

**Laser Acupuncture Versus Inspiratory Muscle Trainer on Immunity in Patients with Chronic Obstructive Pulmonary Disease/Ebtesam Nabil Abdel-Mohsen Nagy.** Supervisors: **Prof. Dr. Zienab Mohamed Helmy.** Vice Dean of Post Graduate Studies and Researches and Professor of Physical Therapy for Cardiovascular/Respiratory Disorder and Geriatrics, Faculty of Physical Therapy, Cairo University. **Prof. Dr. Sherin Hassan Mohamed.** Assistant Professor of Physical Therapy for Cardiovascular/Respiratory Disorder and Geriatrics, Faculty of Physical Therapy, Cairo University. **Prof. Dr. Laila Ahmed Rashed,** Professor of Biochemistry, Biochemistry Department, Faculty of Medicine, Cairo University, Physical Therapy Department for Cardiovascular/Respiratory Disorder and Geriatrics, Faculty of Physical Therapy, Cairo University, 2013, Master thesis

### **Abstract**

**Background:** Chronic obstructive pulmonary disease (COPD) is a major worldwide health burden with increasing morbidity, mortality and health care cost. It characterized by an inappropriate inflammatory response of the lungs. The role of T lymphocytes is important in COPD pathogenesis but few studies have investigated it. **Purpose:** The objective of this study was to investigate and compare the effectiveness of six weeks laser acupuncture and inspiratory muscle trainer on COPD patients' immunity. **Subject and Methods:** According to the inclusion and exclusion criteria, thirty chronic obstructive pulmonary diseased males aged 55-65 years participated in the present study. They had mild to moderate degree of COPD (as assessed by spirometry) with low CD4/CD8 ratio. They were divided randomly into two groups; each group consisted of fifteen patients, group (A) received inspiratory muscle trainer rehabilitation while group (B) received laser acupuncture stimulation. CD4, CD8, CD4/CD8 ratio were screened at the beginning and immediately after six weeks. Results: Revealed significant differences between pre and post tests for CD4 mean values in both groups in favor of group (B) in addition, there was no significant differences for CD8 mean values between both groups either in pre or post tests. Also, there was significant increase in the mean values of CD4/CD8 ratio post treatment in both groups in favor of group (B). **Conclusion:** laser acupuncture and inspiratory muscle trainer were effective in improving COPD patients immunity (CD4,CD8 and CD4/CD8 ratio) with better results obtained in laser acupuncture group.

**Keywords:** Chronic Obstructive pulmonary disease, Laser acupuncture, Inspiratory muscle trainer, immunity