

Autism Spectrum Disorder (ASD):

Definition, prevalence, characteristics, etiology, intervention.

Definition

Autism spectrum disorder (ASD) or autism is a lifelong neurodevelopmental disorder that appears before the age of 3 years. It affects 1% to 3% of children worldwide, with a fourfold higher incidence in boys than in girls. In Cyprus, the prevalence (number of existing diagnoses) in 2023 was estimated at 2% of children aged 5-12 years, i.e. approximately 1,170 children, with 4 boys for every girl. Children diagnosed with ASD by a child psychiatrist or child neurologist or developmental psychologist following a comprehensive evaluation through clinical observations, questionnaires and parent interviews, present with:

A) restricted, repetitive patterns of behavior, interests, or activities, and

B) deficits in social communication and interaction in various areas, including verbal and non-verbal communication⁴.

They are characterized by three levels of support based on the range of their needs:

- Level 1: Support
- Level 2: Substantive support
- Level 3: Very substantial support

Etiology

The exact causes of autism are still unclear and there is no biometric indicator to confirm the diagnosis. Based on international literature, various risk factors have been identified that increase the likelihood of a child receiving the diagnosis. Specifically, the factors that put children at greater risk for diagnosis are:

- Genetic, e.g., Fragile X genetic syndrome, monozygotic twins, older siblings with a diagnosis, etc.
- Familial, e.g., increased maternal age during pregnancy, etc.
- Developmental, e.g., developmental delay, reduced nonverbal communication/gestures, sensory challenges, etc., and
- Perinatal, e.g., use of medications, hormones, hypertension, or preeclampsia (high blood pressure) during pregnancy, etc.

Prevalence

Approximately 33% of children with autism may also have intellectual disability. Other comorbidities include attention deficit/hyperactivity disorder, epilepsy³, learning disabilities and selective feeding. Regarding verbal communication, the level of language development varies. Up to 40% of children have persistent language delay, i.e. they speak monolingually and are classified as non/minimal verbal. Some may echolalia, i.e. they repeat what they hear. Of the speaking children, some have a developmental language disorder as they have difficulties with morphology/grammar, while others have typical language development. Regardless of language level, children with autism generally exhibit reduced nonverbal

communication (e.g., gestures) and significant difficulty in pragmatics and social communication (e.g., joint attention, turn taking, dialogue), language perception (e.g., complex sentences, passive voice), and linguistic expression in terms of the use of personal pronouns, definite articles, etc. They usually speak in the second or third person when referring to themselves (e.g., “you want water” instead of “I want water”) and their speech is monotonous in prosody/melody. They often experience increased social anxiety, become isolated, exhibit reduced eye contact, and may not respond to their name, even if their hearing is normal.

Intervention

Autism is not curable, but it is treated with various interventions. The most frequently recommended treatments for autism are speech therapy, occupational therapy, and special education. Other treatments include music therapy, hydrotherapy, hippotherapy, play therapy, etc. Based on international literature, some of the practices that have been documented as effective in individuals with autism include:

- Use of augmentative/alternative communication systems, e.g., picture communication book, tablet computer with communication software, etc.
- Sensory integration
- Social stories
- Modeling and video modeling
- Cognitive behavioral/instructional strategies
- Discrete trial training and task analysis
- Prompting and Reinforcement
- Visual support, e.g., visual program, Treatment and Education of Autistic and related Communication-handicapped Children (TEACCH) method
- Parent/peer mediated interventions, e.g., Early Start Denver Model, Developmental, Individual-difference, and Relationship (DIR)/Floortime model, etc.

In summary, ASD is a neurodevelopmental disorder with diverse characteristics and manifestations, affecting social interaction, communication and behavior. Its prevalence is increasing worldwide, which makes early diagnosis and timely and personalized support necessary. Although the etiology of ASD remains multifactorial, research continues to seek answers to better understand and treat it. Finally, effective intervention is based on multilevel strategies that promote inclusion and improve the quality of life of people with ASD.

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