**EXERCISES AND ULTRASONIC THERAPY FOR DIABETIC HAND IN RELATION TO ULNAR NERVE MOTOR CONDUCTION VELOCITY**

**MOHAMED.l A. Abd Alia\* & Awny Fouad Rahmy\*.**

\*PH.D. Faculty of Physical Therapy 6 Oct. University \*\*PH. D. Faculty of Physical Therapy- Cairo University.

This work was done to evaluate the effect of the graduated active strengthening exercise program and under water ultrasonic therapy on the diabetic hand and its relative effect on ulnar nerve motor conduction velocity.Fourty diabetic patients suffering from weaknees in hand muscles, were selected from out patient clinic in Khaliefa general hospital-Cairo. Their age ranged between 45-60 years and they were divided randomly into two equal groups, group I received under water ultrasonic for 5 minutes applied on palmar surface of the hand followed by a program of graduated active exercises While group II received only the same program of exercise. Evaluation:- I. Motor nerve conduction velocity for ulnar nerve was evaluated by using electromyography (surface electrodes). 2. Muscle test for hand power was done by hand grip dynamometer, the above evaluation procedure were done before and after 12 weeks of treatment every other day (36 sessions).

Results showed that no changes in motor conduction velocity of ulnar nerve in both groups but there was significant improvement at ( P< 0.05) level In muscle power in the group I (ultrasonic and exercises) (35.6%). There was an increase in muscle power in group II, it was 25.9%. It was concluded that, diabetic hand grip power can be improved when treated by ultrasonic and exercise program, due to the effect of ultrasonic in relieving of pain and reduce the muscle spasm, better than exercise only.