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Effects of Isometric Training on Explosive Strength in Adult Male Ground Activity Peoples

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Abstract:

The objective of this study was to evaluate the effects of Isometric training program. On explosive strength development of Adult ground activity peoples. Twenty adults male people, aged between 19 to 35 years old, were assessed using Squat Jump, Countermovement Jump and Depth Jump before and after 8-week training program, the experimental group (EG; n=10) performed five session per week isometric training program and Control group (CG; n=10) kept up their regular physical practice; The experimental group significantly improved in the squat jump, countermovement and depth jump value (p=0.05) the control group significant decreased. Our results supports the use of isometric training to improve the upper and lower body explosive strength in adult ground activity people. In conclusion this study showed that more strength conditioning is needed during the daily routine fitness.

Keywords: Isometric Training, Squat Jump, Countermovement, Depth Jump and Ground Activity Peoples.

Introduction:

In the ground activity of physical training those people regularly doing own body weight exercise without using any equipment there in part of muscular power training those related to explosive strength has been as essential to obtain for fitness. Moreover, isometric training is part of workout session with related benefit that improves fitness, reduce the injury rate, & provide higher motivation levels for the daily activity peoples.

Method, isometric training are usually refer to in the literature as improving the strength characteristics in the ground activity people. Several investigation have demonstrated the positive effects that results from the application of those method reporting higher increases in the explosive strength.
Isometric training belongs to own body weight training in that training insufficient equipment use in this session to workouts through that training to focused to improve the explosive strength of ground activity people. Objective of this study were to understand how ground activity people respond to a isometric training routine and determine the changes induced by this kind of training on explosive strength indicators.

Method

The study was designed to assess the effects of isometric training program on the explosive strength development of adult male ground activity people, aged 19-35 years old. Two groups experimental group (EG) and control group (CG) were selected for this study. The experimental group implements isometric training four day in week, the control group performed daily regular activity. All the subjects were tested on the squat jump (SJ), countermovement jump (CMJ) & depth jump before and after the 8-week isometric training program. Independent sample t-test for all the assessed variables and outcome variables were compared between groups.

Subjects

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Twenty adult male ground activity people selected as sample for the study. The subjects were randomly assigned to the experimental group EG (n = 10: age, 22.5 ± 0.6 years old; body weight, 61.1 ± 11.4 kg; height, 170.1 ± 6.3 cm) and the Control group CG (n = 10: age, 22.8 ± 0.6 years old; body weight, 62.5 ± 12.2 kg; height, 171.1 ± 7.3 cm) all the subjects regularly doing ground activity experience subjects were selected from Malegaon Taluka.

Testing procedure

Subjects were assessed before and after a 8-week training program for upper and lower body explosive strength, This procedure allowed for the assessment of the following variables: Squat and Jump (cm), Countermovement Jump (cm) & Depth Jump There was familiarization with accurate testing procedures. Tests followed a general warm-up that consisted of running, jogging, and stretching. Which was assessed after two trials with a 60-second rest between trials, all the other tests were performed with 3 trials and all the correspondent mean values were considered for statistical analysis.

Training Scheduled

The 8-week isometric training program ten repetition maximum was determined for each subjects in all the selected exercises one week before the beginning of the isometric training program. This procedure is similar to those described in literature. Additionally, the experimental group was instructed on the correct exercise techniques. The isometric training program is described workouts occurred four days weekly. A standardized warm-up routine consisting of running, jogging, and stretching was used. During the study, the Control group was not involved in isometric training program.
Statistical Analysis

Statistical analysis followed the most important descriptive statistics, such as mean and standard deviation. An independent-measures t-test was used to determine differences between groups pre and post-test. A significance level of 0.05 was used.

Results of the study

The results between the pre and post-test for explosive strength scores in both groups and the results between groups at baseline and after the training program are presented in Table no-1 The Squat jump, Countermovement jump and Depth jump, the experimental group showed significant increases in all the variable scores compare to the control group.
The groups were similar on pre-test, but significant differences were observed post-training in all the variables. A effect of the studied indicators for experimental group during the 8-week training program.

Table no-1
Comparison of explosive strength test results mean and SD between the two groups in pre-post test experimental & control group

Test	Group	Pre-test	Post-test	p-value
SJ (cm)	EG	24.79 ± 4.2	28.01 ± 4.6	0.00
	CG	22.70 ± 4.3	20.74 ± 3.9	0.09
CMJ (cm)	EG	29.88 ± 5.9	33.02 ± 6.2	0.00
	CG	30.76 ± 5.1	28.40 ± 4.0	0.06
DJ (cm)	EG	34.71 ± 7.4	36.64 ± 8.1	0.01
	CG	31.11 ± 4.8	30.75 ± 4.1	0.06

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Discussion

The main finding of this study were the significant increasing in the height of the different jumps Squat jump, Countermovement jump and Depth jump which proved the isometric training program efficiency. On the other hand, the control group decreased in all the assessed variables for pre and post testing. The finding showed the quality of the training program.

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