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Addressing Attention Deficit Hyperactivity Disorder through Brief behavioural Intervention: Evidence from a Clinical Case Study

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A B S T R A C T

ADHD is one of the most prevalent neurodevelopmental disorders in childhood, often exacerbated by psychosocial stressors and executive function deficits. While the literature offers extensive insights into ADHD management, few case studies in South Asian contexts examine the intersection of attachment issues, family dysfunction, and executive functioning. This study evaluates behavioral and cognitive impairments in a 12-year-old boy diagnosed with ADHD (combined presentation) and explores the efficacy of a comprehensive multimodal intervention. A single-subject case study design was used. Data were gathered through behavioral observations, interviews, and standardized tools including the SWAN Rating Scale, SDCT, Raven's CPM, and Human Figure Drawing. A 6-session intervention plan integrating behavior therapy, CBT, contingency management, family therapy, and social skills training was implemented. Pre- and post-intervention comparisons were conducted. The intervention yielded improvement in attention span, social skills, and classroom behavior. Although executive dysfunction persisted, notable gains were made in self-regulation and peer interaction. Multimodal, family-integrated interventions show promise in managing complex ADHD presentations in resource-limited settings. Early diagnosis and culturally adapted behavioral strategies are critical.

Keywords: ADHD, Executive Function, Family Therapy, Behavior Therapy, Contingency Management, Social Skills Training

INTRODUCTION

ADHD (Attention-Deficit/Hyperactivity Disorder) is a neurodevelopmental disorder marked by inattention, hyperactivity, and impulsivity (APA, 2013). Its global prevalence and negative impact on academic and social development make it a major concern for clinicians, educators, and families alike. Despite the biological underpinnings of ADHD, emerging evidence emphasizes the role of environmental, familial, and psychosocial factors in symptom severity and therapeutic outcomes (Barkley, 2016).

In South Asian contexts, particularly among socioeconomically disadvantaged families, these contributing factors are often compounded by limited access to specialized care, parental illiteracy, and stigma around mental health (Kazdin, 2017).

The subject of this study is XYZ, a 12-year-old boy who was referred to a rehabilitation center in Islamabad due to persistent behavioral disruptions and poor academic performance. His behavioral issues were first observed in preschool, leading to his expulsion at the age of four. Teachers and caregivers reported chronic inattention, hyperactivity, and impulsivity. He was repeatedly described as a child who “could not sit still,” “did not follow instructions,” and “disrupted class activities.”

The family history revealed several psychosocial stressors: both parents are illiterate, the family faces financial instability, and one of his sisters has Down syndrome while another sibling has chronic medical conditions. These stressors likely contributed to a chaotic home environment, impairing the development of consistent routines and emotional regulation strategies.

Formal assessment confirmed a diagnosis of ADHD (combined presentation), and a comprehensive multimodal intervention was designed to address his specific needs. This case study documents the clinical assessment, intervention, and outcomes to offer insights for culturally contextualized ADHD management.

MATERIALS AND METHODS

Participant Profile: XYZ, a 12-year-old boy, was referred for evaluation following disruptive behaviors in school and a poor academic trajectory. He resides in a nuclear family with five members. The family is economically disadvantaged, and both parents are illiterate. One sister is diagnosed with Down syndrome, and another sibling has a history of medical issues.

Exclusion Criteria: There were no indications of significant medical illness or autism spectrum disorder. Developmental milestones were achieved on time.

Assessment Tools:

1. SWAN Rating Scale for ADHD
2. Student Behavior Checklist (SBC)
3. Slosson Drawing Coordination Test (SDCT)
4. Raven's Colored Progressive Matrices (CPM)
5. Draw-a-Person (DAP)
6. Mental Status Examination (MSE)

Behavioral Observation: The child exhibited poor attention span, impulsivity, and fidgeting behavior such as twirling a pencil, shifting in his seat, and interacting disruptively with peers.

Formal Assessment Results:

- **SWAN:** Confirmed ADHD Combined Type
- **SBC:** Marked deficits in attention, peer relationships, and academic engagement
- **SDCT:** Accuracy score of 88%, indicating mild impairment in eye-hand coordination
- **CPM:** Low cooperation, indicating possible testing resistance or motivational issues
- **DAP:** Chronological age 12; mental age 11.6, indicating marginal cognitive delay.

Table 1. Assessment Tools

Test Name	Purpose
SWAN Rating Scale for ADHD	Measure ADHD symptoms (inattentive, hyperactive types)
Student Behavior Checklist (SBC)	Assess academic, behavioral, and social functioning
Slosson Drawing Coordination Test (SDCT)	Evaluate eye-hand coordination
Raven's Colored Progressive Matrices (CPM)	Assess non-verbal intelligence
Draw-a-Person (DAP)	Analyze emotional and developmental maturity
Mental Status Examination (MSE)	Assess cognitive and emotional functioning

Table 2. Formal Assessment Results

Assessment Tool	Result	Interpretation
SWAN Rating Scale	Score = 13	ADHD Combined Type
SBC	Low performance in peer and teacher interactions	Behavioral challenges and social difficulty
SDCT	Accuracy: 88%	Mild impairment in eye-hand coordination
CPM	Uncooperative	Suggests resistance or motivation issues
DAP	Chronological Age: 12, Mental Age: 11.6	Marginal cognitive delay

RESULTS

Table 3. presents a comparative overview of the child's behavioral indicators before and after the intervention.

The data reflect observable changes across multiple domains, including attention, peer interaction, and classroom behavior. These improvements provide insight into the effectiveness of the short-term multimodal intervention.

Behavioral Domain	Pre-Intervention	Post-Intervention
Classroom Engagement	Minimal; frequently distracted	Improved; remained seated, attentive
Disruptive Behavior	Threw objects, left seat repeatedly	Significant reduction in such behaviors
Peer Interaction	Poor; frequently aggressive	Enhanced; more cooperative and verbal
Task Completion	Rarely completed assignments	Modest improvement, with supervision
Attention Retention	Extremely short span	Noticeable improvement

Post-intervention results indicated marked improvements across behavioral domains, particularly in classroom engagement and peer interaction. Disruptive behaviors significantly decreased, and attention span showed some progress. Task completion improved modestly under supervision. Overall, the intervention yielded positive, though varied, behavioral outcomes.

DISCUSSION

his case supports the notion that ADHD symptoms are not merely neurobiological but are shaped significantly by environmental and relational contexts (Patterson et al., 1992). The child's improvement following family and teacher involvement reinforces literature on systemic interventions (Kazdin, 2017; Henggeler et al., 2012).

Despite limitations in cognitive functioning, gains in behavior and executive regulation were achieved. The absence of paternal involvement and the family's socioeconomic challenges were notable barriers to deeper interventionThe therapeutic use of CBT, behavior therapy, and contingency management proved effective in addressing core ADHD symptoms, especially when paired with parent training and teacher collaboration. Although formal academic gains were not substantial within the short duration, improved classroom behavior and task initiation indicate enhanced self-regulatory capacity.

Notably, the child's marginal cognitive delay and challenging home environment limited the extent of progress. The lack of paternal involvement further restricted systemic consistency in intervention application. Nonetheless, the case highlights the importance of early detection, caregiver psychoeducation, and multimodal support in addressing ADHD-related impairments.

LIMITATIONS

- The case study involved only one child, which limits the generalizability of the findings to the broader ADHD population.
- The therapeutic intervention lasted only six sessions, potentially limiting the depth and permanence of observed behavioral improvements.
- No follow-up evaluations were conducted, making it difficult to determine whether the benefits were sustained over time.
- The absence of the father's involvement and minimal collaboration with school personnel resulted in inconsistent application of learned strategies across environments.

SUGGESTIONS

- Conduct studies with larger sample sizes and longitudinal follow-ups to enhance generalizability and assess sustained intervention effects.
- Implement follow-up evaluations at 3-, 6-, and 12-month intervals to examine the durability of behavioral and cognitive improvements.
- Encourage participation from both parents, particularly fathers, and explore the influence of sibling dynamics on behavioral outcomes.
- Design cross-cultural studies to assess the adaptability and relevance of interventions in diverse socio-cultural settings.

CONCLUSION

This case underscores the necessity of culturally contextualized, multimodal approaches to ADHD management. Family dynamics, socio-economic stressors, and executive functioning all contribute to the manifestation and remediation of symptoms. Tailored behavioral strategies, especially those that engage both educational and familial systems, can significantly improve outcomes even in resource-constrained settings.

The study highlights that while cognitive deficits may persist, significant gains in attention, emotional regulation, and peer interaction are achievable through structured, collaborative interventions. Early identification, consistent caregiver involvement, and systemic implementation across home and school environments remain key pillars for effective ADHD treatment. Future policy and clinical frameworks must prioritize scalable, evidence-based programs that incorporate family training, school collaboration, and adaptive therapeutic modalities to ensure comprehensive care for neurodiverse populations.

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