Abstract

Title:

Dynamic forces and speed of the front kick and roundhouse kick in combat activities: Systemic review.

Objective:

The main goal of this study was to compare dynamic forces and velocity of the front kick and roundhouse kick in combat activities.

Methods:

This bachelor thesis was processed as a systematic review of literature and studies dealing with dynamic forces and kinematics of front kick and roundhouse kick. The methodological procedure of processing was chosen on the basis of the international recommendation PRISMA. For the initial selection of potential studies, a script was compiled and used to reduce them from search databases (Web of Science, SportDiscus, Proquest, PubMed). Selected studies had to meet predetermined methodological criteria, including experimental description, in order to classify and then compare the results of dynamic forces and kinematics of front kick and roundhouse kick.

Results:

Higher maximum forces, impact forces, angular velocities of the hip and knee in extension and hip in flexion were measured in a front kick, as well as a shorter impact time. The maximum velocity of the foot and knee were significantly higher for the roundhouse kick, which is related to the execution time, which is shorter for the roundhouse kick (to the target and without a physical target as well).

Keywords:

dynamics, kinematics, biomechanics, front kick, roundhouse kick