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### Original Article

The time effects of constraint-induced therapy on functions, coordination and movements of upper extremity of adult patients With hemiplegia

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### Abstract:

**Background and aim:** Stroke is one of the main reasons that would cause disability in adult population. The patient prefers to use his non-involved limb for self-care activities that called disuse learning of involved upper extremity. Constraint-induced therapy is one of the rehabilitative intervention that seems to improve motor ability and functional use of involved upper extremity in some of patients with hemiparesis after stroke. The aim of this study was to investigate the time effects of constraint-induced therapy on functions, coordination and movements of upper extremity of adult patients with hemiplegia.

**Materials and methods:** In present study, 15 patients with stroke participated in structured therapy sessions (CIT) emphasizing more affected upper extremity in different activities five times a week for 12 weeks and 2 hours a day and non-involved upper extremity were also restrained five times a week for 12 weeks and 5 hours a day

**Results:** The data was analyzed with paired t-test. The scores of different subtests of Fugl-Meyer test such as shoulder and forearm, wrist and hand movements, coordination and speed of involved upper extremities showed significant differences between pre and post interventions in different time periods ( $p > 0.05$ ). Test scores increased up to 8 weeks but no significant increase was seen after 8<sup>th</sup> week.

Dexterity measurements by Minnesota Manual Dexterity test showed significant differences between pre and post intervention in different time periods ( $p < 0.05$ ) with maximum increase up to 10 weeks

**Conclusion:** The present data showed that constraint-induced therapy could be an effective approach to improve function and overcome disuse learning. The results of this study revealed that scores of Fugl-Meyer and Minnesota Manual Dexterity test would reflect functional skills improvement.

**Key Words:** Constraint-induced therapy, Hemiplegia, Upper extremity, Function.

### Keywords:

[Constraint-induced therapy](#) , [Hemiplegia](#) , [Upper extremity](#) , [Function](#)

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