

Cognitive-Behavioral Therapy for Anxiety in Adolescents Diagnosed with Autism Spectrum Disorders: Modification Trends

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Abstract: This essay explores the application of Cognitive-behavioral therapy (CBT) for anxiety disorders in adolescents diagnosed with Autism Spectrum Disorder (ASD). Although Anxiety disorders (AD) is not a defining comorbidity of ASD, the prevalence trends increase during adolescence as individuals encounter more complex social situations and become increasingly aware of their interpersonal challenges and their differences from others. Additionally, CBT has been proven as an effective intervention for addressing anxiety-related issues in typically developing populations, limitations remain in the literature regarding its use in managing anxiety in other population, such as adolescents and individuals with ASD. As a result, modifications are necessary to better adjust CBT for different populations. Drawing on recent studies and case analyses, this essay identifies three key trends in adapting CBT for adolescents with ASD: holistic treatment, integration of specific interests of adolescents with ASD, and adjusting the level of caregivers' involvement. These trends have led to more effective treatment outcomes, making CBT a more suitable and impactful intervention for adolescents with ASD.

Keywords: Autism Spectrum Disorder, Cognitive-behavioral Therapy, Anxiety Disorders, Adolescents

1. Introduction

Autism spectrum disorder (ASD) is a complex developmental condition involving consistent scarcities in social communication and social interaction during various social situations. These deficiencies include shortages in nonverbal communicative behaviors used for interpersonal communication, and abilities in developing, maintaining, and understanding social relationships [1]. Because of these characteristics, although Anxiety disorders (AD) is not a defining feature of it, it is more and more frequently observed in individuals with autism. During adolescence, since autistic teenagers meet more complex social situations and become increasingly aware of their interpersonal challenges and their differences from others, anxiety symptoms can worsen. A systematic literature review which summarized recent studies observed considerable heterogeneity in prevalence of comorbidity, with anxiety disorders ranging from 0.00 to 82.20% in children and adolescents [2]. Another study reported that prevalence for anxiety disorders in adolescents with ASD varied depending on different criteria, with 50.0% of subjects fitted standards for any anxiety disorder and 30.0% fitted standards for multiple anxiety disorders [3]. Similarly, a study [4] demonstrated a

comorbidity rate of 30.6% (19 out of 62) male autistic adolescents while 66.7% (10 out of 15) female autistic adolescents had anxiety symptoms. Therefore, given the high comorbidity rates of anxiety disorders in adolescents with ASD, it has become increasingly essential to address anxiety through therapeutic approaches. Previous research has demonstrated the efficacy of Cognitive-behavioral therapy (CBT) for treating various mental disorders, particularly anxiety-related conditions. It has been widely applied in social anxiety disorder treatment over an extended period, with evidence showing improvements in functional impairment and overall well-being during the treatments. An academic article indicated that CBT could effectively alleviate anxiety symptoms and improve psychosocial functioning according to the collected data from 25 CBT treatment sessions for participants [5]. Similarly, a pilot study [6] showed CBT effectively reduces social anxiety symptoms. The multiple comparisons between samples of this study also performed that there were significant improvements in test outcomes. However, another research [7] noted that although psychosocial treatments for anxiety disorders in adults are well developed, with cognitive-behavioral therapeutic approaches exhibiting established efficacy, CBT for anxiety disorders in youth populations is still advancing. It remains uncertain whether the outcomes are as precise as those observed in adult populations. Therefore, the application of CBT presents challenges during treatment sessions. This literature review will provide a concise overview of the existing research on the use of CBT for treating adolescents with ASD who also have comorbid anxiety disorders. Additionally, it will introduce the trends in modifying and adapting CBT for clinicians who are looking to adapt CBT techniques to better serve this population.

CBT is a form of psychological treatment based in a frame that posits a strong interconnection between thoughts, emotions, and behaviors, with thoughts playing a vital role in shaping both emotional responses and behavioral patterns [7]. It assists clients in managing their challenges by altering their patterns of thought and behavior, and is most frequently employed in the treatment of anxiety disorders and depression, while also demonstrating efficiency in addressing other mental illnesses and physical health problems [8]. Most CBT protocols for children and adolescents are adapted from those protocols originally designed for adults, with the content modified to be age-appropriate. When using both cognitive and behavioral techniques, CBT treatment templates, particularly for anxiety disorders, typically include identifying cognitive distortions, applying Socratic questioning, and engaging in cognitive restructuring (including the development of coping thoughts) as cognitive strategies, and using imagined or in vivo exposure as behavioral strategies, which can be summarized into three critical components: psychoeducation, exposure and cognitive restructuring [7, 9].

1.1. Phase I: psychoeducation

At the first stage of therapy, the therapist introduces the client and their caregivers to the treatment program, with primary focus on educating them about relevant psychological concepts [10]. To illustrate this, the therapist may use a coaching analogy, explaining that in the early stages, they take on an active, coach-like role, guiding the client to understand how anxiety occurs and how CBT techniques can be applied to manage it. As therapy progresses, the client takes a more active role by practicing exposure to their fears and applying the coping skills they've learned. For treatment to be effective, it is essential that the client consistently applies and practices the skills they learned during sessions. The more the client practices, the greater their chance of learning to manage their anxiety [9].

1.2. Phase II: exposure

Exposure is a fundamental therapeutic element for anxiety reduction, involving facing the planned and controlled confrontation of anxiety-eliciting stimuli. A widely accepted approach to exposure application in CBT is the habituation model, where the client progressively faces feared stimuli over time. Additionally, exposure tasks vary with the specific diagnosis and must be carefully planned to address the specific maladaptive avoidant behaviors and associated thoughts or cognitions. Since facing emotionally charged stimuli or situations can be challenging, the habituation progress includes a gradual approach. This begins with exposing the client to low-density-fear- or anxiety-introducing stimulation, progressively moving to more challenging exposures as the client advances [9].

1.3. Phase III: cognitive restructuring

Anxious thoughts are not always precise as other thoughts but can provoke intense emotions and perpetuate anxiety. They usually exhibit a negative form of self-talk, either in anticipation of or during anxiety-eliciting situations. To manage these intrusive and uncontrollable thoughts, the therapist instructs cognitive strategies and practices them with the client during the exposure tasks [9].

Overall, previous academic articles and study reports had demonstrated that CBT is an helpful therapeutic approach for addressing anxiety issues in normally developing populations. It can be applied in various formats, including child-only, peer-group, parent-involved, and telehealth modalities [5, 6, 9, 10]. However, as noted in previous research [7], while CBT has been shown effective in treating adult populations, its application in other populations is still developing, which remains uncertain whether outcomes are as consistent as those observed in adults. Moreover, during adolescence, anxiety can worsen as teenagers encounter more complex social situations and become increasingly aware of their differences and interpersonal challenges. Therefore, the typical challenges that adolescents face during puberty are also an important factor to consider.

2. CBT for adolescents with ASD

2.1. General introduction

Although it is true that previous academic articles and study reports had shown CBT to be an effective therapeutic approach for addressing anxiety issues in typically developing populations, there are still some limitations in the literature regarding its use in managing anxiety in other populations. For instance, a meta-analysis [11] indicated that while current findings suggest CBT is efficient in treating anxiety disorders, depression and some other disorders, it is difficult to determine whether CBT is equally effective for other mental health issues, such as eating disorders, personality disorders and somatoform disorders. Additionally, with the recent recognition of the high comorbidity rate of anxiety disorders in ASD populations [2-4], the application of CBT for adolescents with ASD has become increasingly necessary to consider. Moreover, CBT for anxiety disorders in adult populations has exhibited established efficacy, however, its effectiveness in youth populations is still advancing, and it remains uncertain whether the outcomes are equally precise as those observed in adult populations [7]. Therefore, based on this, CBT for anxiety in adolescents with ASD needs to be modified.

2.2. Modification trends to CBT

The existing findings on CBT for Anxiety Disorders in ASD populations suggests three modification trends. These trends include holistic treatment, integrating the specific interests of adolescents with

ASD, and adjusting the level of caregivers' involvement. The following sections will briefly explain these adjustments.

2.3. Holistic treatment

Adolescents who are diagnosed with ASD usually have deficits in social skills, adaptive functioning, appropriate communication, and other skills essential for daily life, which reflects that it has significant impacts on adolescents' daily lives. Additionally, this population usually has overdeveloped interests or competitive behaviors [1]. Therefore, instead of focusing only on the comorbidities, which in this case is anxiety disorders, it is essential to focus on the broader range of challenge disorders that the adolescents with ASD struggle with during the treatment sessions. For instance, one study [12] indicated that individuals with ASD often exhibit poor mutual interactions and difficulties with both verbal and non-verbal communication and their article highlights the importance of integrating communication and social skills training into a holistic treatment program.

A case study [13] involving a 17-year-old white, non-Hispanic individual named Alex, who identified as gender-neutral and used they/them pronouns, though they had been born as female. The individual was diagnosed with ASD (level one for both social communication and restricted, repetitive behaviors) without having any intellectual or language impairment; OCD with panic attacks; gender dysphoria; major depressive disorder (single episode and moderate); and ADHD. Rather than focusing solely on their anxiety issues, the authors designed a 40-session cognitive-behavioral therapy course with exposure and response prevention to comprehensively address their symptoms. Given the frequent overlap of ASD and OCD symptoms, treating all of the client's psychiatric issues was aimed at achieving greater overall improvement. The most significant change during the entire course of treatment occurred when the client began testosterone. Their depressive symptoms quickly decreased to subclinical levels and remained low for the rest of the treatment.

2.4. Specific interest of adolescents with ASD

Adolescents with ASD typically exhibit a restricted, repetitive pattern of behaviors, interests, or activities. These behaviors are frequently characterized by intensely fixated interests or narrowly focused interests, which may be abnormal in intensity or focus such as strong attachment to or preoccupation with unusual objects [1]. Therefore, it is vital to manage them carefully. However, it is also important to note that these interests can provide a valuable opportunity to engage the client's attention during CBT treatment sessions. When these interests are appropriately integrated into therapy sessions, they can help engage adolescents and rise their motivation and willingness to participate.

2.5. Caregivers' involvement

Caregivers of adolescents with ASD are crucial in shaping their children's daily routines and personal development. Involving caregivers in the treatment sessions may enhance the generalization of therapeutic intervention, for instance, facilitating practice at home and deepening their understanding of the treatment process, leading to more effective outcomes and better generalization of the therapy. A study [14] demonstrated that as part of parent-mediated interventions (PMI), training parents or caregivers to apply various intervention techniques directly with their children has been widely used for early intervention programs and addressing challenging behaviors.

In the case of Alex [13], it provided some examples of psychoeducation of family members. Because ASD is characterized by high heredity rate, family members of individuals diagnosed with ASD often exhibit some autistic traits or other comorbid mental health issues, which can sometimes cause some distress for the clients. Therefore, it is essential to engage in psychoeducation as part of

the treatment process. The results of this case showed that the mother's involvement had a positive impact on the generalization of the client's therapeutic intervention.

A systematic review about parental involvement in CBT for adolescents who are diagnosed with anxiety disorders [15] reviewed existing studies that met the criteria of all of them published in a peer-reviewed journal, written in English language, and sample age were from 11 to 18 years old and fitted diagnostic standard for one or more anxiety disorders. The results of these studies indicated that significantly fewer adolescents required a referral treatment when their parents had completed parental sessions.

2.6. Results

Three modification trends – Holistic treatment, incorporating specific interests of adolescents with ASD, and caregivers' involvement – have significantly proven to improve CBT treatment sessions for anxiety issues in adolescents with ASD.

First and foremost, holistic treatment emphasizes instead of focusing solely on each comorbidity, which in this case is anxiety disorders, it is more essential to focus on the broader range of challenge disorders that the adolescents with ASD struggle with during the treatment sessions. Additionally, incorporating specific interests of adolescents with ASD noted that it is also important to consider the valuable opportunity these special interests provide to increase adolescents' motivations and willingness to participate in therapeutic interventions. Finally, by adjusting caregivers' involvement in the treatment sessions, training parents or caregivers to apply various intervention techniques directly with their children, leading to more effective outcomes and better generalization of the therapy.

These modifications have led to improved treatment outcomes, as evidenced by both case studies and group interventions, making CBT more suitable and united, and more effective and meaningful for adolescents with ASD.

3. Limitations

Despite frequent co-occurrence of anxiety disorder with ASD, there is no single therapy that is empirically proven to be well-established or effective for individuals with ASD. Additionally, its efficacy is often not as significant as that of medicine. Moreover, as mentioned before, the mainstream CBT protocol was developed based on adult populations, making it uncertain whether the outcomes are as accurate when applied to other populations [7]. Furthermore, although previous studies have shown that involving caregivers may positively impact therapeutic interventions, the wide variation in how caregivers are involved makes it difficult to determine whether particular specific types of involvement are particularly beneficial for adolescents [15].

4. Conclusion

Holistic treatment, incorporating specific interests of adolescents with ASD, and adjusting caregivers' involvement have all proven effective in adapting CBT to address anxiety problems in adolescents with ASD. These trends all exhibit a significant conversion towards more effective anxiety treatments for this population. With the recent recognition of the high comorbidity rate of anxiety disorders in the ASD populations, finding an empirically supported treatment for anxiety in adolescents with ASD is essential, whether it involves CBT or alternative approaches. Future research should focus on determining the empirical status of modified CBT for those diagnosed with ASD by establishing standardized treatment approaches that integrate the modifications discussed in this review. This should include conducting randomized clinical trials to test these approaches and exploring the boundaries of their applicability and effectiveness within the ASD population.

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