

Joint Event on

Hind Mohammed El Mahdy Nasser Alsharief, Orthop Muscular Syst, Volume: 12

**International Conference on** 

# STEM CELL AND ORTHOPEDICS

**International Conference on** 

### **PSYCHOSOMATIC AND LABORATORY MEDICINE**

July 19-20, 2023 | Rome, Italy

## Effect of low level laser with and without shoulder mobilization on shoulder function in patients with shoulder impingement syndrome

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Besides the traditional physical therapy interventions (infrared and strengthening exercises for scapular and shoulder muscles), recently, low-level laser (LLL) and mobilization with movement (MMM) gained more attention in the treatment of shoulder impingement syndrome (SIS).

**Objective:** To examine the effects of adding LLL to MMM in patients with SIS.

**Design:** A prospective double-blinded trial.

**Settings:**Physical therapy outpatient clinic of Heliopolis University.

**Participants:** Forty patients complaining of unilateral shoulder impingement syndrome for a period of not less than three months and not more than twenty-four months were included.

**Methods:** The patients were randomly allocated to group A (n=20, received the active LLL, MMM, and the above-

mentioned traditional physical therapy interventions), and group B (n=20, received the same treatments as group A but the LLL was sham). All treatments were applied 3 times per week, for 6 successive weeks. Shoulder functionality (assessed via Disabilities of the Arm, Shoulder, and Hand Questionnaire), hand grip strength (assessed with A hand-held dynamometer) and shoulder muscles strength (subscapularis, supraspinatus, and teres minor muscles were assessed using manual muscle testing) were assessed in both groups.

**Results:** The within-group analysis of revealed a significant improvement in all parameters relative to the baseline (P < 0.05). Except for shoulder muscle strength, the between-group analysis indicated a trend of a significant improvement in all tested parameters toward group A (P < 0.05). Conclusion: LLL could magnify the gained improvements in shoulder function and hand grip strength when added to MMM and traditional physical therapy interventions in patients with SIS.

#### Biography

Hind Mohammed working as a technical manager of integrative health center in Heliopolis University for sustainable development as a physiotherapist in a co-working with psychologists, art therapists and movement therapists. At the same time she is a lecturer assistant at faculty of physical therapy Heliopolis University, basic science department. After graduating from faculty of physical therapy, Misr University for science and technology in 2007. She worked as an instructor, and then became the head of physical therapy department in Almadinah National Hospital in Saudi Arabia for three years. Then, she started second master in social science regarding the I.C.T in education for sustainable development, Fredrick University, Cyprus. This master enlightens her to work from the perspective of holistic intervention. In addition to her diploma in sports nutrition from gold's academy, U.S.A. Recently, she finished her PhD in the field of medical application of laser in patients with shoulder problems. Throughout my journey, She share with colleague in the medical field the different techniques and approaches in treating patients with musculoskeletal disorders and sport injuries. Her experience in this field is about 15 years. Moreover, her participation in the academic staff exchange between Heliopolis University and EMUNI University in Kooper, Slovenia, added to her experience, especially in the field of biomechanics and motion analysis.

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