



## **To Study the Autism Spectrum Disorder (ASD) in Children's and Adolescent**

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### **ABSTRACT**

*The goal of this research is to look at autism spectrum disorder (ASD) in children and adolescents. Autism spectrum disorder (ASD) is a neuro developmental condition characterised by difficulty with social communication as well as restricted interests and repetitive behaviours. There has lately been concern about rising prevalence, and the purpose of this study is to elaborate on aspects that may have an influence on prevalence rates, such as recent adjustments to diagnosis. It is highly heritable, lasts for a lifetime, and affects around 1% of the population. According to the DSM-5, males are four times more likely than women to be diagnosed with autism spectrum disorder.*

**KEY WORDS:** ASD, Prevalence, and associated morbidity.

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### **INTRODUCTION**

Social engagement and communication might be challenging for people with autism because of a brain development problem. Also, the condition is characterised in part by a restricted and repetitive behaviour pattern. "spectrum" refers to the vast variety of symptoms and severity associated with autism spectrum disorder. Autistic spectrum disorder (ASD) includes Asperger syndrome, childhood disintegrative disorder (CDD), and an unidentified kind of persistent developmental disease. Some people still refer to autism spectrum disorder as "Asperger's syndrome," which is commonly considered to be at the mild end of the spectrum. Autism spectrum disorder appears in early childhood and leads to impairments in social, intellectual, and vocational functioning. The first year of a child's life is a critical time for autism symptoms to emerge. Even though autism spectrum illness does not have a cure, early intervention may help many children [1]. During the first three years of a child's life, autism spectrum disorder (ASD) is characterised by a severe lack of social contact and communication in both verbal and nonverbal forms. Emotional management difficulties and a lack of interest in a wide range of hobbies and pastimes are among the characteristics of social behavior [2]. As part of various forms of treatment for social skills, interventions have also been investigated. They've been extensively studied in people with average to high cognitive abilities, and they're often given in a classroom context. Therapists use a variety of methods to teach social skills, including peer mediation, social narratives, and video modelling. Emotional control, fundamental conversation skills, nonverbal communication abilities, perspective taking, and establishing, responding to, and sustaining social interactions are some of the goals of social skills training [3].

### **Prevalence**

However, only approximately 16 percent of the world's youngsters have ASD, according to the WHO's latest estimate. According to the CDC, 1.68 percent (or 1 in 59) of US children aged 8 and under have ASD. Diagnostic rates for autism spectrum disorders (ASD) among children in the United States were 2.5% on average in 2016. In the United States, the prevalence of ASD seems to have levelled off between 2014 and 2016, with no statistically significant rise. DSM-5 diagnostic criteria may have an influence on prevalence even if the entire impact of the new criteria is unknown [4, 5].

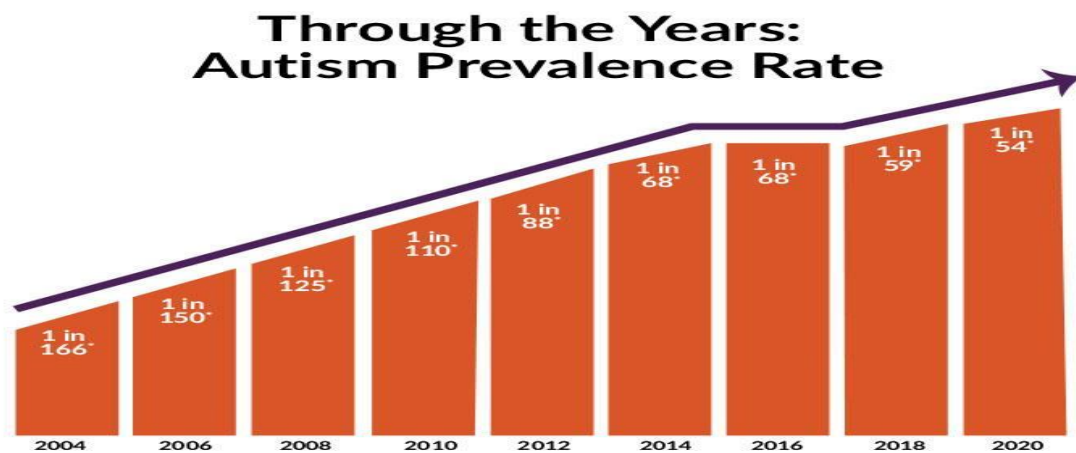
# AUTISM PREVALENCE

AS REPORTED BY THE CDC - ADDM REPORT: 2000-2016

Birth Year	Survey Year	Year Reported	Autism Rate
2008	2016	2020	1 in 54
2006	2014	2018	1 in 59
2004	2012	2016	1 in 69
2002	2010	2014	1 in 68
2000	2008	2012	1 in 88
1998	2006	2009	1 in 110
1996	2004	2009	1 in 125
1994	2002	2007	1 in 150
1992	2000	2007	1 in 150

**NOTES:** ADDM = Autism and Developmental Disabilities Monitoring Network  
Source: www.cdc.gov

Figure: 1: CDC prevalence report from 2008-1992



\*Centers for Disease Control (CDC) prevalence estimates are for 4 years prior to the report data. i.e 2020 figures are from 2016.

Figure: 2: CDC prevalence from 2004-2020

### Causes in childhood and adolescents

Autism has no one known aetiology. Given the disorder's complexity and the fact that symptoms and severity vary, there are most likely several causes. It is possible that both genetics and the environment have a role.

#### Genetics

A genetic combination seems to be responsible for the onset of autism spectrum disease. It's possible that a genetic disease like Rett syndrome or fragile X syndrome is linked to autism spectrum disorder in certain people. Genetic alterations may put other children at risk for autism spectrum disease (mutations). In addition, other genes may change brain growth, how brain cells interact, or the intensity of symptoms. Some mutations in the genome seem to be passed down via families, while others appear to develop out of thin air.

#### Aspects of the Environment

Autism spectrum disorder (ASD) may be caused by viral infections, medications, pregnancy difficulties, or air pollution, according to new research [6, 7].

### **Risk factors**

There has been an increase in the number of children with autism spectrum disorder. An increase in reported instances or improved detection and reporting may be to blame. Regardless of ethnicity or nationality, all children are at risk for developing autism spectrum condition.

These are some examples:

- Autistic boys are four times more likely than autistic females to be given a diagnosis.
- Having one autistic kid in the family increases the likelihood of having another child with the condition. Families with autistic children seldom struggle with social or communication skills, and typical autistic behaviours are quite unusual.
- Various other factors

The likelihood of a kid developing an autism spectrum disorder or symptoms similar to autism is increased in several medical conditions. Rett syndrome is a genetic ailment that results in intellectual disability, developmental stalling, and the inability to use one's hands consciously, all of which are symptoms of fragile X syndrome. Tuberous sclerosis produces benign brain tumours. Autistic spectrum disorders are more common in premature neonates, which are those born before 26 weeks of gestation. More research is needed to determine if there is a link between the autistic spectrum disorder and children born to older parents [8, 9].

### **Complications**

- Stress in the family
- Victimization and bullying.<sup>10</sup>

### **The impact of maternal illness on children and adolescents**

A maternal history of autoimmune diseases, such as diabetes, thyroid disease, or psoriasis, has been promoted, but the results of studies have been erratic. Maternal infection or immunological activation during pregnancy may also be a risk factor, according to current studies. Both shorter and longer inter-pregnancy intervals have been linked to an increased incidence of ASD. Obstetric features such as uterine haemorrhage, caesarean delivery, low birth weight and preterm delivery, and poor Apgar scores were shown to be consistently related with autism in a previous epidemiologic investigation. When it comes to autism spectrum disorders, both genetics and the outside environment have a role in the development of the condition in children [8].

### **Diagnosis**

In the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders, several sub-diagnostic categories (such as Asperger syndrome, pervasive developmental disorder not otherwise specified, and disintegrative disorder) were eliminated, and a single term was used to describe both the lower and higher functioning forms of autism (such as Asperger syndrome) (ASD). Similarly to DSM IV-TR, the diagnostic criteria for DSM 5 have been lowered from three to two (social reciprocity, communicative purpose, and limited-and-repetitive behaviours) instead of three. For social communication/interaction, a person must meet all of the prerequisites, which include issues with mutual social or emotional touch, major difficulty in forming relationships, and issues with nonverbal communication [11, 12].

### **Treatment**

While there is no "cure" for autism, there are some effective interventions that may help a child function better: A detailed review of the child's functional difficulties is conducted in order to establish a structured behavioural approach for increasing adaptive skills and minimising inappropriate behaviour.

- **Social Skills Training:** This intervention, which may be done in groups or individually, assists autistic youngsters in improving their ability to navigate social settings.
- **Speaking and Language Treatment** may improve the child's speech patterns and language understanding.
- **Occupational Therapy:** This addresses impairments in adaptive skills in daily living tasks as well as handwriting problems.
- **Parent Management Training** teaches parents how to respond to disruptive behaviour and encourage appropriate behaviour in their children. Parent support groups help parents cope with the stresses of raising an autistic child.
- **Special Education Services:** Children with autism can reach their full academic potential with the assistance of an Individual Education Plan provided by their school, which takes into account their social communication impairments, limited interests, and repetitive habits. There are special day programmes for very young children that cover linguistic, social, and life skills.

• **Treating Co-occurring Conditions:** Autistic children are more likely than non-autistic children to experience sleeplessness, anxiety, and depression. They are also more prone to developing ADHD. Autistic children may have intellectual disabilities that need to be addressed. With the right services, including all of the above as well as psychotherapy and/or prescription treatment, the severity of these diseases can be reduced.

• **Medication:** A child psychiatrist may examine a child for co-morbid depression, anxiety, or impulsive behaviour. Medicines may be useful if necessary. When administered prudently by a skilled physician in consultation with the child's parents, drugs such as aripiprazole and risperidone (the two FDA-approved medications for irritability associated with autism) may reduce autism-related irritability [13, 14].

## REFERENCES

1. Hodges H, Fealko C, Soares N. (2020). Autism spectrum disorder: definition, epidemiology, causes, and clinical evaluation. *TranslPediatri*. 9(Suppl 1):S55-S65. doi: 10.21037/tp.2019.09.09. PMID: 32206584; PMCID: PMC7082249.
2. Bonnie Evans. –How autism became autism. The radical transformation of a central concept of child development in Britain. *International journal of SAGE*. 2013 (3): 3–31.XD
3. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 3rd ed. Arlington, VA: American Psychiatric Association. 1980.
4. Baxter AJ, Brugha TS, Erskine HE, et al. (2015). The epidemiology and global burden of autism spectrum disorders. *Psychol Med*;45:601-13. 10.1017/S003329171400172X
5. Palinkas LA, Mendon SJ, Hamilton AB. (2019). Annual review of public health innovations in mixed methods evaluations. *Annu Rev Public Heal* ;40:423-42. 10.1146/annurev-publhealth-040218-044215
6. Weissman L, et al. Autism spectrum disorder in children and adolescents: Overview of management. <https://www.uptodate.com/home>. Accessed April 4, 2017.
7. Autism spectrum disorder. In: Diagnostic and Statistical Manual of Mental Disorders DSM-5. 5th ed. Arlington, Va.: American Psychiatric Association; 2013. <http://dsm.psychiatryonline.org>. Accessed April 4, 2017.
8. Volkmar F, et al. (2014). Practice parameter for the assessment and treatment of children and adolescents with autism spectrum disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*. ;53:237.
9. Autism spectrum disorder (ASD). (2017). Eunice Kennedy Shriver National Institute of Child Health and Human Development. <https://www.nichd.nih.gov/health/topics/autism/Pages/default.aspx>.
10. Weissman L, et al. Autism spectrum disorder in children and adolescents: Behavioral and educational interventions. <https://www.uptodate.com/home>. Accessed May 19, 2017.
11. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4. Text Revision. Washington, DC: American Psychiatric Association; 2000.
12. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Fifth. Arlington, VA: American Psychiatric Publishing; 2013.
13. Höfer, J., Hoffmann, F., & Bachmann, C. (2017). Use of complementary and alternative medicine in children and adolescents with autism spectrum disorder: A systematic review. *Autism: The International Journal of Research and Practice*. 21(4), 387–402.
14. Hyman, S. L., Levey, S. E., & Myers, S. M. (2020). Council on Children with Disabilities, Section on Developmental and Behavioral Pediatrics.

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