Constraint-induced movement therapy (CIMT): pediatric applications

childhood disability LINK

Summary

While there are many different intervention protocols for CIMT, there are three basic principles included in all interventions: 1) constraining the non-impaired upper extremity, 2) intensive, repetitive practice, and 3) shaping. CIMT is hypothesized to improve cortical motor and sensory representation of the affected limb by encouraging the use of the affected limb and therefore minimizing its learned or developmental non-use. Studies involving pediatric CIMT have demonstrated positive results with respect to increased spontaneous use, speed and dexterity of the affected limb. However, results are difficult to compare across studies as participation and intervention protocols vary greatly. Eventually, it is hoped that research will facilitate the matching of patient characteristics to specific protocols. Furthermore, current research does not control for the highly individualized and intensive attention from the therapists – this would need to be further investigated in future research. Additionally, there is some controversy regarding whether CIMT truly translates into functional bilateral hand use, as increased unilateral movement quality does not necessarily generalize into every day tasks. This shortcoming of CIMT is addressed by the HABIT (hand-arm bimanual intensive training) approach that incorporates some principles of CIMT. Finally, this article also discusses the therapists' role in ensuring minimal frustration levels experienced by clients thus maximizing the benefits of CIMT program by offering compensations and adaptations.

Reference

Brady, K., Garcia T. (2009). Constraint-induced movement therapy (CIMT): pediatric applications. Developmental Disabilities Research Reviews, 15(2),102-11.

Link to article : https://www.ncbi.nlm.nih.gov/pubmed/19489088