

عنوان مقاله:

A comparison of Hamstring/Quadriceps Muscular Strength Ratio in Elite karate Athletes Before and After Muscular Fatigue

محل انتشار:

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خلاصه مقاله:

Background & Objective: Imbalances between the agonist-antagonist muscles of the knee have been linked to a greater susceptibility to injury in the knee joint. The aim of the present study was to assess the Hamstring/Quadriceps muscular strength(H/Q) ratio of elite karate athletes before and after muscular fatigue. Material &Methods: Thirteen female elite karate athletes (age: 15.5 ± 1.5 years) were evaluated in an isokinetic dynamometer at $60^\circ/s$, $180^\circ/s$ and $300^\circ/s$ before and after hamstring and quadriceps muscular fatigue. Paired sample T test and one way repeated measure were used for statistical analysis. α level was set at 0.05. Results: After muscular fatigue, significant decrease were found in Hamstring/Quadriceps muscular strength ratio in the knee flexors and extensors strength ($P > 0.05$) at the $60^\circ/s$, $180^\circ/s$ and $300^\circ/s$ speeds ($P < 0.05$). No significant difference was found in the knee (H/Q) ratio between three different speeds ($F=1.23$; $P=0.30$). conclusion: Our results showed that lower limb muscle imbalances in elite female karate athletes that could predispose young karate athletes to injuries exist at the speed of $300^\circ/s$ speed and in three different speeds after fatigue protocol, but there are not any differences after fatigue between three speeds. . So we can say that fatigue can probably increase the potential of knee joint injury and particularly ACL structure

کلمات کلیدی:

Injury, Imbalances, flexors and extensors strength, karate athletes

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