

## Relationship between pelvic inclination angle and navicular drop in chronic low back pain patients

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**Background:** Chronic low back pain CLBP is a big challenge for all health care team. It was found that patients with LBP had greater anterior pelvic tilt than normal subjects. As well as, there was a strong evidence that altered foot position would affect the pelvic position and might be the cause of LBP, therefore it is needed to know the relation between the pelvic inclination angle and navicular drop in chronic low back pain patients.

**Methods:** This cross-sectional study included seventy-Five patients with chronic low back pain (LBP more than 3 months) with their mean age, weight, height and BMI were  $36.32 \pm 10.61$  years,  $76.4 \pm 14.63$  kg,  $164.94 \pm 8.92$  cm and  $28.11 \pm 5.23$  kg/m<sup>2</sup>. No previous surgery at spine or lower limb. Pelvic inclination angle was assessed bilaterally from standing position using digital pelvic inclinometer; normal values were said to be from 9-12 degrees of anterior pelvic tilt. The navicular drop difference was measured while the patient was sitting (unloaded) with his feet on the floor in mid position. The navicular tuberosity was marked and the distance from it to the floor was measured using a ruler, then the same distance was measured from standing position (loaded). Then the difference between the two positions was calculated to determine the navicular drop.

**Results:** The relation between right pelvic inclination and right navicular drop was weak positive non-significant correlations ( $r = 0.14$ ,  $p = 0.2$ ). The relation between left pelvic inclination and left navicular drop was very weak positive non-significant correlations ( $r = 0.03$ ,  $p = 0.76$ ).

**Conclusion:** There was no relation between chronic low back pain and navicular drop. Key Words: Chronic Low Back Pain, Navicular Drop, Pelvic inclination angle.