

1- INTRODUCTION

Autism spectrum disorders (ASD) is a wide range of disorders that falls under the umbrella of neurodevelopmental disorders. These are conditions affecting brain function which become noticeable early in childhood .

Autism spectrum disorder has no single known cause. Since the condition is complex and symptoms and severity vary, there could be many causes. Both genetics and the environment may play a role.

- **Genetics**: Several genes seem to be involved in autism spectrum disorder. For some children, autism spectrum disorder can be related to a genetic condition, such as Rett syndrome or fragile X syndrome. For other children, genetic changes may raise the risk of autism spectrum disorder. Still other genes may affect the way that the brain develops or brain cells communicate; or may affect how severe symptoms are. While some genetic changes seem to be inherited, others aren't.
- **Environmental factors**: Researchers are exploring whether factors such as viral infections, medicines, complications during pregnancy or air pollutants play a role in causing autism spectrum disorders.

Some risk factors include

- **Early birth** : Babies born before 26 weeks of a parent's pregnancy may have a higher risk of autism spectrum disorder.
- **Parents' ages**: There may be a connection between children born to older parents and autism spectrum disorder. But more research is needed to show this link.
- **Family history**: Families who have one child with autism spectrum disorder have a higher risk of having another child with the condition.

In the past, healthcare providers would use different names to describe neurodevelopmental features of autism such as autistic disorder, Asperger's disorder, Pervasive Developmental disorder, childhood disintegrative disorder, etc. However, all four of these conditions shared at least a few symptoms which made it difficult to decide what diagnosis is best. Sometimes people would not fall into any diagnosis as no two people have exactly the same symptoms or care needs, this could result in them not being diagnosed with anything at all which would make it worse in the long term.

In 2013, the American Psychiatric Association released the fifth edition of its *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. In the DSM-5, experts combined both autism and Asperger's under the broad umbrella of ASD (autism spectrum disorder).

The Diagnostic and Statistical Manual of Mental Disorders (DSM) describes recognized mental disorders. It specifies symptoms and other criteria for clinicians to evaluate in order to decide on a diagnosis and organizes these diagnoses together into a classification system. It provides a common language for health care professionals who diagnose mental illness and establishes consistent and reliable diagnoses that can be used in research and to aid in the development of medications and other interventions.

According to the fifth edition of DSM (DSM-5). It stated that an autism diagnosis requires persistent deficits in social communication and social interaction across multiple contexts, as manifested by all of the following: deficits in social-emotional reciprocity, in nonverbal communicative behaviors used for social interaction, and in developing, maintaining and understanding relationships- it falls under the category of neurodevelopmental disorders.

2- LITERATURE REVIEWS/ THEORY

The Social Motivation Hypothesis

The social motivation hypothesis given by Corinne Chevallier and her colleagues suggests that autism may result from differences in the brain's reward system.

Neurotypical individuals find social interactions such as eye contact and conversations inherently valuable. Autistic individuals however don't seem to find social interactions as desirable, they lack social skills and appear disinterested in social situations. Some research supports this hypothesis: Children with autism (neurodivergent behaviour) show less reward-related brain activity when anticipating social information than do neurotypical children.

The theory also helps explain why people with autism have restricted interests, as research suggests that narrow, deep focus and expertise, as well as non-social stimuli, are more rewarding to those with ASD than are social stimuli.

The Theory Of Mind Hypothesis

The theory of mind given by C Chevallier and others is the one of the most prominent and influential theories related to autism having had an impact on many future theories and hypotheses. The longevity and widespread acceptance of the ToM hypothesis is largely explained by the success it is thought to have in explaining the difficulties with social communication and social interaction seen in autism

Holt et al. (2021) defined ToM as the “*ability to attribute mental states to others...understand that others have thoughts, beliefs, desires, and behaviors stemming from underlying factors and motivations.*” It includes abilities such as insight into another person's intentions, understanding pretense, understanding nonverbal cues, etc. Hutchins

et al. (2015) suggested that autistic individuals find specific components of ToM, including understanding pretense, play pragmatics, joint attention, and performatives (understanding that a word implies a transaction or a behavioral response), particularly challenging in comparison with their neurotypical peers.

This theory thus explains the social difficulty and lack of understanding related to social situations faced by those on the spectrum, however it fails to explain it completely as it is not universal, unique or sufficient enough to explain the spectrum's complexity.

The Intense World Hypothesis

The intense world theory given by Henry and Kamila Markram states that people with autism have increased brain activity, which makes it hard to selectively pay attention to certain things and not others. They may experience the world as more intense or overwhelming than neurotypical people. This idea would mean that two core features of autism—social challenges and sensory sensitivity—may both be rooted in overactive brain responses.

3) SIGNS AND SYMPTOMS

Autism spectrum disorder can be observed in some children from early infancy, they avoid eye contact, do not respond to their names or are indifferent towards their care givers. Some children develop normally in the first few months but suddenly withdraw from social situations, lose the language skills they had, etc. When children are in the mild range of autism spectrum, their symptoms may not be recognised until they are in more socially demanding situations where they are required to use greater communication and social skills.

Each person with ASD has a unique pattern of behaviour, due to which, it can be hard to tell how severe the condition is. It's generally based on how severe the symptoms are and how much those symptoms affect a child being able to function.

Some children with autism spectrum disorder have trouble learning, and some have signs of lower than usual intelligence. Other children with the condition usually have normal to high intelligence. These children learn quickly but have trouble communicating, applying what they know in everyday life and adjusting to social situations.

Below are some common signs shown by people who have autism spectrum disorder.

1. Social Communication and Interactions

People with ASD often have problems with social communication and interaction, they have trouble getting along with others and in communicating properly. They have a mix of these and other symptoms:

- Don't respond to their name, or they don't seem to hear at times.
- Don't want to be cuddled or held and prefer to play alone, retreating into their own worlds.
- Have poor eye contact and have no expression on their faces.

- Don't speak or have delayed speech or lose the ability to say words or sentences as they could before.
- Can't start a conversation or keep one going, or only start one to make requests or label items.
- Speak with an unusual tone or rhythm and may use a singsong voice or robotlike speech.
- Don't seem to understand simple questions or directions.
- Don't show emotions or feelings and don't seem to be aware of how others feel.
- Are passive, aggressive or disruptive when interacting with others.

2. Patterns of behavior

People with ASD might have limited, repetitive patterns of behaviours, interests or activities. Some of these behaviours and interests can seem unusual.

Examples of restricted or repetitive behaviors and interests related to ASD can include

- Make the same movement over and over again, such as rocking, spinning or hand-flapping.
- Do activities where they could hurt themselves, such as biting or head-banging.
- Create specific routines or rituals and become upset at even small changes.
- Aren't coordinated and may be clumsy, or they move in patterns that aren't usual, such as walking on toes; have unusual, stiff or exaggerated body language.
- Are fascinated by details of an object, such as the spinning wheels of a toy car, but they don't know what the object is for or how it works.
- Are sensitive to light, sound or touch but may not be affected by pain or temperature.
- Don't mimic others or take part in make-believe play.
- Fixate on an object or activity with unusual intensity or focus.
- Repeats words or phrases over and over (called echolalia)

3. Other symptoms

A child suffering with ASD may also exhibit:

- Delayed language skills, movement skills, cognitive or learning skills
- Hyperactive, impulsive, and/or inattentive behavior
- Epilepsy or seizure disorder
- Unusual eating and sleeping habits
- Unusual mood or emotional reactions
- Lack of fear or more fear than expected

As they get older, some children with autism spectrum disorder interact more with others and show fewer disturbances in behavior. Some, usually those with the least severe problems, eventually may lead typical or nearly typical lives. But others continue to have trouble with language or social skills, they may require constant care and support. The teenage years can bring more behavioral and emotional challenges

4) INTERVENTIONS

There is no cure for ASD, children and adults who suffer from this disorder can only be supported. Getting treated early, in the preschool years, is important for the child to learn critical communication, social, functional and behavioral skills.

Treatment options include:

1. Behaviour and Communication Therapists: Many programs address the social, communication and behavioral issues which are linked with ASD. Some programs focus on reducing challenging behaviours and learning new skills; other programs focus on teaching children how to act in social situations or communicate better with others. The children are motivated with awards
2. Educational Therapies: Children with autism spectrum disorder often respond well to highly structured educational programs. Successful programs usually include a team of specialists and various activities to improve social skills, communication and behavior. Preschool children who get intensive, individualized behavioral treatments often show good progress.
3. Other therapies: Depending on your child's needs, speech therapy to make communication skills better, occupational therapy to teach activities of daily living, and physical therapy to make movement and balance better may help. A psychologist can recommend ways to manage problem behavior.
4. Medicines: Medicine can't make the core signs of autism spectrum disorder better, but specific medicines can help control symptoms. Sometimes healthcare professionals prescribe antipsychotic medicines to treat severe behavioral symptoms, or they may prescribe antidepressants for anxiety. Some medicines and supplements can affect how one medicine acts with another, causing dangerous side effects, so it is important to always refer to a professional.

5- CASE PROFILE

Name: FR

Age: 10-11 years old

Gender: Male

2. Presenting challenges

Physical Development

The subject was mostly physically developed. He was able to walk, sit , and jump on his own. However the finer motor skills were lacking. He is unable to have a firm grip - due to this he is unable to hold pencils or pens due to which the teacher writes his notes for him. During dance class, when forced to dance, he seemed unable to imitate the steps and instead stood still and would suddenly start jumping unlike the other children. During snack break, he ate on his own. Although he picked up the spoon, he ate with his hands in the end. He was able to drink water on his own but the teacher had to make him to drink enough. The teacher took him to the washroom without him asking. FR also suffers from enlarged adenoids, due to this he has a constantly stuffy nose and gets easily triggered.

Cognitive development

The subject has low levels of cognitive development. He only converses or signs on need basis; he is unable to form coherent sentences. The subject would perform behaviours such as feeling the texture of the walls, feeling the holes of his shoes , twisting his fingers, stare at the book 'Jakarta tales' ,etc with great attention and focus.

He is able to sequence numbers (1,2,3...) but unable to associate their numerical value to real life. He is unable to even recite the ABC's. In class, he usually does not remember what is taught, he often just repeats what was said. When asked a question repeatedly he might answer, otherwise he usually ignores. He is often communicated with through singing- he seems to respond better and more effectively through this medium of communication.

Academics

FR is not great at academics. He has oral learning due to which he doesn't write and instead his teacher writes for him. He usually doesn't remember what's taught in class and the possibility of him answering a question arises only if he is asked multiple times. It was found that singing to him is the most effective way of teaching him.

Exams are curated such that each child is able to perform to the maximum of his abilities. Referring to evidence 1, we see that FR is average at art and craft, dance and music and above average at physical education. The subject examinations are out of 50- the subject's performance in the subjects is either average or below average which suggests a gap between his mental age and physical age.

FA1 Mark List: 2026-27

Student's name: [REDACTED] Grade Equivalent: V
 No of days working: 40
 No of days present: 35

Formative Assessment FA1/50

Subject	Mark / Grade Obtained
English	34
Mathematics	32
Science	26
SST	30
Hindi	24
Computer Science	29
Kannada	30
Co-Scholastic	
Physical Education	B
Art & Craft	C
Dance	C
Music	C

Legend: A: Excellent, B: Above average, C: Average, D: Needs Improvement

evidence 1

Social Interactions

The subject barely interacts with students or teachers. He seems happy with his own company. He doesn't hold eye contact for long. When tried to speak with he doesn't notice or doesn't reply ; he usually responds when sung to. When vocalizing random sounds and noises which sound like singing, it is self directed and not meant to initiate conversation.

Behaviour

The subject would frequently fidget with the holes of his shoes, door hinges , feel the texture of the walls and hold his head in his hands, fidget with his id card; he even hit his head on the wall a few times. He seemed particularly interested in his fingers, often twisting them together and staring at them with rapt attention. The teacher explained that this was self stimulating behaviour which soothes him. He

would fidget with the abacus and keep playing with the beads. He would keep staring at the cover of a specific book, 'Jakarta Tales'. He would randomly lie down or get up and roam around in his classroom.

The subject would continuously hum (low and high pitch) and would suddenly make random noises which sounded like words but were just random syllables strung together. It could be perceived by one as singing, teachers confirmed he often sang like this. It could not be made out what he was singing, however he seemed to repeat a certain tune more often than others.

Although the teacher usually writes for him, once the teacher tried to make him write, however he could not grip the pencil on his own. The teacher held his hand and helped him grip the pencil and attempted to make him write. The subject was distracted and didn't seem to notice his hand's movements. He kept looking around and had to constantly be reminded to focus.

Emotional and Moral development

The subject's emotions tend to elevate and cause meltdowns at times according to the teacher.

Fine motor and gross motor skills

Although the teacher usually writes for him, due to his inability to grip a pencil properly, once the teacher held his hand and helped him grip the pencil and attempted to make him write. The subject was distracted and didn't seem to notice his hand's movements. He kept looking around and had to constantly be reminded to focus, without the teacher's help he would be unable to write.

INTERVENTIONS

Teachers write his notes for him and he sometimes leaves early from school.

PROGNOSIS

It seems as though FR will need to remain under supervision in the future as well due to his inability to carry out basic communication and act on basic needs.

The subject has significant developmental delays in different aspects, for example lack of motor skills (inability to grip a pencil or use utensils effectively).

Cognitively and academically, he performs below his chronological age, exhibiting poor memory for spoken instruction, and inability to communicate, though he demonstrates ability in retaining and responding to information when it is sung.

His communication is limited to need-based single words or signs, and non-communicative vocalizations or humming, with no peer interaction and minimal eye contact. Behaviorally, he relies heavily on sensory self-stimulation—such as finger-twisting with intense visual focus, exploration of textures, etc—and exhibits self-injurious behaviors (head-holding and head-banging) during periods of emotional escalation or overstimulation.

OVERALL LEARNINGS

This was an insightful experience for me as

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