

The Effect of Three Plyometric, Strength and Combined Exercise Programs on Physical and Physiological Function of Kickboxing Adolescents

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The purpose of this study was to compare three plyometrics, strength and combined training programs on physical and physiological performance in kickboxing adolescents in a quasi-experimental design with pre-test and post-test. Sixty boys aged 13-17 years were voluntarily ed and randomly divided into four groups of plyometric training, strength training, combined exercise, and control (15 in each group). All participants completed the informed consent and conducted field assessment two days before and after the six-week training program, in the pre and post-test sessions, respectively. The variables of BMI, flexibility, agility, speed, anaerobic and aerobic power were evaluated. Each of the three groups completed their six-week program, two session per week. Analysis of variance and Scheffe post hoc tests were used to analyze the data, as well as the t-test for reporting intra-group variables. The results showed that muscle strength and BMI were significantly changed in all three groups, but the time of speed and agility significantly reduced only in the two plyometric and combined groups, which was greater in the combined group. Also, aerobic and anaerobic power were significantly improved in all three groups, which was more in the plyometric group than the other groups. Overall, given the improvement in physical and physiological performance three training protocols, these exercises can be used as part of kickboxing athletes' training programs.

Keywords : Plyometric training, Resistance training, Agility, Anaerobic power, Flexibility, Kick-boxing

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