

Impact of Aquatic Therapy in Improving Balance and Postural Control in Children with Spastic Cerebral Palsy: A Review

Khoolood Intkhab, Undergraduate Student, Department of Physiotherapy, Maharishi Markandeshwer Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwer (Deemed to be University), Mullana, Ambala, Haryana, India.

Manu Goyal, Professor, Department of Physiotherapy, Maharishi Markandeshwer Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwer (Deemed to be University), Mullana, Ambala, Haryana, India.

Kanu Goyal, Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwer Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwer (Deemed to be University), Mullana, Ambala, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Kanu Goyal,

Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwer Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwer (Deemed to be University), Mullana, Ambala, Haryana, India.

E-mail: kanu.goyal@mmumullana.org

ABSTRACT

Cerebral palsy, a global movement disorder impacting 18 million individuals, particularly children, is characterised by intellectual impairments, seizures, speech, hearing, vision challenges, and physical contractures. Among therapeutic interventions, aquatic therapy has emerged as a promising approach to enhance physical abilities in children with cerebral palsy. By utilising water's unique properties, such as buoyancy, resistance, and hydrostatic pressure, aquatic therapy improves joint mobility, range of motion, muscle flexibility, tone management, motor coordination, and balance. This systematic review evaluated the efficacy of aquatic therapy in children with cerebral palsy and identified future research directions. Following PRISMA guidelines for methodological quality, a comprehensive search of databases including PEDro, Cochrane, and PubMed was conducted to analyse studies published

between 2015 and 2023. Seven studies met the inclusion criteria, encompassing 298 participants. The interventions ranged from 6 to 12 weeks, with sessions occurring one to three times per week. Outcome measures included the Gross Motor Functional Classification System and the Paediatric Balance Scale. Results demonstrated significant improvements in balance and postural control among participants, particularly those with spastic cerebral palsy. These benefits highlight aquatic therapy's potential as an effective intervention to enhance physical function and quality of life in children with cerebral palsy. By leveraging water-based exercises, this therapeutic approach offers a holistic pathway for improved motor outcomes and greater independence.

Keywords: Gross motor functional classification system, Paediatric balance scale, Paediatric rehabilitation, Range of motion