



Longitudinal Developmental Progress And Psychosocial Impact In A Child With Autism Spectrum Disorder In A Single-Parent Family: A Case Study

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Abstract

Background

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder characterized by persistent deficits in social communication and social interaction, along with restricted, repetitive patterns of behavior, interests, or activities. The prevalence of ASD has increased globally over the past decade, making it a major public health and developmental concern. Early identification and intervention are considered essential in improving developmental trajectories and adaptive functioning in affected children.

Children with ASD often experience impairments in communication, emotional regulation, sensory processing, adaptive behavior, and social participation. These challenges not only affect the child but also place significant emotional, psychological, social, and financial burdens on family members, especially in single-parent households where caregiving responsibilities are concentrated on one individual.

Aim

The present case study aims to describe the longitudinal developmental progress of a child diagnosed with ASD and to explore the psychosocial impact experienced by the single mother and siblings over seven years of intervention and caregiving.

Case Presentation

The child was diagnosed with mild-to-moderate ASD at the age of 1 year and 11 months after presenting with delayed speech, limited social interaction, repetitive hand-flapping behavior, and restricted play activities. A multidisciplinary intervention program consisting of speech therapy, occupational therapy, behavioral interventions, educational support, and parental training was initiated and continued for seven years.

Results

Progressive improvement was observed in multiple developmental domains, including eye contact, responsiveness to social cues, expressive communication, behavioral regulation, and tolerance to environmental changes. The child progressed from mild-to-moderate ASD to mild ASD over time. Persistent echolalia and dependence on moderate assistance for Activities of Daily Living (ADL) continued to remain concerns. The mother experienced chronic stress, emotional fatigue, anxiety regarding the child's future, and caregiving burden, while siblings displayed mixed emotional responses ranging from jealousy and neglect to empathy and protective behaviors.

Conclusion

This case highlights the effectiveness of early, sustained, multidisciplinary intervention and emphasizes the importance of family-centered care in ASD management. Psychosocial support for caregivers and siblings should be integrated into intervention planning to improve overall family well-being and developmental outcomes for the child.

Keywords

Autism Spectrum Disorder, Early Intervention, Single-Parent Family, Speech Therapy, Occupational Therapy, Echolalia, Psychosocial Impact, Adaptive Functioning, Child Development

Introduction

Autism Spectrum Disorder (ASD) is a lifelong neurodevelopmental condition characterized by deficits in social communication and interaction, along with repetitive patterns of behavior and restricted interests. According to the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), ASD symptoms typically emerge during early childhood and significantly affect daily functioning.

Globally, the prevalence of ASD has increased considerably due to improved awareness, diagnostic criteria, and screening methods. Recent epidemiological reports estimate that approximately 1 in 54 children are diagnosed with ASD. The disorder presents with varying degrees of severity, ranging from mild social communication difficulties to severe impairments requiring substantial support.

Early childhood represents a critical period for brain development and neuroplasticity. Research strongly supports that early diagnosis followed by intensive intervention improves communication skills, social interaction, adaptive functioning, emotional regulation, and long-term independence. Multidisciplinary interventions involving speech therapy, occupational therapy, behavioral therapy, educational support, and family involvement are considered the cornerstone of ASD management.

Apart from affecting the child, ASD has a profound psychosocial impact on families. Parents often experience increased stress, anxiety, depression, fatigue, social isolation, and financial strain. These challenges may be more severe in single-parent households due to increased caregiving responsibilities and limited support systems. Siblings of children with ASD may also experience emotional disturbances such as jealousy, embarrassment, confusion, guilt, or feelings of neglect. At the same time, some siblings develop empathy, patience, and caregiving skills.

Understanding both developmental progress and family psychosocial experiences is essential for holistic ASD management. Therefore, this case study was undertaken to evaluate the long-term developmental outcomes and psychosocial dynamics associated with caring for a child with ASD in a single-parent family setting.

Case Presentation

Patient Information

A male child aged 1 year and 11 months was brought to a developmental assessment center by his mother with concerns regarding delayed speech and poor social interaction.

Presenting Complaints

The mother reported the following symptoms:

- Delayed speech development
- Lack of response to name calling
- Limited eye contact
- Preference for solitary play
- Repetitive hand-flapping movements
- Poor interaction with peers
- Restricted interest in toys and activities
- Limited imitation skills
- Frequent irritability during changes in routine

Birth and Developmental History

The child was born through full-term normal vaginal delivery without perinatal complications. Birth weight and neonatal adaptation were normal. Physical developmental milestones such as sitting, standing, and walking were achieved within expected age limits. However, delays were observed in speech, social communication, and interactive play behaviors.

No history of seizures, traumatic brain injury, or major medical illness was reported. Family history of neurodevelopmental disorders was absent.

Clinical Assessment

Behavioral Observation

During clinical observation, the child demonstrated:

- Minimal eye contact
- Reduced social reciprocity
- Lack of spontaneous communication
- Limited response to social interaction
- Repetitive hand-flapping behavior
- Poor symbolic play
- Sensory-seeking behaviors

The child appeared uncomfortable in unfamiliar settings and showed distress during transitions between activities.

Standardized Assessment

Childhood Autism Rating Scale (CARS)

The child was assessed using the Childhood Autism Rating Scale (CARS), which indicated mild-to-moderate autism severity.

Speech and Language Evaluation

Speech assessment revealed:

- Delayed expressive language
- Delayed receptive language
- Absence of meaningful phrases
- Poor imitation of sounds and words
- Limited non-verbal communication

Occupational Therapy Assessment

Occupational evaluation identified:

- Sensory hypersensitivity
- Poor fine motor coordination
- Delayed self-help skills
- Difficulty in adaptive functioning
- Challenges in dressing, feeding, and toileting routines

Diagnosis

Based on DSM-5 diagnostic criteria and multidisciplinary evaluation, the child was diagnosed with: **Autism Spectrum Disorder (Mild-to-Moderate Severity)**

Intervention

A comprehensive multidisciplinary intervention program was initiated immediately after diagnosis.

1. Speech Therapy

Speech therapy sessions were conducted weekly with goals focused on:

- Improving expressive and receptive language
- Encouraging functional communication
- Enhancing social interaction
- Developing conversational abilities

- Reducing non-functional echolalia

Visual prompts, imitation exercises, picture exchange communication methods, and structured language stimulation techniques were utilized during therapy.

2. Occupational Therapy

Occupational therapy targeted:

- Sensory integration difficulties
- Fine motor skill development
- Eye-hand coordination
- Self-help and ADL training
- Emotional regulation

Activities included sensory play, balance exercises, tactile stimulation activities, dressing practice, and feeding skill training.

3. Behavioral Intervention

Behavioral strategies included:

- Structured routines
- Positive reinforcement techniques
- Visual schedules
- Token reward systems
- Transition management strategies

These interventions helped decrease repetitive behaviors and improve behavioral flexibility.

4. Educational Intervention

The child was enrolled in an inclusive educational setting to improve:

- Peer interaction
- Classroom participation
- Social adaptation
- Communication skills

Teachers were educated regarding classroom accommodations and individualized support strategies.

5. Parent Training and Counseling

The mother received regular counseling and training regarding:

- Behavior management
- Communication stimulation techniques
- Reinforcement methods
- Emotional coping strategies
- Home-based developmental activities

The parent was encouraged to actively participate in therapeutic activities and maintain consistency at home.

Results and Developmental Progress

Clinical Improvements

Over seven years of intervention, progressive improvements were observed in multiple developmental domains.

Social Interaction

- Eye contact became consistent

- Improved response to verbal instructions
- Better interaction with peers and family members
- Increased participation in group activities

Communication

- Development of functional communication
- Ability to express needs verbally
- Improved vocabulary and sentence formation
- Persistent echolalia during conversations

Behavioral Changes

- Significant reduction in repetitive behaviors
- Improved tolerance toward environmental changes
- Better emotional regulation
- Reduced tantrums and irritability

Adaptive Functioning

The child achieved partial independence in ADL but continued to require moderate assistance for:

- Dressing
- Feeding
- Personal hygiene
- Toileting supervision

Table 1: Longitudinal Developmental Progress

Domain	1 yr 11 mo	4 yrs	5 yrs	7 yrs
ASD Severity	Mild-to-Moderate	Moderate	Mild-to-Moderate	Mild
Eye Contact	Minimal	Improving	Consistent	Consistent
Social Responsiveness	Limited	Emerging	Context-appropriate	Context-appropriate
Language Skills	Single words	Short sentences	Functional echolalia	with Functional echolalia with
Repetitive Behaviors	Frequent	Moderate	Occasional	Minimal
ADL Independence	Dependent	Partial	Moderate assistance	Moderate assistance

Psychosocial Impact on Family

Impact on the Mother

Caring for a child with ASD as a single parent resulted in considerable psychosocial challenges.

Emotional Burden

The mother experienced:

- Chronic stress
- Emotional exhaustion
- Anxiety about the child's future
- Fear regarding long-term independence
- Feelings of guilt and helplessness

Physical and Financial Challenges

Frequent therapy sessions, educational coordination, and caregiving demands resulted in:

- Physical fatigue
- Sleep disturbances
- Financial strain
- Reduced social engagement

Coping and Resilience

Despite these difficulties, the mother gradually developed resilience through:

- Active participation in therapy
- Self-education regarding ASD
- Seeking support from professionals and social networks
- Developing adaptive coping mechanisms

Impact on Siblings

Siblings experienced a mixture of emotional reactions including:

- Jealousy due to differential parental attention
- Feelings of neglect
- Embarrassment in social situations
- Increased emotional maturity
- Empathy and protective behavior toward the child

Including siblings in therapy activities and family discussions improved family bonding and emotional understanding.

Discussion

This case demonstrates the importance of early diagnosis and sustained multidisciplinary intervention in improving developmental outcomes in children with ASD.

The child showed remarkable progress in communication, social interaction, and behavioral regulation following consistent intervention. Improvement from mild-to-moderate ASD to mild ASD over seven years highlights the role of neuroplasticity and early therapeutic engagement.

However, persistent echolalia suggests residual communication challenges requiring ongoing speech therapy. Continued dependence in ADL indicates that adaptive functioning often improves at a slower pace than communication or behavioural symptoms.

The psychosocial findings in this case are consistent with previous literature indicating elevated stress levels among parents of children with ASD, especially in single-parent households. Sibling emotional responses also emphasize the need for family-centered interventions that support the emotional well-being of all family members.

This case reinforces the importance of integrating psychological counselling, parental support programs, and sibling involvement into comprehensive ASD management plans.

Conclusion

Early identification and multidisciplinary intervention can substantially improve developmental outcomes in children with ASD. Significant improvements in communication, social interaction, and behavioral adaptation were observed in this child over seven years of intervention.

Persistent echolalia and dependence in ADL demonstrate the need for continued therapeutic support. The psychosocial burden experienced by the mother and siblings highlights the importance of holistic, family-centered care approaches in ASD management.

Long-term intervention programs should include not only clinical therapies but also emotional and psychosocial support systems for caregivers and family members to enhance overall quality of life and developmental success.

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