Constraint-induced movement therapy in the treatment of the upper limb in children with hemiplegic cerebral palsy: a Cochrane systematic review

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Summary

In this Cochrane systematic review, a search was conducted to identify trials of pediatric participants with hemiplegic cerebral palsy (0-19 years of age) having received treatment of their affected upper limb. Outcomes needed to be reported using objective measures of the upper limb. Studies involving constraint-induced movement therapy (restraint >3hours/day for at least two consecutive weeks), modified constraint-induced movement therapy (restraint <3 hours/day with therapy provided to the affected limb) and forced use (restraint of unaffected upper extremity with no additional treatment to the affected upper extremity provided) were investigated. A total of three studies were included.

Results

A randomized controlled trial of 18 children with hemiplegia did not reveal any statistically significant results on the QUEST-Dissociated Movement subscale. However a trend in favor of the CIMT group was demonstrated. A controlled clinical trial of modified constraint-induced movement therapy of 45 children with hemiplegia indicated a significant treatment effect at 2 months and at 6 months post therapy on the Assisting Hand Assessment in favor of the mCIMT group. Finally a RCT of forced use (n=31) demonstrated a significant treatment effect at 6 weeks in favor of the experimental group on the WeeFIM. The authors of the review concluded that intervention protocols varied greatly; nonetheless, a positive trend favoring this type of therapy was shown. However, further research in order to increase supporting evidence. It is recommended that valid and reliable outcome measures such as the Assisting Hand Assessment be used as well as measures that reflect family and client goals such as the Canadian Occupational Performance Measure and the Goal Attainment Scale.

Reference

Hoare, B., Imms, C., Carey, L., Wasiak, J. (2007). Constraint-induced movement therapy in the treatment of the upper limb in children with hemiplegic cerebral palsy: a Cochrane systematic review. Journal of Clinical Rehabilitation, 21(8), 675-85.

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