

POSTER PRESENTATION PP19

Integration of Multimodal Therapies within a Transdisciplinary Framework for Neurological Rehabilitation

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ABSTRACT

Background and Objective: Pediatric neurological impairments require comprehensive rehabilitation strategies targeting postural control, muscle activation, and functional mobility. A transdisciplinary care model emphasizes collaborative practice, shared professional responsibilities, and family-centered involvement to enhance intervention consistency and optimize patient outcomes. This study aimed to evaluate the effectiveness of delivering integrated therapeutic modalities through a structured transdisciplinary intervention framework. **Method:** An integrated transdisciplinary rehabilitation program comprising Neuromuscular Integrative Sensory Experience, Non-Invasive Spinal Electrical Stimulation (NISE), Dynamic Movement Intervention (DMI), Peditasuit Protocol, and aquatic therapy was delivered. The intervention targeted sensory-motor integration, postural control, movement transitions, intensive strengthening, biomechanical alignment, and functional movement training within both land-based and gravity-reduced environments. Active caregiver involvement was incorporated to reinforce skill transfer and promote integration of therapeutic gains into daily routines. **Results:** The intervention was associated with improvements in trunk control, postural stability, and functional mobility, reflected by progression toward supported standing and assisted ambulation. Concurrently, increased caregiver participation and stronger interdisciplinary goal alignment were observed, facilitating greater continuity and consistency of care. **Conclusion:** A coordinated transdisciplinary rehabilitation approach integrating NISE, DMI, Peditasuit Protocol, and aquatic therapy may facilitate functional gains and improve participation outcomes, highlighting its potential value in pediatric neurorehabilitation.

Keywords: Pediatric neurorehabilitation; Transdisciplinary care; Dynamic Movement Intervention; Non-Invasive Spinal Electrical Stimulation; Peditasuit Protocol; Functional mobility

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