



OCCUPATIONAL THERAPY PERSPECTIVE ON HALLUCINATIONS AND DELUSIONS IN A CHILD WITH AUTISM SPECTRUM DISORDER AND INTELLECTUAL IMPAIRMENT: A CASE REPORT

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ABSTRACT

Autism spectrum disorder (ASD) is characterized by persistent difficulties in social interaction and communication, restricted and repetitive patterns of behaviour, and challenges in sensory processing and modulation [1,2]. Intellectual impairment commonly co-occurs with ASD and significantly reduces independence in self-care, learning, play, and social participation [3,4]. Additionally, the presence of co-occurring psychiatric symptoms, including hallucinations and delusions, introduces diagnostic and therapeutic complexity and is associated with functional decline [6-11]. This case report describes occupational therapy intervention for a male child with autism spectrum disorder and mild intellectual impairment who was referred to KEM Hospital following the recent onset of unusual behaviours and a decline in functional abilities [12,13]. A twelve-week intervention program was implemented using developmental, sensory integration, behavioural, cognitive disability, and Model of Human Occupation approaches. Evaluation was conducted through structured clinical observation and standardized assessments focusing on sensory processing, occupational performance, social communication, interaction, and psychiatric symptoms [21,22]. Post-intervention findings demonstrated improved participation in daily activities, enhanced social interaction, and a reduction in maladaptive behaviours. The severity of psychiatric symptoms decreased, and the child showed greater engagement in purposeful and meaningful occupations [15]. This case highlights the importance of adapting conventional occupational therapy approaches when psychotic features emerge within developmental disorders and underscores the value of caregiver education and environmental structuring in achieving sustained functional outcomes [12,17].

KEYWORDS : Autism Spectrum Disorder, Intellectual Impairment, Occupational Therapy, Hallucinations, Occupational Performance, Psychiatric Symptoms

INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by persistent difficulties in social communication and restricted, repetitive behaviours (1). Intellectual disability (ID) frequently co-occurs with ASD, affecting approximately 20–30% of individuals and contributing to reduced adaptive functioning and increased dependence in daily activities (2–5).

Psychiatric comorbidities are common in ASD, including anxiety, attention-deficit hyperactivity disorder, mood disorders, and disruptive behaviours (6,7). Psychotic symptoms represent a distinct clinical challenge, with reported prevalence ranging from 4–35% in individuals with ASD (8–10). This overlap may reflect shared neurodevelopmental vulnerabilities and difficulty differentiating autistic features from hallucinations or delusions (11,12).

Children with ASD and ID are particularly vulnerable to delayed identification of psychotic symptoms due to communication limitations and reliance on caregiver reports, often resulting in a focus on behavioural or pharmacological management with limited emphasis on functional rehabilitation (13–15).

Case Report

A 10-year-old boy from Mumbai was referred for occupational therapy after psychiatric evaluation and diagnosed with ASD (ISAA: 82, mild autism), mild intellectual impairment (IQ: 62), and active auditory and visual hallucinations. He exhibited significant behavioral disturbances, including spitting, verbal aggression, and self-talk, leading to school expulsion. Psychiatric medication was initiated prior to occupational therapy intervention.

The child is the first-born of a consanguineous marriage and lives with his mother and two typically developing younger siblings; the father resides separately and visits periodically. Family history includes undocumented psychiatric symptoms in the paternal grandmother. Medical history is significant for

a febrile seizure at seven months of age and delayed developmental milestones.

Occupational therapy assessment was conducted using the Occupational Therapy Practice Framework (OTPF-4).

The child presented with marked occupational performance difficulties, including behavioural dysregulation, irritability, aggression, inappropriate emotional expression, disrupted sleep, excessive screen use, and a disorganized daily routine associated with hallucinations and delusional thinking. Functional impairments were evident in academic participation, play, leisure, social interaction, and family roles, with increased dependence in basic and instrumental activities of daily living, poor communication, and impaired cognitive and process skills.

Diagnostic confirmation was provided by the psychiatrist. Outcome measures included the Short Child Occupational Profile (SCOPE), the Child Sensory Profile (caregiver report), and the Brief Psychiatric Rating Scale–Children’s Version, with pre- and post-intervention scores analysed to assess treatment outcomes.

Therapeutic Intervention: Occupational therapy was provided over twelve weeks, with two 45-minute sessions per week, following an individualized, goal-directed treatment plan.

Table-1

| Phase 1- week 1-3 | Intervention |
|--|---|
| Reality orientation & sensory regulation | Deep-pressure, proprioceptive input, and linear vestibular activities were used to regulate arousal and reduce sensory-based behavioural dysregulation. |
| | Structured routines, visual schedules, token-based reinforcement, and redirection were implemented to minimize maladaptive responses. |

Therapeutic rapport was established, volition was identified, and predictable habituation patterns were developed to support engagement.

Table-2

| | |
|--|--|
| Phase 2- week 4-6 | Intervention |
| Adaptive functioning & cognitive-perceptual skills | Attention, sequencing, and task completion skills were gradually scaffolded to match developmental capacity. |
| | Activities were simplified, broken into steps, and supported with visual prompts and environmental cues to enhance task performance. |
| | Focus was placed on improving performance capacity in daily occupations such as grooming and academic routines. |

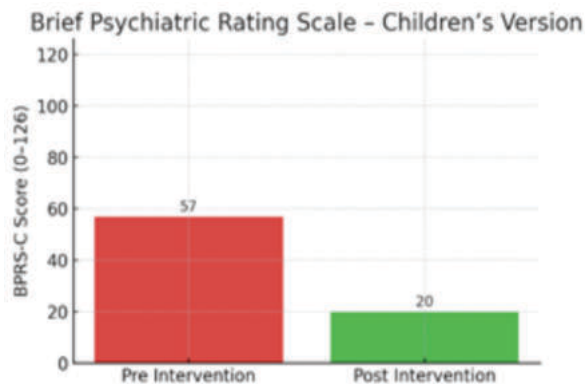
Table-3

| | |
|--|---|
| Phase 3- week 7-9 | Intervention |
| Psychosocial skills & social participation | Goals focused on role participation, interpersonal engagement, and volitional action in group or dyadic interactions. |
| | Positive social behaviours such as sharing, turn-taking, and help-seeking were reinforced, while withdrawal or avoidance was gently redirected. |
| | Emotional identification, communication, and coping strategies were practiced in age-appropriate social contexts. |

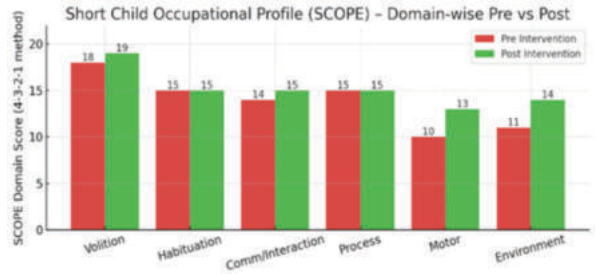
Table-4

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|----------------------------------|---|
| Phase 4 - week 10-12 | Intervention |
| School readiness & reintegration | Participation in school-based occupations such as desk-work, routines, and peer interaction was supported. |
| | Academic tasks were chunked, visual checklists were used, and environmental supports were applied to address cognitive limitations. |
| | Break systems, self-monitoring charts, and reinforcement strategies were used to generalize appropriate classroom behaviour. |

Standardized assessments conducted pre- and post-three months showed clear improvements. Sensory Profile findings indicated normalized avoiding and sensitivity responses. Psychiatric symptoms reduced, reflected by lower BPRS-C scores, while occupational performance improved with higher SCOPE scores. Figures 1 and 2 illustrate BPRS-C and SCOPE bar-graph outcomes.



BPRS- C 21 (Figure 1)



SCOPE (Figure 2)

DISCUSSION

This case demonstrates the effectiveness of a multi-modal occupational therapy program in addressing sensory, functional, and psychiatric challenges in a child with ASD, mild intellectual impairment, and hallucinations. Including sensory integration, developmental, behavioural, and occupation-centred approaches resulted in meaningful functional improvements.

Post-intervention Sensory Profile findings showed normalization of the Avoiding and Sensitivity quadrants, indicating improved sensory modulation and tolerance to environmental demands. Improved sensory processing is associated with reduced maladaptive behaviours and enhanced social participation in children with ASD [16,21], supporting the role of sensory integration-based interventions in behavioural regulation and engagement [20,22]. Sensory processing disturbances, particularly when combined with intellectual impairment, may be associated with psychiatric manifestations such as hallucinations [12].

Reduced BPRS-C scores reflected clinically meaningful improvements in hallucinations, irritability, and emotional dysregulation (figure 1). Structured routines and graded occupations are known to reduce behavioural dysregulation and improve emotional regulation and social connectedness in neurodevelopmental conditions [5-8,15,18]. Increased SCOPE scores (figure 2) indicated improved participation, particularly in motor skills and environmental adaptation [18,19]. Stable habituation and process skills reflected preserved routines, a positive outcome in children vulnerable to functional regression [8].

LIMITATION

This case report describes a single participant, limiting generalizability. Outcome measures relied largely on caregiver reports, and long-term follow-up was not conducted.

CONCLUSION

Occupational therapy improved functional independence, volition, social interaction, school readiness, and psychiatric stability. The child was able to attend school for two hours with shadow assistance post-intervention.

Informed Consent

Written informed consent was obtained from the child's legal guardian for participation and publication of anonymized clinical data.

Declaration by Authors

Ethical Approval: approved from institutional ethics committee

Acknowledgement: We extend our sincere gratitude to the patient and his parents for their active participation and cooperation throughout the course of this study. We also acknowledge the support and collaboration of the Departments of Occupational Therapy and Psychiatry of KEM Hospital in facilitating assessment, intervention, and ongoing care.

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

Images of Patient Undergoing OT Intervention



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