

Original Paper

Effect of low shoe heel height on the trunk muscular activity among young healthy females

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Abstract

Background and Objective: The reduction of shoe heel height can increase abdominal muscles activity. This study was conducted to evaluate the effect of low shoe heel height on the trunk muscle activity in young healthy females.

Materials and Methods: In this quasi- experimental (Pre-post) study, 48 healthy females were evaluated at University of social welfare and rehabilitation at 2009-2010. Females were selected in a non probability sampling manner and divided randomly into two groups. Subjects in the first group (12 females) were used low heel height shoes(less than 3.4 cm) for six months. The second group (12 female) was used standard heel shoes height (3.5-5 cm) for six months. After the end of the first step of study, females in first group were used standard heel shoes height (3.5-5 cm) for six months. The Kinsilogic Electromyography instrument was used to test the Electromyography magnitude of rectus abdominal and external oblique activity. Data was analyzed with Paired and independent T student and Kolmogorov-Smirnov tests.

Results: Muscle activity in first and second groups at external oblique was $9.72 \pm 3.15 \mu v$ and $7.87 \pm 2.47 \mu v$ and at rectus abdominal was $11.60 \pm 3.58 \mu v$ and $9.81 \pm 3.46 \mu v$ respectively. Muscle activity before and after using standard shoe heel height was significant ($p < 0.05$).

Conclusion: It seems that using lower heel shoes height increase the trunk muscle activity.

Keywords: Muscle activity, External oblique, Rectus Abdominal, Electromyography, Heel shoe

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