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BILATERAL SYMMETRICAL ARM TRAINING: ITS EFFECT ON ELBOW MUSCLES CO-CONTRACTION IN STROKE PATIENTS

Thesis

Submitted for Partial Fulfillment of the Requirement for Master Degree in Physical Therapy

By

MOHAMED M. REDA MAHMOUD HASSAN SHARAF

B.Sc., in Physical Therapy, Cairo University (2001)

Department of Physical Therapy for Neuromuscular Disorder and Its Surgery

Supervisors

Prof. Dr. Nawal Abd El-Raouf Abou Shady

Professor and Chairman of Physical Therapy Department for Neuromuscular Disorder and Its Surgery,

Faculty of Physical Therapy,

Cairo University.

Prof. Dr. Ann Ali Abd El-Kader

Professor and Chairman of Clinical Neurophysiology Department,

Faculty of Medicine,

Cairo University.

Prof. Dr. Abeer Abo Bakr Elwishy

Assistant Professor in Physical Therapy Department of Neuromuscular Disorder and Its Surgery,

Faculty of Physical Therapy,

Cairo University.

Faculty of Physical Therapy

Cairo University

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Bilateral Symmetrical Arm Training: Its Effect on Elbow Muscles Co-Contraction in Stroke Patients/ Mohamed M. Reda Mahmoud Hassan Sharaf; Supervisors: Prof. Dr. Nawal Abd El-Raouf Abou Shady - Faculty of Physical Therapy, Prof. Dr. Ann Ali Abd El-Kader - Faculty of Medicine, Asst. Prof. Dr. Abeer Abo Bakr Elwishy -Faculty of Physical Therapy, Cairo University, Master thesis, 2009, in 118 various leaves.

ABSTRACT

Objectives: The objectives of this study were to determine the influence of bilateral symmetrical arm training on the co-contraction of the elbow joint flexor and extensor muscles and to find out if there was a correlation between the co-contraction index and the upper extremity functional activity in stroke patients. ***Subjects and methods:*** Thirty stroke patients were assigned into two equal groups, a control and a study group. The control group received traditional physical therapy program, whereas, the study group received traditional physical therapy program, in addition to bilateral symmetrical arm training. The patients were assessed clinically with the Brunström-Fugl-Meyer scale which was recorded twice (before and after treatment) and the co-contraction index was calculated four times; before, after two months, after four months and after six months of treatment. ***Results:*** There was a significant difference between both groups in The Brunström-Fugl-Meyer scale scores and co-contraction index before and after treatment. Additionally, a high negative correlation was detected between Brunström-Fugl-Meyer scale scores and Co-contraction index. ***Conclusion:*** Bilateral symmetrical arm training is effective in improving motor functions of the upper extremity in stroke patients.

Key words: Stroke, Bilateral Symmetrical Arm Training, Co-contraction, EMG.

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