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ADVANCES IN PEDIATRIC RESEARCH

Speech and language deficits in separation anxiety disorder

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Abstract

Separation anxiety disorder (SAD) is one of the most commonly occurring pediatric anxiety disorders. Children with SAD are characterized by excessive anxiety of separation from the primary attachment figure. These children exhibit fear of separation from their parents and display behaviors such as clinging, excessive crying, and tantrums. Children with SAD are found to have significant brain changes. SAD can co-occur with other conditions such as autism spectrum disorders, and attention deficit hyperactivity disorder. Past studies have identified not only cognitive deficits in children diagnosed with SAD, but also speech and language deficits, which vary depending on comorbidities. A team-centered approach is essential in the assessment and treatment of children diagnosed with SAD.

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During early childhood, children can become distressed upon separation from their primary attachment figure. However, this distress gradually reduces and children explore their surroundings on their own [1]. Separation anxiety disorder (SAD) in children is characterized by excessive anxiety of separation from the primary attachment figure [2]. Children with SAD exhibit fear of separation and display behaviors such as clinging to parents, tantrums and excessive crying on separation from the primary caregiver [3]. The diagnosis of SAD is appropriate only if the child's distress during separation exceeds developmental norms and persists over a long period of time, affecting daily functioning [2].

SAD is considered to be one of the most common anxiety disorders in children [2]. About 4–5% of children in the USA are affected by SAD [1], which, if untreated, carries a high chance of continuing into adulthood [4]. SAD in children can manifest in adults as panic disorders, obsessive-compulsive disorder, generalized anxiety disorders, and other psychiatric disorders [5].

Although the etiology of SAD remains unknown, both environmental and biological factors play a significant role [6]. Children diagnosed with SAD experience pathophysiological changes in the brain because of excessive stress and anxiety [7]. The negative impact of chronic stress on the brain areas involved in learning and emotional responses is well known [8]. Under stressful conditions, the hormonal changes may heighten the functioning of the amygdala, in turn suppressing the activities of the cognitive centers in the prefrontal cortex [9]. This imbalance can be likely attributed to the communication deficits seen in children with SAD.

The hippocampus-based neural system is also severely affected in children with SAD [10]. Imbalance of neural chemicals and variation in the volume of neural structures are also commonly reported in children with SAD [11].

When separated from their primary attachment figure, children diagnosed with SAD are not easily comforted – even on reunion. Children with SAD also display homesickness and sleeplessness [7]. SAD can be masked by the presence of other disorders in children [12]. Children with SAD often exhibit comorbid disorders such as panic disorders, obsessive-compulsive disorder, and generalized anxiety disorders [7]. SAD can also coexist with conditions such as autism spectrum disorder and attention deficit hyperactivity disorder. Evidence-based literature on speech and language impairments in children with SAD is extremely limited [9, 12].

Other than the core speech and language deficits, it is also important to recognize the cognitive deficits associated with SAD [13, 14]. Pine et al. examined the association between memory deficits and anxiety symptoms in young boys and found strong correlation between the two variables [13]. Children with SAD are also found to have reduced cognitive flexibility – specifically, poor verbal memory – compared with typically developing children [14]. Children with anxiety also exhibit increased intensity and frequency of emotional responses and poor emotional regulation compared with typically developing children [15].

Speech and language deficits are often overlooked in this population. A child with SAD is believed to exhibit language deficits more often than speech deficits [7]. According to a study carried out by Kaipa et al., children with SAD exhibit restricted receptive and expressive vocabulary, poor prelinguistic behaviors such as attention span and eye contact, and reduced pragmatic abilities [9]. Although there are fewer documented studies on speech and language deficits in children SAD, it can be hypothesized that these children might display communication impairments of varying severity.

Language deficits in children with SAD can cross the three different domains of language: form, content and use. Form of language refers to sound patterns, word structure and rules governing the use of words and phrases to form sentences [16]. Language content denotes the meaning, and use refers to the social use of language [17]. Omission of morphosyntactic markers, phonological errors, inconsistent and incorrect use of grammatical elements in words, phrases and sentences are common deficits in language form [7, 16]. Slow acquisition of receptive and expressive vocabulary, poor word knowledge and naming errors are frequently reported in individuals with poor language content [17]. Children diagnosed with SAD might also exhibit restricted social communication skills [9, 12]. These communication deficits might vary depending on the comorbid conditions. Abnormal functioning of the prefrontal cortex subsequent to impairment of the amygdala is thought to trigger communication deficits in children with SAD [7].

Children with SAD can also exhibit speech-breathing problems that can in turn result in speech production difficulties based on the expanded suffocation false alarm theory [18]. According to this theory, individuals with panic attacks suffer from dysregulation of the respiratory system and experience episodes of suffocation sensitivity. In turn, this can lead to speech production difficulties [19]. Children with SAD can also have comorbid speech disorders such as stuttering and misarticulation.

As a multi-faceted disorder, assessment and treatment of SAD requires a multidisciplinary team comprising a pediatrician, psychiatrist, developmental psychologist, speech-language pathologist, and social worker. The team members involved vary depending on the deficits exhibited by the child with SAD. A speech-language pathologist is the most appropriate healthcare professional to assess speech and language deficits exhibited by children with SAD [7]. A comprehensive speech and language assessment includes both standardized and non-standardized assessment measures. Standardized assessment tools such as Clinical Evaluation of Language Fundamentals, the Peabody Picture Vocabulary Test and the Test of Pragmatic Language can be used to assess form, content and use of language, respectively [7, 16]. A wealth of information about the child's receptive and expressive language skills can also be obtained through informal measures such as conversational analysis, role-play, story narration and monologue [16].

Intervention approaches used to treat SAD depend on the symptoms exhibited by the child. In severe cases, a combination of more than one approach is used in treating SAD. Speech and language deficits can be addressed using various linguistic approaches, and

psychological symptoms can be addressed using psychopharmacological intervention. Cognitive behavioral therapy is an evidence-based therapy approach that can be used to treat separation anxiety in children diagnosed with SAD [20, 21]. The targets and the approach for treatment vary from case to case.

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