

POSTER PRESENTATIONS PP2

Functional Mobility and Cognitive-Motor Demands Interaction in Spastic Diplegic Cerebral Palsy with Severe Intellectual Disability: A Case Study.

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ABSTRACT

Background and Objectives: Functional mobility in spastic diplegic cerebral palsy (CP) children is typically associated with motor impairments such as spasticity, reduced selective motor control, and balance deficits. In children with co-existing severe intellectual disability (ID), functional mobility performance may be influenced by cognitive-motor demands including initiation, sequencing, and cognitive flexibility. This case study describes the functional mobility performance and observable cognitive-motor demands in 6-year-old girl with spastic diplegic CP and severe ID following physical and occupational therapy. **Methods:** A single-case study was conducted in a concurrent occupational therapy and physiotherapy session. Participant engaged in functional mobility training, including transfers and assisted ambulation. Structured clinical observation focused on movement initiation, sequencing of task components, cue dependency, and cognitive flexibility. Outcomes are monitored using Gross Motor Function Measure (GMFM) and Functional Mobility Scale (FMS). Clinical observations and outcome measures were collected at baseline and after 18 months of treatment. **Results:** Interim findings show GMFM improvement from 25.9% at baseline to 53.73% after 18 months, indicating an improvement in gross motor function score. FMS indicated progression from non-functional mobility to walker-assisted mobility over short distances. Clinical observation indicates improved crawling and task initiation. Despite these gains, consistency declined when tasks required independent initiation, multi-step sequencing, and cognitive flexibility. **Conclusion:** Interim findings show improved gross motor ability and emerging assisted mobility. However, functional mobility performance still varies with task structure and cognitive demands. This suggests that both motor ability and how tasks are conducted are important for improving mobility outcomes.

Keywords: Cognitive-Motor Demands; Functional Mobility; Cerebral Palsy; Intellectual Disability

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