

Abstract

Title:

Effect of strength training on middle distance running useful for professional soldiers in preparation for the 12-minute run

Objective:

The purpose of this thesis is to use the selected literature to create a review of strength training exercises that can assist soldiers or athletes in preparation for an endurance test, specifically the 12-minute run.

Methods:

A narrative literature search was chosen for the development of this bachelor thesis. Based on the topic of the thesis and synonyms related to it, the aim of the thesis, the research question was determined and keywords were chosen to facilitate the selection of studies. Subsequently, the criteria for inclusion or exclusion of each study was determined. Then, the selection of appropriate studies in the Web of Science, PubMed, Google Scholar and Scopus databases was performed. A table was then created in Microsoft Excel to record the results from each study.

Results:

A narrative review analysed 20 studies and found that strength training targeting the lower limb muscles in combination with plyometrics has a positive effect on performance in middle distance running. The main benefits of this training include improvements in running economy, maximal and explosive power, neuromuscular characteristics, energy cost of running, reactive power and jump performance. In addition, this training minimizes stride length loss and contributes to overall improvement in running technique. Plyometrics was the most commonly included method of strength training and was included in 14 studies. The most commonly used plyometric exercises were hurdle jumps (5 studies), countermovement jumps (4 studies) and drop jumps (3 studies). In addition, squats (12 studies) and calf raises (7 studies) were frequent in the studies.

Keywords:

running, middle distance, 12-minute run, strength training