Weight-Bearing Joint Position Sense in Femaleswith Pelvic Asymmetry

NohaKhaled Shoukry[1]*, AbeerFarag Hanafy[1], Ahmed Atteya Ashour[2], Ahmed Salama Yamani[1], Naglaa Mohamed Elhafez[3], Salam Mohamed Elhafez[1]

[1]Department of Biomechanics, Faculty of Physical Therapy, Cairo University, Giza, Egypt.
[2]Department of Biomechanics, October 6 University, Giza, Egypt.
[3]Department of Basic Science, Faculty of Physical Therapy, Cairo University, Giza, Egypt

Abstract: Malposition within the pelvic area may result in a cause and effect chain that is realized by changes in lower extremity kinematics. Yet, there is lack of knowledge that supports the functional chain effect of different pelvic alignment on the lower extremities. The purpose of the study was to compare the lower limb's weight-bearing joint position sense bilaterally and between groups of different pelvic alignment. Fifty females with different pelvic alignment in the sagittal plane participated in the study. They were assigned into two groups, group (1) with anterior innominate rotation and group (2) control. Data were collected using the digital Goniometer. Mixed design ANOVA revealed a non-significant difference in the mean values of the active reposition error between groups ($p>0.05$). Also, there was a non-significant difference between the two tested sides in the anterior innominate rotation group ($p>0.05$). However, there was a significant decrease in the active reposition error in the right side compared with the left side in the control group ($p<0.05$).Pelvic asymmetry does not affect the weight-bearing joint position sense. However, bilateral lower extremity symmetry should not always be assumed in adult females.
Keywords: Pelvic asymmetry, Weight-bearing joint position sense.

＊＊＊＊＊