INVESTIGATION OF THE RELATIONSHIP BETWEEN PLANTAR PRESSURE DISTRIBUTION AND LUMBAR MULTIFIDUS MUSCLE THICKNESS

C. Karanı, S. Bilgın, Y. Dadaş8, E. Dilber6, B. Büyükturan, O. Büyükturan1,2, A. Evren University, Department of Physiotherapy and Rehabilitation, Kirşehir, Turkey

Background: Lumbar multifidus is a muscle which is responsible for lumbopelvic stability primarily. Foot-ankle posture and function disorders affecting the lumbopelvic region muscles and biomechanics, cause increased stress in the lumbopelvic region and may cause low back pain in many studies (1,2,3). However, it is not known whether the lumbar multifidus muscle is affected by this condition (4,5).

Objectives: Plantar pressure distribution can change due to foot-ankle postural disorders. Our aim is to examine whether the plantar pressure distribution affects the lumbar multifidus muscle thickness.

Methods: 40 healthy young adults aged 18 to 25 years were included in the study. Static and dynamic pedobarographic assessments were performed to determine the plantar pressure distribution, on a 3x1 meter sensed walking platform with the DIASU Digital Analysis System®. Peak pressures (N/cm²) of 9 zones determine the plantar pressure distribution, on a 3x1 meter sensed walking platform (medial of heel, lateral of foot, 5 metatarsal, thumb and 2,3,4 and 5. digits). Results: Significant correlation was found between lumbar multifidus muscle thickness and plantar pressure distribution.

Conclusions: Plantar pressure distribution can change due to foot-ankle postural disorders. Our aim is to examine whether the plantar pressure distribution affects the lumbar multifidus muscle thickness.

REFERENCES:

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