Sensory and Cognitive Awareness Impairment Patterns in Children with Autism Spectrum Disorder: A Factorial Analysis of the Underlying Constructs

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ABSTRACT

Background: Individuals with autism spectrum disorder (ASD) have a wide range of challenges related to sensory and cognitive awareness. In Ethiopia, the increasing prevalence of ASD underscores the need for a comprehensive understanding of the associated challenges and impairments, an area that has not been studied so far.

Objective: The objective of this study was to investigate the underlying patterns of sensory and cognitive awareness impairments in children diagnosed with ASD at autism centers in Addis Ababa, Ethiopia.

Methods: An institution-based cross-sectional study was conducted at the Nehemia Autism Center and the Nia Foundation in Addis Ababa, Ethiopia. The study included children aged 4 to 16 years who had a confirmed diagnosis of ASD. A total of 145 study participants involved in this

study. The sensory/cognitive awareness subscale of the Autism Treatment Evaluation Checklist (ATEC) was administered to caregivers. Principal component analysis with varimax

Results: This study revealed five patterns of sensory and cognitive awareness impairments in children diagnosed with ASD. Pattern 1, limitation in social engagement and exploration (α =0.822); Pattern 2 challenges in emotional awareness and cognitive responsiveness (α =0.743); Pattern 3 challenges in story comprehension and creativity (α =0.62); Pattern 4 difficulties in social reciprocity and reward (α =0.34); and Pattern 5 trouble with focus and attention (α =0.12). All of these patterns accounted for 60% of the total variance.

Conclusion: In this study, five patterns of sensory and cognitive awareness impairments were identified. Clinicians and therapists may need to consider these patterns for more personalized and effective support of children with ASD.

Keywords: autism spectrum disorder, factor analysis, impairments, pattern, sensory and cognitive awareness