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NARRATIVE REVIEW

Current treatments for social anxiety disorders in adolescents: A narrative review

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Abstract

Recent advancements in the developmental epidemiology, neurobiology, and treatment of pediatric anxiety disorders have both increased our understanding of these conditions and heralded improved outcomes for children and adolescents who are afflicted with them. This article reviews the various approaches that are currently being taken to treat anxiety disorders in young people. In addition, we provide a summary of the current evidence for both psychotherapeutic and psychopharmacologic treatments of fear-based anxiety disorders (such as generalized, social, and separation anxiety disorders) in children and adolescents. These disorders include separation anxiety disorders, generalized anxiety disorders, and social anxiety disorders. The available evidence suggests that these disorders begin in childhood and adolescence, that they display homotypic continuity, and that they increase the risk of developing secondary anxiety and mood disorders. Psychopharmacologic trials involving selective serotonin reuptake inhibitors (SSRIs) and selective serotonin-norepinephrine reuptake inhibitors (SSNRIs) have generally demonstrated moderate effect sizes and are effective in treating anxiety disorders in pediatric patients. In addition, recent research finds that cognitive behavioral therapy (CBT) is an effective method for treating these conditions in young people. These same findings also imply that the combination of psychotherapy and an SSRI may be associated with greater improvement than what would be expected from either treatment when used alone as a monotherapy.

Keywords: Anxiety, children, psychotherapy, social anxiety, treatment.

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Introduction

One of the most common and incapacitating psychiatric disorders in the United States is anxiety disorder (1,2). At some point in their lives, one in four adults will experience an anxiety disorder. Patients with anxiety disorders report significant physical and emotional discomfort, high rates of drug use, and a host of other health issues. In the context of other psychiatric disorders, such as major depressive disorder (MDD) or bipolar disorder, co-occurring anxiety disorders are linked to a more protracted and treatment-refractory course, and these patients are at an increased risk for suicide (3,4). Anxiety disorders have

a particularly high economic and social cost due to their high prevalence and high functional disability.

The current review will give a critical overview of current pharmacological strategies for treating anxiety and will look at the pipeline of pharmacotherapeutics for developing anxiety treatments. The current review focuses on treatment options for anxiety disorders that are currently being tested on humans in the early or late stages. The reader is pointed to several recent reviews for an extensive review of anxiolytic development from a preclinical perspective.

Cognitive behavioral therapy

Numerous mental health conditions, including anxiety disorders, have been proven to benefit from cognitive behavioral therapy (CBT). In patients with anxiety, cognitive behavioral therapy has also been linked to increases in quality of life (1). CBT is often considered a short-term, skill-focused therapy intended to change the patient's beliefs, behaviors, or both in order to change their maladaptive emotional responses. The theories of early academics like B. F. Skinner and Joseph Wolpe, who started the behavioral therapy movement in the 1950s, can be linked in part to the development of CBT. According to behavioral therapy, altering behaviors should result in altering emotions and cognitions like appraisals. Since its inception, cognitive psychotherapy has become a part of behavioral therapy, thanks in part to the early research of psychologists like Albert Ellis and Aaron T. Beck. Cognitive therapy focuses on altering beliefs, which are thought to alter feelings and actions (1,2).

In vivo exposure is a frequently utilized treatment that involves exposing persons with a social anxiety disorder to stressful events without having them avoid them or take extra precautions. Rapee and Heimberg's cognitive behavioral therapy model of anxiety postulates that people who suffer from social anxiety have biases and distortions in their processing of social and evaluative information, which heightens worry (3). Exposure to social circumstances can be utilized to provide disconfirming data regarding cognitive distortions connected to social expectations while avoiding social interactions itself sustains this fear. It has been demonstrated that exposure, either with or without cognitive therapy, is useful in easing social anxiety symptoms. Recent studies have revealed that cognitive treatment and exposure therapy both outperformed wait-list control in treating patients with a social anxiety disorder (4,5).

Cognitive behavioral therapy (CBT), which is regarded as an effective evidence-based treatment for childhood anxiety disorders, consists of several essential elements, including psychoeducation of the child and caregivers regarding the nature of anxiety, methods for managing somatic reactions, such as relaxation training and diaphragmatic breathing, cognitive restructuring by identifying and challenging anxiety-provoking thoughts, and problem-solving exercises for coping with anticipated challenges (6).

Traditionally, young people with specific anxiety problems were not the focus of cognitive behavioral therapy. Instead, the same set of strategies was used to treat social, separation, and generalized anxiety disorders. According to Creswell et al. (7), there were two main driving forces for this strategy. The first is the substantial comorbidity of anxiety disorders in children and adolescents, and the second is the dearth of thoroughly tested maintenance models for individual illnesses. Coping Cat for kids and the CAT Project for teens are two of the most well-known applications of the general cognitive behavioral treatment method. The treatments typically last for 16 sessions and combine graded exposure, anxiety control techniques, and psychoeducation. Numerous sizable randomized controlled trials have been conducted to evaluate the efficacy of Coping Cat and its numerous relatives in treating social, separation, and generalized anxiety disorders (8-10).

Cognitive behavioral group therapy

Psychological treatments created specifically for social anxiety disorder have been developed in addition to conventional generic CBT. One of the first to be tested was cognitive behavioral group therapy (CBGT). This therapy, which is based on the Heimberg model incorporates psychoeducation and skills training, including social skills and anxiety

management techniques, then exposure activities. CBGT was compared to no therapy in an early randomized controlled trial among female teenagers. The authors claim that although the CBGT group continued to report significant residual symptoms, they had much fewer post-treatment social anxiety symptoms than the no-treatment group. The control group improved at the one-year checkpoint, and there was no longer a discernible group difference. In a randomized controlled trial comparing CBGT to an educational supportive therapy for teenagers, the researchers found no evidence of unique treatment effects, however, both interventions were linked to improvements in social anxiety symptoms, functioning, and social skills (9-12).

Social effectiveness therapy

Another treatment for social anxiety disorder is called Social Effectiveness Therapy, which also has a version for children aged 8 to 12 years old. It is a behavioral group therapy that includes exposure, social skills instruction, and psycho-education. In a preliminary randomized controlled study with 12 adolescents, Baer and Garland modified the treatment for adolescents and compared it to the waitlist. on clinician and patient reports of symptoms, Social Effectiveness Therapy for Children fared better than the waitlist (9,13)

Mindfulness-based psychotherapies

Studies on mindfulness-based therapies in children and adolescents have been few. In a sample of minority children, Lierh & Diaz discovered that a mindfulness intervention reduced the symptoms of anxiety and despair. Other research has demonstrated that mindfulness-based treatments are beneficial in treating a number of mental health problems in children, and open-label studies suggest that group-based mindfulness-based cognitive behavioral therapy may be effective in treating adolescents with generalized, social, or separation anxiety disorders who are at risk of developing bipolar disorder. Such treatments for anxiety in children are an attractive topic that calls for more research given the acceptability and tolerability of mindfulness-based interventions as well as their thus far-established effectiveness (14-21).

Psychopharmacological treatments

Serotonergic antidepressants are being aggressively evaluated in children and adolescents with anxiety disorders. This is in line with the evidence that these drugs reduce fear responses in pre-clinical anxiety models and it is likely motivated by data supporting their use in adults with anxiety disorders as well as data supporting their use in children and adolescents with related psychiatric syndromes, such as major depressive disorder, which frequently co-occurs with anxiety disorders (9-15).

Fluoxetine

Over the course of a 12-week therapy period, fluoxetine lowers anxiety in young people(mean age: 11.8 years, N=74) with triad anxiety disorders (22). In this trial, fluoxetine was started at 10 mg/day and increased throughout the course of the first week of treatment to a maximum fixed dosage of 20 mg/day. Fluoxetine was typically well accepted and showed a considerable improvement in anxiety symptoms (16). There have been reports of headaches, sleepiness, nausea, and abdominal pain. Additionally, a 12-week, placebo-controlled trial by Beidel and colleagues (23) looked at the effectiveness of fluoxetine and social effectiveness therapy for children in young people with social anxiety. Fluoxetine was administered to patients as either a placebo (n = 32), social effectiveness therapy for children (n = 57), or fluoxetine (starting dose of 10 mg/day for 2 weeks, then titrated sequentially to 40 mg/day). In comparison to placebo and fluoxetine, social effectiveness therapy for children performed statistically better. Only nausea was the side effect that affected participants receiving fluoxetine more frequently in this trial of social phobia sufferers (16,22,23).

Fluvoxamine

Fluvoxamine has been examined in children and adolescents (aged 6-17 years, N=128) with mixed anxiety disorders generalized anxiety, and social anxiety, in an 8-week double-blind, placebo-controlled study (24). Fluvoxamine-treated patients exhibited a statistically significant improvement in PARS score compared to youth receiving a placebo.

Fluvoxamine was well-tolerated, and there were no statistically significant differences in adverse events between placebo-treated patients and those receiving fluvoxamine (24).

Paroxetine

In a 16-week, multi-center, parallel-group study, Wagner and colleagues (25) treated children with social anxiety who were 8–17 years old with flexibly dosed paroxetine. Starting at 10 mg per day, paroxetine was flexibly dosed up to a daily maximum of 50 mg. In this population, paroxetine was well tolerated and patients receiving it showed a higher response rate (CGI-I: 77.6% of the paroxetine-treated vs. 33.8% of the placebo-treated patients, $p<0.001$). However, decreased appetite, vomiting, and insomnia were noted, and 4 individuals taking paroxetine (compared to 0 receiving a placebo) reported emotional lability and suicidal thoughts (25).

Venlafaxine

Youths with Generalized Anxiety Disorder and Social Anxiety were examined after taking Venlafaxine ER. In an 8-week, multicenter, double-blind, randomized, placebo-controlled research, there were 320 patients with generalized anxiety disorder, ages 6 to 17 (N=320) (26). Generalized anxiety disorder symptoms significantly decreased over the course of treatment when compared to placebo, and side effects, which included anorexia, somnolence, elevated heart rate and blood pressure, as well as weight loss, were consistent with the known side effect profile of venlafaxine (26).

Studies on therapy

Teenagers with social anxiety appear to respond better to CBT-based treatments overall than to no treatment at all.

Few studies have examined the effectiveness of CBT as a standalone treatment for childhood anxiety disorders or in combination with psychopharmacological therapy (23,24). In the child/adolescent anxiety multimodal study, a large, multisite study of children and adolescents with moderate to severe generalized anxiety disorder and social anxiety disorder, 488 children and adolescents aged 7 to 17 were randomly assigned to one of three treatment groups (sertraline monotherapy, cognitive behavioral therapy, or sertraline plus CBT) for a 12-week period (24). All treatment groups outperformed the placebo group (24%) in terms of clinical improvement and symptom severity, and the combination therapy (sertraline + CBT) was significantly more effective (81%) than either group treated with either medicine (55%) or CBT (60%) alone (24). In the child anxiety multimodal study, the 24- and 36-week follow-ups showed that more than 80% of acute responders continued to have a good reaction at both time points (27). Participants kept receiving active treatment with sertraline, CBT booster sessions, or both during the follow-up period. Last but not least, a naturalistic 6-year follow-up analysis of this population (n=288) demonstrated that these treatment effects were long-lasting and persistent, with remission rates of 48.8%, 51.9%, and 45.8% for combination therapy, sertraline alone, and CBT alone, respectively (28). On the other hand, throughout the follow-up phase, over half of the acute responders reverted. According to the authors, many young people with anxiety disorders need extensive or protracted treatment in order to preserve acute treatment benefits (28).

Beidel and colleagues (23) compared the effectiveness of social effectiveness therapy for children to fluoxetine or placebo in treating social anxiety in children and adolescents aged 7 to 17. When compared to a placebo, Social Effectiveness Therapy for Children performed better on both primary outcome and specific symptom measures. In addition, SET-C outperformed fluoxetine in terms of end-state functioning, lack of posttreatment diagnosis, and rate of treatment response (79% versus 36.4%, $p<0.001$) (23). Finally, very young children with anxiety disorders have now been studied with CBT (29). A parent-child CBT intervention or a monitoring-only control condition was randomly assigned to 64 preschoolers, ages 4 to 7, for a six-month period. Children in the CBT group responded 69% of the time, as opposed to 32% of the time for those in the control group (29).

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