

## عنوان مقاله:

Effect of Visual and Vestibular Manipulation on Plantar Pressure during Gait

## محل انتشار:

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## خلاصه مقاله:

The integration of visual, vestibular, and somatosensory play a vital role in postural control. The purpose of this study was to investigate the effect of visual and vestibular manipulation on plantar pressure during gait. ۱۵ Health women aged ۲۰ to ۳۰ years participated in this study. They walked in a ۱۰-meter path in three different conditions without visual and vestibular manipulation of sense, manipulation of visual sense, and manipulation of vestibular sense. Plantar pressures variables were measured during walking and recorded by the foot pressure device. Data were analyzed by analysis of variance (ANOVA) for repeated measures. Our study showed no significant difference in center of pressure displacement in the internal-external and anterior-posterior direction among condition ( $p > 0.05$ ). The standard deviation of the center of pressure in the anterior-posterior direction was higher in the non-manipulated condition than in the visual manipulation ( $p = 0.001$ ). There was a significant difference between the conditions with manipulation visual and vestibular in medial-lateral cop velocity. The result of cop Area showed no significant difference among condition ( $P > 0.05$ ). It seems that decreases in center of pressure velocities in subjects with a lack of visual information due to the time-consuming processing of information of the Proprioception and vestibular system, and decrease in walking speed. In the absence of information of visual system, the nervous system uses information from the vestibular system to postural control and maintain balance. Although in this study, the visual system has a more dominant role than the vestibular system in posture control. It is recommended that in the design of exercise, to enhance balance function, improvement the function of Visual-vestibular reflex should be included in the exercise program of the people.

## کلمات کلیدی:

Visual, Vestibular, COP, Velocity of Cop

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