

Occupational Therapy Intervention in a Case Diagnosed with West Syndrome: Case Report

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Introduction:

West syndrome is one of the epileptic encephalopathy syndromes seen in early childhood, characterized by epileptic spasms, psychomotor delay or regression, and a hypsarrhythmia pattern on electroencephalography (Pavone et. al, 2020).

Objectives:

The aim of this case report is to present the occupational therapy intervention process and outcomes in an individual diagnosed with West syndrome.

Table 1. ICF-CY Framework Applied to a Case with West Syndrome

Body Functions & Structures	
<ul style="list-style-type: none"> • Biotinidase deficiency • Irregular epileptic spasms • Global developmental delay • Hypotonia • Delayed fine and gross motor skills • Oral-motor and sensory problems • Attention deficits • Limited eye contact • Impaired motor planning • Receptive and expressive language difficulties • Limited verbal output (single-word production) 	

Environmental Factors	
Facilitators	Barriers
<ul style="list-style-type: none"> • Family support • Occupational Therapy guidance • Physiotherapy support • Speech and Language Therapy • Enriched environment 	<ul style="list-style-type: none"> • Both parents working full-time • Fatigue and stress within the family • Limited opportunities for peer interaction • Environmental stressors (noise, waiting, lack of inclusion) • Factors triggering seizures (hunger, dehydration, stress, medication changes)

Activities & Participation	
Challenges	Opportunities
<ul style="list-style-type: none"> • Limited access to peer interaction with same-age children • Limited shared time with parents due to intensive caregiving routines • Low motivation and participation in play • Limited eye contact • Difficulty producing meaningful words 	<ul style="list-style-type: none"> • Family relationships • Participation in preferred leisure activities (e.g., swing, balloon popping) • Speech and language Therapy • Participation in preferred leisure activities (e.g., swing, balloon popping) • Ability to imitate simple actions and sounds • Increased engagement in enjoyable activities

Personal Factors	
Facilitators	Barriers
<ul style="list-style-type: none"> • Good compliance • Effort to imitate • Attention easily attracted by enjoyable activities 	<ul style="list-style-type: none"> • Short attention span • Balance and coordination difficulties related to the condition • Difficulty expressing needs due to limited language skills • Self-injurious behaviors (hair pulling, hitting, biting) • Frequent illness

Methods:

In this study, a 30-month-old girl diagnosed with West syndrome received occupational therapy intervention in the Sensory Integration and Cognitive Training Laboratory (Figure 1) (Table 1), consisting of weekly 45-minute sessions over a 24-week period. Before and after the intervention, the case was assessed for sensory processing skills using the Infant Toddler Sensory Profile Scale and the Canadian Occupational Performance Measure (COPM).

Results:

In the Infant Toddler Sensory Profile Scale quadrant scores, the sensation avoiding score increased from 2 to 8, and the low registration score increased from 4 to 10. In the sensory and behavioral section scores, the tactile score increased from 5 to 7, the oral sensory score from 5 to 9, and the behavioral score from 3 to 6. In the three targeted activities (independent walking, effective communication, and oral motor control), the COPM performance score improved from 2 to 5, and the COPM satisfaction score increased from 2 to 5.6.

References:

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- 3) Bhanudeep, S., Madaan, P., Sankhyan, N., Saini, L., Malhi, P., Suthar, R., ... & Sahu, J. K. (2021). Long-term epilepsy control, motor function, cognition, sleep and quality of life in children with West syndrome. *Epilepsy Research*, 173, 106629.



Figure 1. Bezmialem Vakif University Occupational Therapy Department Sensory Integration and Cognitive Training Laboratory

Conclusion:

The findings of this study indicate that occupational therapy intervention improved sensory processing and occupational performance skills in a case with West syndrome. The effectiveness of occupational therapy interventions conducted in sensory-enriched environments should be further investigated in larger sample groups (Bhanudeep et. al, 2021; Dalwai et. al, 2022).