

Case Report

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Efficacy of Occupational Therapy and Sensory Integration in a 5-Year-Old Child with Autism Spectrum Disorder: A Case Report

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ABSTRACT

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by deficits in social communication and restricted, repetitive patterns of behavior. Early intervention, particularly Occupational Therapy (OT) incorporating sensory integration, is critical for improving functional independence. I report the case of a 5-year-old male diagnosed with ASD, presenting with profound social communication difficulties, lack of eye contact, absent name response, and inability to engage with peers. Additionally, the child exhibited complete dependence in all Activities of Daily Living (ADLs), including feeding, grooming, and toileting. The patient underwent a targeted 6-month occupational therapy program focusing on sensory stimulation, attention-building, and ADL training. Following 6 months of intervention, the patient demonstrated significant clinical improvements, including increased eye contact, emerging name response, improved sustained attention, and the ability to engage in fine motor tasks (simple puzzles, scribbling). He also gained foundational ADL skills and began signaling physiological needs (urination). This case highlights the significant clinical benefits of early, structured occupational therapy and sensory stimulation in improving social, cognitive, and motor function in children with ASD.

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Received: September 02, 2026; Accepted: September 10, 2026; Published: September 16, 2026

Keywords: Occupational Therapy, Efficacy, Sensory Integration, Autism Spectrum Disorder

Introduction

Autism Spectrum Disorder (ASD) is a complex developmental condition that impacts social interaction, communication, and behavior. Children with ASD frequently experience sensory processing dysfunction, which can severely impede their ability to perform daily routines, interact with peers, and communicate effectively. Recent reports indicate an increase in the prevalence of early-onset autism [1]. Though there is no definitive cure for this disorder [2]. It is estimated that over 80 percent of individuals with autism demonstrate behaviors that may be related to poor sensory modulation such as self-stimulation (excessive rocking or spinning), avoiding behaviors (such as placing hands over ears in response to typical levels of auditory input), sensory seeking (twirling, chewing, et cetera) and 'tuning out' behaviors (such as not responding to their name or other environmental cues) [3-5]. Occupational therapy (OT) utilizing sensory stimulation and integration is a frontline intervention designed to help children process sensory information more effectively, thereby reducing maladaptive behaviors and promoting functional independence. This case report details the developmental progress of a 5-year-old child with ASD following a 6-month specialized OT intervention.

Case Presentation

Patient History and Baseline Assessment

The patient is a 5-year-old male who presented to the pediatric rehabilitation clinic with delayed milestones and significant

behavioral challenges. A baseline functional assessment revealed profound deficits across multiple domains:

- **Social Communication:** Severe difficulties in social reciprocity. The patient exhibited no eye contact, did not respond when his name was called, and lacked non-verbal communication skills such as pointing to indicate needs or joint attention.
- **Peer Interaction:** He demonstrated parallel or isolated play and was entirely unable to mix with his peer group.
- **Activities of Daily Living (ADLs):** The patient was completely dependent on his caregivers for all basic functional tasks. He was non-functional and uncooperative during brushing, eating, grooming, dressing, and bathing.

Therapeutic Intervention

A comprehensive, individualized Occupational Therapy plan was initiated. The intervention lasted for 6 months, consisting of bi-weekly 45-minute clinic sessions, supplemented by a strict home-program executed by the parents. The intervention framework included:

- **Sensory Stimulation & Integration:** Tactile, proprioceptive, and vestibular inputs were provided to help regulate the child's sensory threshold, improving his tolerance for environmental stimuli.
- **Attention and Cognitive Training:** Use of high-interest, structured tabletop activities to build sustained attention and task completion.
- **Motor Skills Development:** Fine motor activities (grasping, releasing, and manipulating objects) to prepare for ADL independence.

- **ADL Retraining:** Hand-over-hand assistance and task-chaining techniques for self-care routines, gradually fading physical prompts.

Clinical Outcomes

After 6 months of continuous therapy, a reassessment was conducted. The patient exhibited marked improvements across several developmental milestones:

Functional Domain	Baseline (Month 0)	Post-intervention (Month 6)
Social & Attentional	No eye contact, no name response.	Increased eye contact; responds to name intermittently; significantly increased sustained attention.
Cognitive & Motor	Unable to hold tools, no structured play.	Engages in simple puzzle matching; holds a toothbrush; actively scribbles with crayons.
Object Recognition	Did not consistently identify items or people.	Successfully identifies parents, brush, shoes, plate, glass, and water bottle.
Toileting & ADLs	Fully dependent, no elimination cues.	Shows clear physical cues for needing to urinate (pee); actively participates in holding his toothbrush.

Discussion

It is evident that children with autism often have difficulties in managing their daily lives due to occupational performance difficulties in activities related to their roles. Several scientists stated that sensory integration therapy, developed by Jean Ayres, is a widely used approach for individuals who have difficulty organizing sensory information for everyday functioning [6-9]. Difficulties in sensory integration manifest as atypical responses to sensory stimuli which often impact motor performance, socialization and performance in daily living activities and tasks [7]. The improvements observed in this case align with current literature supporting neuroplasticity in early childhood. The lack of eye contact, poor name response, and social isolation are hallmark signs of ASD that are often exacerbated by sensory over- or under-responsivity. By introducing targeted sensory stimulation, the OT intervention likely reduced the child’s sensory seeking/avoiding behaviors, allowing him to free up cognitive resources for social engagement and learning. The transition from total dependence in ADLs to emerging independence (e.g., holding a brush, signaling for toileting) demonstrates the effectiveness of task-chaining and fine motor skill development. The ability to identify objects and engage in simple puzzles indicates a significant leap in receptive language and visual-spatial cognition. Literature examined the impact of sensory issues on the child’s participation in activities, the study focused specifically on the effect of sensory-related behaviors on family activities and routines [10]. In addition, data indicated that many aspects of family routines and activities were impacted by the child’s sensory-related behaviors and that these altered the way that the family participated in activities both inside and outside the home.

Conclusion

A 6-month regimen of occupational therapy and sensory stimulation yielded substantial functional gains in a 5-year-old child with severe ASD presentations. The intervention successfully bridged critical gaps in social communication, fine motor abilities,

and daily living skills. This case reinforces the necessity of early, tailored therapeutic interventions to enhance the quality of life and functional independence of children on the autism spectrum. This case study gives so many hints; further large-scale study is recommended to get precise results.

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