

# Prevalence of Anxiety Disorder in Autism: A Brief Review

*Opinion*

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## Prevalence of Anxiety in Autism Spectrum Disorders

The population of children on the autism spectrum disorder continues to rise. According to recent statistics by the Center for Disease Control (CDC), the number of children aged 3 to 17 years identified with autism increased from 1 in 69 to 1 in 36 during the period from 2012 to 2020 [1]. During 2020, more than 37.9% of 8-year-old children identified with ASD were also identified to have an intellectual disability. When stratified according to different demographic characteristics, certain groups of children were also more likely to be identified with ASD. For example, boys were 4 times likely to be identified than girls, whereas Black, Hispanic, and Asian or Pacific Islander children were more likely to be identified than White children [1]. Research on the causes of autism is inconclusive. However, several combinations of genetic, biological, and environmental factors have extensively been attributed as possible causes [2,3]. These include advanced parental age, family history of autism (genetics), pregnancy and birth complications, premature birth, fragile X syndrome, and tuberous sclerosis [3]. The roles of each of these factors is still a common subject of research as scientist try to expand their knowledge regarding causes of autism. The CDC is currently conducting a study to explore early development (SEED), targeting mostly young children ages 2 to 5 years old. The aim of the study is to explore further the risk factors for ASD as well as developmental characteristics associated with it [2].

Many people with autism are commonly identified to experience co-occurring medical conditions. According to a recent study on medical conditions in autism, 74% of the 42,000 participants sampled were identified to have at least one comorbid condition including attention deficit, psychiatric and neurological disorders, and growth conditions [4]. Substantial aspects of the comorbidities include ADHD, anxiety, depressive disorders, epilepsy, intellectual disorder, and sleep disorders. The existence of some of the comorbidities in much higher rates

in ASD suggests the possibility of shared etiology between ASD and the comorbidities [4]. Research has also shown that variations in the existence of certain comorbidities may show according to different types of autism, including asperger syndrome, rett syndrome, pervasive developmental disorder, and childhood disintegrative disorder [5]. Anxiety disorders are among the most commonly identified psychiatric disorder co-occurring in autism [6]. According to a meta-analysis study examining anxiety disorders in children and adolescents with ASD, around 40% of participants across 31 studies has at least a single anxiety disorder (Cite). The specific anxiety disorders identified included specific phobia (29.8%), OCD (17.4%), and social anxiety disorders (16.6%). Medical explanations associated with brain structure have also been documented, with one study showing the impact of larger basal volumes in the amygdala subnuclei in predicting elevated anxiety in children with ASD [7]. In one study, 82% of children with ASD also met criteria for ADHD and a mood disorder (Cite).

Anxiety may exacerbate common functional impairments associated with autism like cognitive and attention deficit, challenging behavior, mood disorder, and social communication. It is important to acknowledge the fact that anxiety disorder is a separate condition from the autism disorder itself, and as such may require treatments specifically targeting anxiety in order to improve the life quality of individuals with autism [8]. That said, identifying anxiety in autism may present challenges since symptoms of it may present differently from typical individuals [9]. Because of challenges associated with understanding and properly communicating their feelings, anxiety in autism may manifest in challenging behaviors like extreme fear of new and unfamiliar people and crowds, refusals or avoidance of certain typical situations, restlessness, panic attacks, unusual fears of typically non-fear inducing stimuli (e.g., fears of baby crying, radio jingles, spider webs, bubbles etc.: [9]. Sometimes, symptoms may vary depending on several moderating factors like age, gender, level of cognitive function, and ASD subtypes [10].



## Interventions for Treating Anxiety in Autis

Many treatments and interventions for anxiety in autism have been extensively researched, including pharmacological medications, CBT, social recreation, and other psychosocial therapies [11]. Pharmacological medications are by far the most widely used treatments for symptoms of anxiety in autism. While there are no medications to treat autism itself, most medications used are meant to treat co-occurring conditions like anxiety, gastrointestinal problems, sleep disorders, depression, and others [12,13]. Over 50% of individuals with autism are on at least one type of a psychotropic medication like stimulants, antipsychotics, and antidepressants [14]. Commonly used medications for anxiety include fluoxetine, fluvoxamine, and escitalopram. While there is a growing body of research on psychotropic medications in autism, there is little consensus regarding their effectiveness in reducing the symptoms of anxiety in autism [15-17]. Some studies have reported modest symptomatic responses to medications [18]. Other studies have reported potential side effects of psychotropic medications, like sedation and irritability [19], weight gain [20], functional brain dysconnectivity [21], and tardive dyskinesia [22].

Cognitive Behavior Therapy is by far the most commonly used non-medicinal intervention for anxiety in autism. It is a cover term for psychosocial approaches intended at challenging and changing cognitive distortions and their associated behaviors, thereby improving coping strategies associated with targeting problem solving [23]. CBT has been widely adopted in the treatment of many mental conditions including depression, anxiety, substance abuse, attention deficit, eating and personality disorders, and other habit disorders [23]. Research on the effects of CBT in addressing anxiety in individuals with autism is extensive. Several studies have illustrated mixed findings on the effectiveness of CBT. For example, some sections of meta-analyses on this intervention have indicated moderate to large effects of CBT in reducing anxiety in children and youth [24-26], while others have reported inconsistent effects [27]. Other meta-analytic reviews have reported mixed effects due to moderating variables like population age group, severity of symptoms, and clinician vs parent vs child reported outcomes [28,29]. Behavioral interventions like use of activity schedules, functional communication, behavioral relaxation have also been applied to treat anxiety in autism [30-32].

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