

The Correlation of Physical Activity and Plantar Pressure in Young Adults

Authors : Lovro Štefan

Abstract : Background: The main purpose of the present study was to explore the correlations between physical activity and peak plantar pressure in dynamic mode. Methods: Participants were one hundred forty-six first-year university students (30.8% girls). Plantar pressure generated under each region of the foot (forefoot, midfoot, and heel) was measured by using Zebris dynamometric platform (Isny, Germany). The level of physical activity (PA) was calculated with the International Physical Activity questionnaire (IPAQ - short form). Results: In boys, forefoot peak plantar pressure was correlated with moderate PA (MPA; $r=-0.21$), vigorous PA (VPA; $r=-0.18$), and moderate-to-vigorous PA (MVPA; $r=-0.28$). No significant correlations with other foot regions ($p>0.05$) were observed. In girls, forefoot peak plantar pressure was correlated with MPA ($r=-0.30$), VPA ($r=-0.39$) and MVPA ($r=-0.38$). Also, heel peak pressure was significantly correlated with MPA ($r=-0.33$), while no significant correlations with VPA ($r=0.05$) and MVPA ($r=-0.15$) were observed. Conclusion: This study shows that different intensities of PA were mostly correlated with forefoot peak plantar pressure in both boys and girls. Therefore, strategies that reduce plantar pressure through a more active lifestyle should be implemented within the education system.

Keywords : pedobarography, youth, exercise, associations

Conference Title : ICSSPF 2022 : International Conference on Sport Science and Physical Fitness

Conference Location : London, United Kingdom

Conference Dates : November 18-19, 2022