

عنوان مقاله:

Changes in Gait Pattern During Smartphone and Tablet Use

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خلاصه مقاله:

Objectives: There exists no study concerning gait pattern while engaging in dual-task activities on different sizes of mobile devices. The present study aimed to compare gait patterns during normal walking, walking with smartphone use, and walking with tablet use. Methods: Seventeen healthy female participants with an age range of ۱۹-۲۴ years (Mean±SD age: ۲۰.۲۹±۱.۶۱ years, weight: ۴۹.۸۲±۴.۴۶ kg, height: ۱۵۶.۵۹±۴.۸۷ cm, body mass index: ۲۰.۴۷±۰.۸۴ kg/m<sup>۲</sup>, and leg length: ۸۱.۳۵±۳.۷۹ cm.) participated in the present research. The study subjects were requested to walk for ۱۰ meters under the following conditions: normal walking; walking while typing a text message with a smartphone, and walking while typing a text message with a tablet. The Vicon® Three-Dimensional (3D) motion analysis recorded the motion of reflective markers attached to the study participant's body. Gait parameters (step length, stride length, step time, stride time, step width, velocity, and cadence) were compared between the explored walking conditions. Results: The gait parameter of normal walking, compared with walking during smartphone use as well as tablet use were significantly different in the gait pattern ( $P < 0.05$ ). Using either a smartphone or tablet during walking presented decreased step length for legs, gait velocity, and cadence. However, there was an increase in the right leg's step time and stride time. Moreover, there was no significant difference in gait patterns between walking during smartphone use and walking during tablet use ( $P > 0.05$ ). Discussion: Changes in gait pattern during walking while typing a text message with either a smartphone or tablet may lead to greater attention and concentration required to type the message; such actions resulted in decreased gait speed and step length

کلمات کلیدی:

Gait, Walking, Smartphone, Tablet, Smartphone, Tablet

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