restaurant	6
Eat messy food in front of therapist	5
Write a worry script about doing poorly on a test at school	5
Write a worry script about showing up late to school/basketball practice	5
Show up 5 min late to therapy session	5
Show up to school/basketball practice right as it starts instead of 15 min early	5
Order for self at a fast food restaurant without parent present	5
Turn in a therapy homework assignment without every question completed	4
Eat safe food at family dinner	4
Call businesses to ask them questions about their products	4
Eat safe food in front of therapist	4
Order for self at a fast food restaurant with parent present	4
Show up to therapy session right as it starts instead of 15 min early	2

accommodating Sarah's requests in these situations led to distress and increased anxiety. Psychoeducation related to maintenance of anxiety symptoms was reviewed, and the therapist discussed how these accommodations can help reduce Sarah's anxiety and distress in the short term but often lead to more problems in the long term. The therapist also reviewed Sarah's progress in treatment, which was partially associated with her parents decreasing their reassurance and accommodations in different situations.

As treatment progressed, Sarah's anxiety symptoms gradually decreased, and she avoided fewer situations at school and home. This led to less functional impairment in school, social, and familial domains. At the end of treatment, Sarah was able to eat lunch with her friends, complete schoolwork independently, and communicate with adults in social settings. Sarah faced her feared situations that she had previously avoided, and she discovered that her feared outcomes did not occur during the exposure exercises. Toward the end of treatment, sessions were spaced 2 to 3 weeks apart, and relapse prevention was discussed with Sarah and her parents. The therapist reviewed the techniques Sarah learned in treatment and helped prepare her in the event future increases in anxiety symptoms occur.

## DISCUSSION

Anxiety disorders are frequently diagnosed in children and adolescents and can lead to impairment in multiple domains.<sup>1,5</sup> CBT is the gold standard treatment of childhood

Situation/Trigger	Thought	Emotion (0–10)	Behavior
Studying for my math test	I am going to fail the math test and get an F in the class	Anxious (7)	I asked my mom to help me study more for the test
In the car on the way to basketball practice, and we were only going to get there 5 min early	Coach is going to be upset that I am late and the whole team is going to stare at me when I walk in	Anxious (5)	I kept asking my dad to drive faster. I also asked him multiple times how many minutes until we get to practice
I ordered for myself at McDonalds	The McDonalds worker is going to laugh at me because I messed up the order	Anxious (4)	I did not make eye contact with the worker when I said my order
My friend saw me eating a granola bar in between classes	My friend is going to make fun of me	Anxious (7)	I stopped eating the granola bar

anxiety disorders, with support from empirical evidence and practice guidelines.<sup>25,33,35</sup> Further, dismantling studies have shown that exposures are a core component of CBT for childhood anxiety disorders as anxiety management strategies alone are not associated with improvements in anxiety symptoms.<sup>28,41</sup> The section below reviews several important components regarding delivery of CBT for childhood anxiety disorders and discusses ways to overcome challenges associated with treatment.

### **Importance of Exposures**

As detailed above, exposures is a key ingredient for positive treatment outcomes in CBT for childhood anxiety disorders.<sup>28,41,44</sup> However, it has been found that therapists who treat children with anxiety disorders rarely used exposures because of unsubstantiated negative beliefs related to the safety, tolerability, and ethicality of exposures.<sup>67,68</sup> Other techniques, such as thought stopping and replacing negative thoughts with positive distraction, were used more often. This is unfortunate because such strategies may lead to avoidance of anxiety, which prolongs therapy and decreases treatment effectiveness.<sup>69</sup> Further, when exposures were delivered in treatment, they were typically patient self-directed instead of therapist-assisted, which tends to be less useful.<sup>68</sup> Fortunately, negative clinician beliefs related to exposures are amendable. Didactic trainings for therapists that include experiential learning and patient testimonials related to exposures have been shown to decrease these negative beliefs.<sup>70</sup> Dissemination of CBT treatment should continue to emphasize the rationale for and safety of exposures to clinicians.

### **Addressing Clinical Complexities**

Children and adolescents with anxiety disorders typically have comorbid psychiatric conditions, such as other anxiety, mood, and externalizing disorders.<sup>3,4</sup> These comorbidities often lead to additional complexities and challenges; therefore, thorough assessment, case conceptualization, and treatment planning are critical for best treatment outcomes. Clinicians should assess how comorbidities may affect treatment and consider whether to treat comorbidities simultaneously or sequentially to the primary

anxiety disorder. Weisz and colleagues<sup>71</sup> (2012) indicated that incorporating free-standing modules from other evidence-based treatments for comorbid conditions may lead to enhanced outcomes. CBT for youth anxiety has also been adapted for certain conditions, such as autism spectrum disorder. Behavioral Interventions for Anxiety in Children with Autism, which includes core CBT and modules for social skills, disruptive behaviors in school, and OCD-specific behaviors, has led to moderate treatment effect sizes.<sup>72,73</sup>

Additionally, clinicians should adapt CBT treatment depending on the age of the child or adolescent. For instance, CBT with preadolescents should include increased parental involvement, with developmentally appropriate child psychoeducation and behavior management skills training for parents. Clinicians also must consider the unique developmental needs of adolescents and tailor treatment accordingly. Further, several programs have been developed for young children<sup>74</sup> and adolescents with anxiety<sup>75</sup> that tailor to their specific needs.

### **Recommendations for Clinicians**

CBT is the most well-established treatment of children and adolescents with anxiety disorders, with support from a strong literature base that demonstrates significant improvements in anxiety symptoms and impairment after treatment. Based on the literature presented above, the following recommendations regarding anxiety disorder treatment of youth are offered:

- Use a multimethod, multi-informant assessment to develop a case conceptualization and treatment plan designed to fit the needs of the diverse population of youth with anxiety disorders.
- Exposure exercises tailored to the child or adolescent's presenting concern should be a core component of treatment.
- Evaluate for possible clinical complexities and developmental needs when personalizing CBT for youth with anxiety.

### **CLINICS CARE POINTS**

- At the beginning of treatment, do not assume that standard CBT will be effective for each child; assess for possible clinical complexities or developmental needs that may need to be addressed in treatment.
- When completing exposures with youth, remind them to focus on the feared situation and avoid providing reassurance.
- When developing an exposure hierarchy, include feared situations with a varied degree of child-perceived difficulty and avoid only including exposures with high or low levels of difficulty.

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