

Availability of Different Physiotherapy Treatment Strategies of Modified Constrained-induced Movement Therapy (mCIMT) in Patients with Hemiplegic Cerebral Palsy: A Systematic Review

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ABSTRACT

Introduction: Cerebral palsy is a group of disorders that affect the development of movement, balance, posture, and muscle tone. According to Charlotte Metz et al, it occurs in 2 out of 1000 live childbirths. Due to the unwillingness of children to be restrained in the method of application of Constrained-induced Movement Therapy (CIMT), mCIMT was developed. Studies suggest mCIMT is more effective than CIMT in improving motor function in hemiplegic cerebral palsy.

Aim: The study aims to find a standard treatment protocol for mCIMT for treating hemiplegic cerebral palsy. Search engines like Google Scholar, Research Gate, Cochrane, SAGE Journals, and Academia, were electronically searched. An article was included if, the articles consisted of treating cerebral palsy children through mCIMT, or mCIMT combined with other treatments or comparative studies with bimanual therapy.

Results: A total of studies accounted for the study, from which 9 studies were purely contingent on mCIMT, and 10 studies included comparative studies of bimanual therapy and mCIMT. Five articles

had mCIMT as the treatment along with other conventional treatments. Nine studies were excluded as they did not meet the inclusion criteria. The studies included were mostly Randomised Controlled Trials (RCTs), pilot studies, multisite trials, systematic reviews, and meta-analyses. All 24 articles were read thoroughly to identify the particular time frame, length of the treatment, and specific tasks used by the therapists. They suggested that time varies from 1 to 3 hours a day of intensive treatment with up to 6 hours of constraint, 3 to 7 days a week, and a 2-10 weeks treatment period. The repetition of each activity may vary from 10 rep to 20 rep for 5 to 20 minutes. The tasks included catching and throwing a ball, using paint, clay, and manipulating sand. Puzzles, pegboards, card games, and functional activities are also included.

Conclusion: In conclusion, the treatment protocol for mCIMT may vary in time, days, and weeks. More studies are needed for a specific time duration for a single activity.

Keywords: Hemiplegic cerebral palsy, Posture, Therapeutic strategies

Conflict of Interest: The authors declare no conflict of interest.