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**RELATIONSHIP BETWEEN CHRONIC MECHANICAL LOW BACK PAIN AND HIP ROTATORS DEFICIENCIES / Mahmoud Diab Abd El Haleem: supervisors: Prof .Dr. Alaa El Deen Abd El Hakeem Balbaa, , Dr Ghada Mohamed Rashade Kora, Faculty of Physical Therapy ,Prof. Dr.Ashraf Abdel Kader El Nahal faculty of Medicine Cairo University. Thesis in M.Sc. Department of Physical Therapy for Musculoskeletal Disorder and its Surgery, Cairo university 2014 .**

### **Abstract**

**BACKGROUND:** Chronic mechanical low back pain (CMLBP) is the most common complaint of the working-age population. In addition to human suffering, it causes a substantial economic burden due to the wide use of medical services and absence from work. The interest in the hip-LBP relationship is based on the proposal that limited hip motion will be compensated by motion in the lumbopelvic region. **OBJECTIVES:** The purpose of this study was to investigate if there is a relationship between mechanical low back pain and hip lateral and medial rotators deficiencies (peak torque and Range of motion (ROM)) in patients with chronic mechanical low back pain CMLBP. **METHODS:** sixty patients had participated in this study. With age ranged from twenty to thirty years, their mean age was  $(23.76 \pm 2.39)$  years, mean weight was  $(71.8 \pm 12.7)$  (Kg), mean height was  $(169.65 \pm 7.49)$  (Cm) and mean BMI was  $(25.5 \pm 3.86)$  (Kg/m<sup>2</sup>). Low back pain was assessed by VAS, Hip internal and external rotation ROM was measured by fluid filled inclinometer and strength of internal and external rotators muscles were measured using concentric peak torque using 60/sec and 180/sec isokinetic speeds. **RESULT:** The results of this study demonstrated that there is insignificant relationship between pain and hip external rotation ROM, also there is insignificant relation between pain and hip internal rotation ROM. There is poor inverse relation between pain and hip internal rotators peak torque and hip external rotators peak torque in both speeds. **CONCLUSION:** It can be concluded that there is no significant relationship between pain and hip internal and external rotation peak torque. Also there is no significant relationship between pain and hip rotation ROM in patients with CMLBP.

**Key Words:** Low Back Pain, hip rotation ROM, hip rotators strength

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## **LIST OF ABBREVIATIONS**

<b>CMLBP</b>	: Chronic Mechanical Low Back Pain
<b>LBP</b>	: Low back pain
<b>ROM</b>	: Range Of Motion
<b>SD</b>	: Standard deviation
<b>BMI</b>	: Body mass index
<b>r</b>	: Spearman correlation
<b>CC</b>	: Correlation coefficient
<b>VAS</b>	: Visual analogue scale