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Autism

Introduction

Autism, which was first described in 1943 by Dr. Leo Kanner, is a neurological disorder that affects the functioning of the brain in the areas of social interaction and communication skills. It generally appears during the first three years of life and has been estimated to occur in 1 out of 500 individuals. Autism is four times more prevalent in boys than girls, however, it occurs in a variety of racial, ethnic, and socioeconomic groups. Often mistakenly referred to as a rare disorder, autism is the third most common developmental disability. It is estimated that 400,000 individuals have some form of autism in the United States.

Autism is a spectrum disorder in that it can present itself in a variety of combinations, from mild to severe. Children can exhibit any combination of behaviors in any degree of severity; two children with autism can act very differently from one another. It is also considered a pervasive developmental disorder because of its wide ranging impact on the individual.

Medical researchers are looking into what causes autism and although there is no known unique cause, researchers have found that it is due to biological or neurological differences in the brain. MRI and PET scans have revealed structural abnormalities in the brain, with significant differences within the cerebellum. What has been confirmed, however, is that autism is not the result of bad parenting and is not caused by psychological factors in the development of the child.

Features and Characteristics

The following characteristics *may* appear in individuals with autism:

- In infancy, arching of back to avoid physical contact and becoming limp when being picked up;
- Usually described as either a passive baby (requires little attention from parents) or an overly agitated baby (non-stop crying during wake hours);
- Difficulties in verbal and nonverbal communications - slow (or no) language development, use of words inappropriately, communication with gestures rather than words, short attention spans;

- Difficulties in social interactions or play activities - spends time alone rather than with others, shows little interest in making friends, minimum eye contact with others;
- Sensory impairment - oversensitive to touch or under-sensitive to pain;
- Atypical play activities - lack of imaginative play, does not imitate others' actions, does not initiate pretend games;
- Unusual behaviors - Repeated body movements (hand flapping, rocking), aggressive and/or self injurious behavior, lack of common sense, frequent tantrums for no apparent reason, insistence on sameness (routines);
- Brain abnormalities;
- Elevated levels of serotonin in the blood and cerebral spinal fluid;
- Dysfunctional immune system (low level of helper T-cells);
- Inability to realize that others have different thoughts or perspectives;
- Savant skills, or extraordinary skills that the average person does not have (commonly involving mathematical calculations, musical abilities, and artistic abilities);
- Narrow or focused attention span.

Individuals with autism may also have other disorders affecting the function of their brain such as epilepsy, mental retardation, or genetic disorders. Approximately 66% of individuals with autism will test in the range of mental retardation and approximately 25-30% may develop a seizure pattern.

The characteristics mentioned above may also be found in the following five other disorders: Asperger's syndrome, Fragile X syndrome, Landau-Kleffner syndrome, Rett syndrome, and Williams syndrome.

Diagnosis

There is no medical test for diagnosing autism. The diagnosis is made based on the observation of the child's behavior, communication, and developmental levels. Professionals use several different types of diagnostic tools to make an accurate diagnosis of autism such as the Checklist for Autism in Toddlers (CHAT), Childhood Autism Rating Scale (CARS), Parent Interviews for Autism (PIA), Gilliam Autism Rating Scale (GARS), and the Behavior Rating Instrument for Autistic and other Atypical Children (BRIAC).

Children may be given a diagnosis of any of the following: autistic-like, learning disabled with autistic tendencies, high functioning autism, or low functioning autism. These different labels are merely the result of the professionals' training, vocabulary, and exposure to autism.

Treatment

There is no cure for autism, however, with appropriate intervention, many of the behaviors can be positively changed and in some cases, the individual can *appear* to no longer have autism. The majority of individuals, however, will continue to have symptoms of autism to some degree throughout their entire lives.

Since autism is a spectrum disorder, no single approach is effective in alleviating all symptoms in all cases. But, approaches should be flexible and should rely on positive reinforcement. Children may receive any of the following therapies: behavior modification, speech-language therapy, sensory integration therapy, vision therapy, music therapy, and auditory training.

The use of intensive early behavioral intervention has been proven to be an effective technique for children with autism. In fact, the first study involving the use of this technique reported that 60 percent of the autistic children enrolled in the program before age five had improved enough to be successfully mainstreamed, not just included (Fenske et al, 1985). The procedures used in intensive behavioral intervention typically include discrete trial training (a.k.a. "Lovaas Therapy"), an important teaching tool for children with autism. With discrete trial training, there is a series of distinct repeated lessons taught on a one-to-one basis. The behavior trainer presents a task and reinforces the student for completing the task, even when the student requires assistance. Discrete trial training begins at the developmental level of the child and focuses on gaining the child's attention and reinforces any attempt at compliance. Intensive behavioral intervention, as the name describes, is an intensive program, involving 30-40 hours per week of treatment for approximately two years. Training at an early age can make a big difference in outcomes, however, the older child may also benefit from discrete trial training as well.

In addition to behavior modification and other therapies, the use of vitamin B6 with magnesium has been shown to increase awareness, attention span, and general well-being in approximately 45% of children with autism. Another supplement, Dimethylglycine (DMG) has also been used to increase well-being and improve communication skills. Since allergies and diet may contribute to autistic behaviors, some parents have removed gluten and casein from their children's diet and have, in many cases, seen improvement in behavior.

The latest, and quite possibly one of the most promising treatments for autism is the use of secretin, a hormone found in the pancreas, liver, upper intestinal tract, and brain. Benefits seen with the use of secretin have been increased eye contact, awareness, sociability, and improvement in speech. Adverse side effects may include hyperactivity and aggressiveness for the first few days to a few weeks after the infusion. The effects of secretin last approximately 4-6 weeks. Currently, there are clinical research studies underway to determine the true effectiveness of using secretin as a treatment for autism.

In terms of education, children with autism respond to a highly structured special education and behavior modification program provided by autism trained professionals. In the more severe cases, a student-teacher ratio of 1:1 may be necessary. Also, students should receive training in vocational and community living skills as early as possible. Tasks that enhance the individual's independence are important.

What to Expect

Some adults with autism live and work independently in the community, while others depend on the support of family members and professionals. They can live in a variety of settings such as independent apartments, group homes, supervised apartment settings, family members' homes, or more structured residential care.

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