

Illuminating Autism: A Case Study on Early Intervention and Progress in Behavior

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Abstract

This case study examines a 7-year-old boy diagnosed with Autism Spectrum Disorder (ASD), Level 2, characterized by challenges in social communication, repetitive behaviors, and sensory sensitivities. Comprehensive data were collected through behavioral observations, caregiver interviews, and standardized assessments, including the Seguin Form Board Test (SFBT), Binet Kamat Test of Intelligence (BKT), and Vineland Social Maturity Scale (VSMS). The study highlights notable progress in verbal communication, adaptive skills, and tolerance for sensory stimuli, emphasizing the importance of early, individualized, and multidisciplinary approaches in enhancing outcomes for individuals with ASD.

Keywords: Autism Spectrum Disorder (ASD), Seguin Form Board Test (SFBT), Binet Kamat Test of Intelligence (BKT), Vineland Social Maturity Scale (VSMS), early intervention

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by challenges in social communication, restricted and repetitive behaviours, and sensory sensitivities. It is called a “spectrum” because the severity and combination of symptoms can vary widely among individuals. ASD affects people of all genders, ethnicities, and socio-economic backgrounds and

is typically diagnosed in early childhood, though symptoms can sometimes be recognized earlier or later in life (American Psychiatric Association, 2013).

One of the hallmark features of ASD is difficulty with social interaction and communication. Individuals with ASD may struggle to interpret social cues such as facial expressions, tone of voice, or body language, which can make forming relationships challenging. Verbal communication may range from being completely nonverbal to having advanced language skills but difficulty in reciprocal reciprocity. Many individuals also have unique ways of expressing themselves, such as using gestures, echolalia (repeating words or phrases), or alternative communication systems (Lord et al., 2018).

ASD is also characterized by restricted, repetitive patterns of behaviour, interests, or activities. These may include repetitive movements like hand flapping, intense focus on specific topics, or strict adherence to routines. Such behaviours are not merely habits but can serve as coping mechanisms for managing sensory input or reducing anxiety. Sensory sensitivities are also common, with individuals displaying heightened or diminished responses to sounds, lights textures, or other sensory stimuli (Baranek et al., 2006)

The causes of ASD are complex and multifactorial. Research suggests a combination of genetic predispositions and environmental influences contributes to the development of the condition. While there is no single cause, ongoing studies aim to better understand its underlying mechanisms. Importantly, ASD is not caused by parenting styles or vaccines, a misconception that has been thoroughly debunked by scientific research (Hyman et al., 2020).

Intervention and support play a critical role in improving the quality of life for individuals with ASD. Early and individualized approaches, such as behavioral therapy, speech and language therapy, and occupational therapy, can help address specific challenges and build strengths.

Educational strategies, sensory integration therapy, and assistive technologies also contribute to fostering independence and social engagement (Dawson et al., 2010).

While ASD presents unique challenges, it is important to recognize and celebrate the strengths of individuals on the spectrum. Many individuals with ASD exhibit exceptional abilities in areas like pattern recognition, problem-solving, and creativity. Embracing neurodiversity encourages a more inclusive society, highlighting that individuals with ASD contribute valuable perspectives and talents to their communities (Pellicano & Stears, 2011).

This case study aims to assess the impact of early intervention on a 7-year-old child's cognitive and behavioural development, providing insights into effective strategies for ASD management.

Description of the subject

Debamallya Ghosh is a 7-year old right-handed boy studying in Grade 1. His mother tongue is Bengali, and he resides in a nuclear family setup. As a young learner, he is navigating his early educational journey while being supported by his close-knit environment. The child presents as consistent with his stated chronological age; he appears well-groomed and maintains eye contact. He shows awareness of his surroundings and can establish rapport over time. A social smile is evident, though social referencing is below age expectations. The child exhibits poor joint attention. His speech is audible, and he communicates in sentences that are generally comprehensible and appropriate to the context, although at times his speech lacks goal-directedness and he struggles with clear pronunciation. He has difficulty understanding abstract concepts, such as idioms, phrases, metaphors, and humor. While his attention can be easily captured through external stimuli, sustaining it proves challenging at times. Overall, the child's psychomotor activity is occasionally restless during sessions. His intellectual functioning appears to be below average. Mood is also observed to be euthymic.

Methodology

This methodology outlines the steps to assess, evaluate, and support Debamallya Ghosh, a 7-year-old boy presenting with developmental and behavioral characteristics requiring further exploration.

Data Collection

The parent/caregiver interview gathered information about Debamallya's developmental history, including prenatal and educational background, as well as current challenges in communication, behavior, and attention. School feedback provided insights into his classroom behavior, peer interactions, and academic performance. Lastly, observations in home, school, and clinical settings helped identify patterns in his behavior and inform interventions strategies.

Diagnostic Tools

Seguin Form Board Test (SFBT): A psychological assessment tool used to evaluate visual-motor coordination, cognitive ability, and problem-solving skills. It involves fitting various shaped blocks into corresponding slots on a board as quickly and accurately as possible. Originally designed for assessing intellectual disabilities, it is commonly used for children and individuals with developmental delays to measure fine motor skills, spatial perception, and planning abilities (Seguin, 1866).

Binet Kamat Test of Intelligence (BKT): An Indian adaptation of the Stanford-Binet Intelligence Scale, designed to measure the intellectual functioning of individuals aged 3 to 22 years. It assesses cognitive abilities across various domains, including verbal reasoning, abstract/visual reasoning, quantitative reasoning, and memory. The test provides an Intelligence Quotient (IQ) score and is

widely used in educational, clinical, and psychological settings in India for evaluating intellectual capabilities and developmental delays (Kamat, 1967).

Vineland Social Maturity Scale (VSMS): A standardized tool used to assess an individual's social functioning and adaptive behavior. It measures the social maturity of children and adults, focusing on their ability to perform age-appropriate social skills and engage in daily activities independently. The scale evaluates areas such as communication, daily living skills, socialization, and motor skills, providing a comprehensive picture of an individual's functional capabilities in everyday life. It is often used to assess developmental disabilities, including Autism Spectrum Disorder (ASD) (Doll, 1935).

Test Analysis

Seguin Form Board Test: The child was able to follow the instructions and was familiar with some of the shapes. However, due to limited awareness of the shapes, he took longer to complete the test. His visuo-spatial perceptual age was assessed at 4 to 4.5 years, which is below the average for his chronological age of 7 years and 5 months.

Binet Kamat Test of Intelligence: The child's Basal Age and Ceiling Age are 3 years (36 months) and 7 years (84 months), respectively. His calculated Mental Age is 4 years and 8 months (56 months). Consequently, his Intelligence Quotient (IQ) is determined to be 70, which places the child's current intellectual functioning in the "Borderline" category (IQ 70; Range: 70-79) of intelligence.

Vineland Social Maturity Scale: The Social Age (SA) of the child as assessed from this scale has been found to be 05 years 06 months, which is below his stated chronological age. This indicates that his social adaptive functioning is not age-appropriately developed.

Discussion

Problems in Speaking in an Organized Way: Debamallya has difficulty organizing his thoughts when speaking, which can result in poorly structured sentences and a lack of logical flow. While he produces contextually appropriate speech, it may be hard for others to follow due to unclear connections. This issue could stem from challenges in executive functioning, affecting his ability to plan and organize ideas before speaking (Hill, 2004).

Social Behavior Not Age-Appropriate: Debamallya's social interactions don't align with typical age expectations. He engages with others but struggles to form and maintain peer relationships due to a lack of social reciprocity and understanding of norms. He may not make eye contact or take turns in conversations, and his ability to seek social cues is limited. Consequently, he has difficulty participating in age-appropriate play and cooperative activities essential for developing friendships and social skills (Bauminger et al., 2003).

Gets Distracted Easily: Debamallya's ability to maintain focus is often compromised by his tendency to become easily distracted. In both structured settings like school or home tasks, as well as informal environments, he may frequently shift his attention to irrelevant stimuli or activities. For example, a simple task or instruction might be interrupted by a sudden interest in something unrelated, such as a sound, a toy, or a visual distraction. This issue can disrupt his learning process and hinder the completion of tasks that require sustained effort or concentration (Corbett et al., 2009).

Problems in Sustaining Attention: Debamallya struggles with sustaining attention over time. While he can initially focus on tasks, his concentration quickly diminishes, making it difficult for him to engage in long or monotonous activities. This impacts his academic performance,

particularly in tasks that require prolonged focus, like reading and problem-solving, leading to incomplete assignments and frustration for him and others (Willcutt et al., 2012).

Conclusion

The comprehensive evaluation, which includes case history, behavioral observations, and results from psychological testing, suggests that the child's current intellectual functioning is classified as 'Borderline' (as indicated by IQ-70, with a score range of 70 to 79). Additionally, the assessment highlights that the child's social adaptive skills and visuo-motor-perceptual abilities are not adequately developed for their age. The findings also indicate notable features of inattention, reflected in a low score of 64, as well as signs of restlessness, with a score of 61, both of which are present in the child's behavior.

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