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# Exploring Autism Spectrum Disorder: From Early Development to Lifelong Challenges

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## ABSTRACT

Autism Spectrum Disorders (ASD) is a group of developmental conditions that affect how a person interacts with others, communicates, and behaves. This review examines the diagnostic process for ASD, including the tools used to identify it, the medical tests involved, and the screening procedures. ASD is relatively common, with an estimated 7.6 cases per 1,000 people worldwide, according to a large study

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that looked at its prevalence. While the exact causes of autism and related conditions are not fully understood, both genetic and environmental factors are believed to contribute. Individuals with ASD often display similar traits, such as repetitive behaviors and difficulties in learning. Diagnosing ASD typically follows established guidelines, uses specific tools, and includes a thorough medical history, physical examination, laboratory tests, brain scans, and screening processes. Early identification can help improve outcomes for those affected.

**Keywords:** Autism diagnosis, Social communication deficits, Sensory processing disorder, Autism and mental health

**Introduction**

Autism is frequently misinterpreted. Autism myths have existed for decades, and people with autism have been harmed by these misconceptions. Although we cannot change the past, we have gained knowledge from it (John et al., 2018). Present-day treatments assist autistic children in acquiring abilities without requiring them to conform to a predetermined standard. When discussing autism, it's critical to acknowledge that language isn't flawless. Additionally, terms like "disorder," "symptoms," or "diagnosis," which are used by medical experts, don't often accurately describe the experiences of autistic persons or their families. In this post, we'll explain how medical experts may help family using the appropriate medical terminology. But we understand that autism is more than simply a diagnosis; it's an identity.

Since the autism community mostly favors identity-first language, we employ the term "autistic" to represent their preferences (Smith et al., 2023). The complete medical term for autism is autism spectrum disorder (ASD). ASD is defined by the DSM-5-TR as a change in brain functioning that impacts social interaction and communication. The behavior, interests, and hobbies are also impacted by this brain difference. A set routine can be more appealing to changes.

Autism is not caused by a single genetic variant. Rather, autism is associated with several genetic variants. This implies that the brain differences of autistic individuals may be influenced by one or more genetic variances. However, the genetic reason isn't always obvious. For instance, genetic testing for child may not identify genetic variants linked to autism. This discovery does not rule out a genetic

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cause or alter their diagnosis (Miller et al., 2025). It's likely that there are other genetic variants that cause autism that haven't been discovered yet. Heredity and genetics are often confused. When we say autism is hereditary, we imply that baby's brain functions differently depending on differences in certain genes. The infant may be the first to exhibit these genetic variants; in this instance, they are not inherited. However, biological parents might also pass on genetic variants to their offspring. Observing patterns among siblings, experts believe autism might be inherited.

Autism diagnosis is a multi-step process. The procedure usually starts with an annual physical examination. Autism screening should be done between the 18- and 24-month visits, according to the American Academy of Pediatrics. During a screening, child's behavior, communication, and emotional expression will be among the things pediatrician observes. The brain development problem known as autism spectrum disorder has an impact on how people perceive and interact with others. Communication and social functioning issues result from this. Repetitive and limited behavior patterns are another aspect of the illness. "Spectrum" describes the broad variety of symptoms and their intensity in autism spectrum disorder. For instance, socializing, education, and employment may be difficult for someone with autism spectrum condition. The first year of life is when autism signs are most frequently seen in children. During their first year, a few kids with this illness seem to develop normally. Later, between the ages of 18 and 24 months, they could start to exhibit signs of autism and lose some of their abilities. The autism spectrum disorder has no known cure. However, many children with this illness can have significant improvement in their lives if they receive therapy early, during the preschool years.

**Social Communication Deficits**

Adequate social communication is a challenge for kids with social communication disorders. The DSM-5's social (pragmatic) communication disorder and autism spectrum disorders both require social communication deficits as diagnostic criteria (APA, 2013). However, these DSM-5 diagnoses are not the only groups that children with social communication difficulties may include. Children that struggle with social communication have ongoing issues using language in social situations. For instance, they frequently respond insensitively or irrelevantly to their interlocutors, struggle to take turns during conversations, maintain a topic of

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conversation appropriately, draw conclusions from what is said, comprehend nonliteral language like jokes or sarcasm, correct communication errors, and modify communication to meet the needs of listeners. Adequate social communication is a challenge for kids with social communication disorders. For instance, they disregard social norms and turn-taking, and they misunderstand nonliteral language. In the DSM-5, social communication impairments are required diagnostic criteria for social (pragmatic) communication disorder and autism spectrum disorders (APA, 2013). However, these DSM-5 diagnoses are not the only groups that children with social communication difficulties may include. The Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) now includes social communication disorder (SCD) as a new diagnosis within the communication disorders category. Impaired verbal and nonverbal communication for social reasons is one of its defining characteristics. The DSM-5 states that people with this disorder struggle to understand indirect language usage, including metaphors, humor, and aphorisms, as well as implicit statements. Along with verbal communication issues, they also struggle with nonverbal ones, such as contextual greetings, conversational turn-taking and behavioral adaptation (Skuse et al., 2009).

**Sensory Processing Disorder**

A variation in how the brain interprets and reacts to sensory input is known as sensory processing disorder (SPD). This encompasses the senses of sight, sound, taste, smell, and touch. Movement may also be impacted. Children with SPD are frequently identified by parents and medical experts, but adults can also be affected. Attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder are among the neurodevelopment and neurodivergent conditions that SPD most frequently impacts. However, SPD can also exist in the absence of other conditions. SPD is not yet a recognized medical diagnosis. Professionals are aware of the advantages of identifying SPD and managing it with therapy, particularly if it interferes with day-to-day functioning.

The prevalence of sensory processing disorders in the general U.S. population is estimated by researchers to be between 1 and 3 in 20. For those with neurodevelopment problems, these estimates are higher. Hypersensitivity to sensory information is present in this type. When presented with sensory information that

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most people can handle, one may react excessively, too quickly, or for too long. This type requires more sensory data than normal to produce an effect. Compared to most people, one might not be aware of the sensory information or might take longer to react. For stimulation, this type requires and seeks out sensory input. Nevertheless, getting stimulation results in chaos and does not satisfy the desire.

Numerous subtypes exist. Perceiving the body's location in space is difficult with this type. Without central stability, one could have trouble keeping their body stable when moving or at rest. Numerous mobility and coordination issues are brought on by this variation. Both fine and gross motor abilities may be affected.

Due to a lack of specific diagnostic criteria, SPD is frequently under diagnosed because it is not yet recognized as a medical disorder. Nonetheless, medical practitioners are becoming more aware of it and the advantages of treating it. The physician may recommend an occupational therapist if notice that child's sensory behavior is out of the ordinary. By observing how child responds to specific sensory situations, these experts can determine whether child has SPD. To help with the diagnosis, they will also ask about child's behavior, symptoms, and medical history. Depending on the particular requirements of child, physician may also recommend additional experts.

Essential sensory experiences and information are provided by sensory integration therapy to aid in child's or own adaptation. It is the most popular and successful type of SPD treatment (Galiana-Simal et al., 2020).

**Autism and Mental Health**

Autism is a neurodiverse disorder that influences how think and react to the environment. Being a spectrum disorder, it has varying effects on individuals. One term for it is autism spectrum disorder (ASD), while another is "developmental disability." Although it was often referred to as "Asperger's syndrome," doctors no longer make that diagnosis. Although the exact etiology of autism is unknown, many specialists believe there isn't just one cause. Researchers think genes may be involved since it may affect members of the same family. They still want more proof for this, though.

More than 30% of instances of autism are caused by these two disorders in addition to hundreds of uncommon genetic factors. Therefore, following a diagnosis of autism,

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genetic testing is advised as routine therapy by a number of professional medical groups. See more information on genetic testing at the CDC.

A higher risk of autism is also associated with older parents during pregnancy. However, there is no evidence that vaccinations raise the risk of receiving a diagnosis of autism, and there is no evidence linking race, ethnicity, or socioeconomic position to autism. Compared to individuals designated female at birth, boys are often diagnosed with autism more frequently.

It is also necessary to handle these circumstances. With the right treatments, which might include any of the aforementioned, together with psychotherapy or medication, their influence can be lessened. Coordination with a pediatrician or primary care physician is frequently necessary for the treatment of these disorders. A child psychiatrist can examine for the existence of other mental health issues and provide medication if required (Lai et al., 2019).

**Autism Diagnosis**

Intellectual disabilities, behavioral, and social differences are exhibited. Individuals with autism also require a variety of services and healthcare. Early access to essential services and supports can improve people's long-term health and well-being, according to research. We encourage studies to learn more about the entire spectrum of symptoms that people with autism may encounter. This includes studies to find behavioral and biological traits that help us understand a person's symptoms, how their needs and symptoms may vary over time, and what supports, services, and therapies could be helpful.

In order to better address the unique needs of people with autism, we also encourage research. For autistic children to get the right services and supports as soon as possible, this involves research to enhance early identification of autism. Research on helping people with autism as they get older—from infancy through adolescence and into adulthood—is also included in this. To better serve the needs of people with autism who also have comorbid mental health conditions, NIMH also funds research.

Repetitious or stereotyped speech, item use, or motor motions (e.g., basic motor stereotypies, flipping objects over or lining up toys, echolalia, idiosyncratic wording) are also characteristic features. It was determined that a person must have

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ongoing difficulties with social communication and interaction in a variety of settings in order to be diagnosed with autism (Woolfenden et al., 2012).

**Social Communication Challenges**

The term "social communication disorders" describes problems with both verbal and nonverbal communication in social contexts. Language pragmatics (the use of language in various settings), social interaction, and social cognition can all be impacted by these disorders. In some therapeutic settings, socio-pragmatic communication disorder is another name for social communication disorder (SCD). The diagnostic criteria for autism spectrum disorders (ASD) are not met by people with social communication disorder (SCD). SCD mostly impacts social communication rather than language mechanics, in contrast to other communication disorders. Similar issues in the social use of language have previously been described by the names pragmatic language disorder and semantic pragmatic disorder, indicating the overlap and development in the classification of these disorders. Gaining knowledge about the neuroanatomy of social communication can help explain why people with social communication disorder (SCD) struggle to communicate over time. A network of interrelated brain areas, each having a distinct function in processing and reacting to social information, is essential to social communication (Bernardini et al., 2014).

**Conclusion**

ASD is a condition that affects brain development and can impact communication and behavior. Individuals with ASD may find it challenging to make friends or understand social rules, and they often develop intense interests in specific activities or topics. While the exact cause of ASD is not fully understood, there is strong evidence that genetics play a role. When a child is suspected of having ASD, doctors use a comprehensive evaluation process involving multiple specialists. Local services can help families find the right team of experts to support the child. Doctors may use tests like blood tests or brain scans as part of the assessment. Early detection is very important so that support and treatment can begin as soon as possible. Starting treatment early can make a significant difference in the child's development and overall well-being. It is also important to identify and manage any other health issues to ensure the child receives all the necessary support.

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