



The effect of 8 weeks of plyometric exercises in aquatic and land on the anaerobic ability of lower and upper limbs and the swimming record of adolescent boy's swimmers

Poster Presentation

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Abstract

Introduction: Plyometric exercises are used by athletes to increase strength, muscle power, and speed and are often used during rehabilitation programs both on land and in water. Plyometric programs in water are becoming increasingly popular because they are a less stressful alternative to plyometric training programs on land. However, the aim of the present study was to investigate the effect of 8 weeks of plyometric exercises in water and land on the anaerobic capacity of the lower and upper limbs and the swimming record of adolescent swimmers.

Methods: The design of the present study is quasi-experimental with pre-test and post-test. The present study population consisted of adolescent swimmers who were selected from 30 volunteers as a research sample. After examining their physical health and entry conditions, the eligible individuals were randomly divided into plyometric in aquatic (n = 15) and plyometric on land (n = 15). Each group underwent its own training conditions for 8 weeks. Pre- and post-test processes, including upper body anaerobic power, were measured using an ergometer, lower body anaerobic power was measured using a Wingate test, and speed performance included a 33-meter swimming record. A correlated t-test was used to examine the mean difference within the group, and an independent t-test was used to examine the difference between the groups.

Results: The results of data analysis showed that the record of swimming 33 meters speed in both groups of plyometric training in water and land had a significant improvement. The results also showed an increase in the upper torso and lower torso anaerobic power after eight weeks in both plyometric training groups in water and on land, while there was no significant difference between the two groups.

Conclusion: According to the obtained results, it can be said that a period of plyometric exercises in water and land caused a significant increase in anaerobic capacity of the upper and lower torso as well as speed performance in adolescent swimmers.

Keywords

Plyometric training; stretch shortening cycle; Anaerobic Power and Swim

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