DOI: 10.7860/JCDR/2025/80478.21761

A Comparative Study between Effectiveness of Motor Relearning Programme and Mirror Therapy on Upper Extremity Functions in Post-stroke Patients

SK Abdul Aziz, PGT MPT (Neurology), Department of Physiotherapy, Burdwan Institute of Medical and Life Sciences (BIMLS), Burdwan, West Bengal, India.
Tanima Bhattacharyya, MPT (Neurology), Assistant Professor, Department of Physiotherapy, Burdwan Institute of Medical and Life Sciences (BIMLS), Burdwan, West Bengal, India.
Rajnee Mishra, MPT (Paediatrics), Assistant Professor, Department of Physiotherapy, Burdwan Institute of Medical and Life Sciences (BIMLS), Burdwan, West Bengal, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Tanima Bhattacharyya,
Assistant Professor, Department of Physiotherapy, Burdwan Institute of Medical and Life Sciences (BIMLS), Burdwan, West Bengal, India.
E-mail: tanimabhattacharyya2013@gmail.com

ABSTRACT

Background: Stroke is a global health problem that is the second commonest cause of death and fourth leading cause of disability worldwide. Both motor relearning programme and mirror therapy helps to improve upper extremity functions in post stroke patients. The aim of the study is to compare the effectiveness of motor relearning programme against mirror therapy on upper extremity functions in post stroke patients.

Materials and Methods: Post stroke 30 patients with upper limb disability were selected by convenient sampling method based on inclusion and exclusion criteria and then assigned into two groups, group A and group B. Group A (motor relearning programme group) received motor relearning programme; whereas group B (mirror therapy group) received mirror therapy for 4 weeks.

Outcome Measures: The Fugl Meyer Assessment of Physical Performance of Upper Extremity (FMA-UE) scale and Chedoke Arm And Hand Activity Inventory Scale (CAHAI) were used to evaluate and compare the effectiveness of motor relearning programme and mirror therapy on upper extremity functions in post stroke patients, at 1st day and at the end of 4^{th} week. Intervention values for upper extremity functions were measured before and after treatment.

Results: Statistical analysis done by using paired 't'-test and independent 't' test showed that there was significantly improvement in subjects who received motor relearning programme. Paired 't' test revealed upper extremity functions in post stroke patients were improved significantly in group A after applying motor relearning programme for 4 weeks i.e. ($p=7.73815\times10^{-11}$ in FMAUE scale) and ($p=8.47303\times10^{-11}$ in CAHAI scale). Paired 't' test also revealed upper extremity functions in post stroke patients was improved significantly in group B after applying mirror therapy for 4 weeks i.e. ($p=4.27209\times10^{-7}$ in FMA-UE scale) and ($p=2.77828\times10^{-7}$ in CAHAI scale). Independent 't' test revealed upper extremity functions in post stroke patients was extremely significant in group-A after applying motor relearning programme i.e. ($p=1.08411\times10^{15}$ in FMA-UE scale) and ($p=1.56334\times10^{-15}$ in CAHAI scale). So when compared within the groups, motor relearning programme and mirror therapy were effective in improving upper extremity functions. But when compared between the groups, motor relearning programme was found to be extremely significant for improving upper extremity functions in post stroke patients.

Conclusion: In light of the study's findings, it is concluded that the motor relearning programme is more effective and extremely significant in improving upper extremity functions in post stroke patients as compared to mirror therapy.

Keywords: Chedoke Arm And Hand Activity Inventory Scale (CAHAI), Fugl Meyer Assessment of Physical Performance of Upper Extremity (FMA-UE) Scale, Mirror therapy, Motor relearning programme.