



Effect of Eccentric Hamstring Training on Selected Physical Fitness Variable in Muscular Strength Endurance of Volleyball Players

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ABSTRACT

Eccentric hamstring training is a type of strength endurance subsection under the broad umbrella of maximum muscular strength. Specifically, it's a Eccentric contraction occurs when the muscle lengthens under tension like your biceps muscle during the lowering phase of a biceps curl. The present study is examined to the effect of Eccentric hamstring training on physical fitness variable in muscular strength endurance of volleyball players. The research scholar reviewed the available literature pertaining to the Eccentric hamstring training, from books, journals, periodicals, magazines and research papers. There were studies proved that the Eccentric hamstring training had positive effects on certain game performance related component in muscular strength endurance of school level volleyball players. The age group 15 – 18 and selected Coimbatore region, Tamilnadu, India school level volleyball players. Statistically significant improvements in standard scores in muscular strength endurance was comparable between the three groups of volleyball players. Muscular strength endurance improved by 9.25 in Eccentric hamstring group, 9.50 in the control group. The research on short - duration intervention in establishment players may help to organize the role of Eccentric hamstring in conventional volleyball players to maintain proper alignment and posture during movement for training.

KEY WORDS: Physical fitness, muscular strength endurance, Eccentric hamstring training

INTRODUCTION

There is countless workout styles have probably heard about over the years, and all of them are meant to help to reach the fitness goals. It increase strength, loses weight, improve flexibility or build muscle. Whatever the goals are, most exercise programs can help to reach them, as long as the stick to the plan.

A new program to add to routine, to give Eccentric hamstring a try. Eccentric hamstring training is a muscular strength developed training workout, featuring exercises that last four minutes. Each exercise in a given Eccentric hamstring workout lasts only four minutes, but it's likely to be one of the longest four minutes ever endured. The structure of the program is as follows: Eccentric contraction occurs when the muscle lengthens under tension like your biceps muscle during the lowering phase of a biceps curl. Once complete eight sets of push-ups, rest for one minute.

Eccentric hamstring training is a type of muscular strength endurance. The resistance exercise be made up of an eccentric contraction is a motion where the muscle is activated while lengthening under a given load. In the case of the hamstring, the eccentric contraction occurs when there is more time and tension during extension (or straightening) of the affected leg.

METHODOLOGY

The Methodology for the present investigation is on the effect of Eccentric hamstring training on performance related component in muscular strength endurance of volleyball players. The purpose of study 30 male volleyball students selected from various schools in Coimbatore district, TamilNadu. Their age ranges between 15 to 18 years .the subjects were randomly assigned into two groups, namely experimental group I (Eccentric hamstring training) and control group. In order to make sure the full cooperation from the subjects, the scholar had a meeting with them and explained the purpose of the research. It was made clear by explanation in order to ascertain that there was no uncertainty among the players regarding the effort, which they had to put in for the successful completion of this study. Experimental group I participated for a period of eight weeks Eccentric hamstring training and control group have no any specific training. The subjects were tested on selected criterion variable of muscular strength endurance before the training and after 8 weeks of training.

TRAINING PROCEDURE

Experimental Group-I undertake Eccentric hamstring training and the control group was un explored to any specific training programme. The experimental treatments namely Eccentric hamstring training was administrated for duration of eight weeks and the number of session per week was confined to three alternative days and each session lasted 60 minutes.

STATISTICAL TECHNIQUE

The collected data from the two groups prior to and after the experimental treatments on selected variables was muscular strength endurance were statistically analyzed by using the statistical technique of analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post-test means was found to be significant, scheffe's post hoc test test was followed as a post hoc test to determine which of the paired means difference was significant. In all the cases 0.05 level of confidence was fixed as a level of confidence to test the hypotheses.

RESULTS AND ANALYSIS

The influence of independent variables on each of the criterion variables is analyzed and presented below.

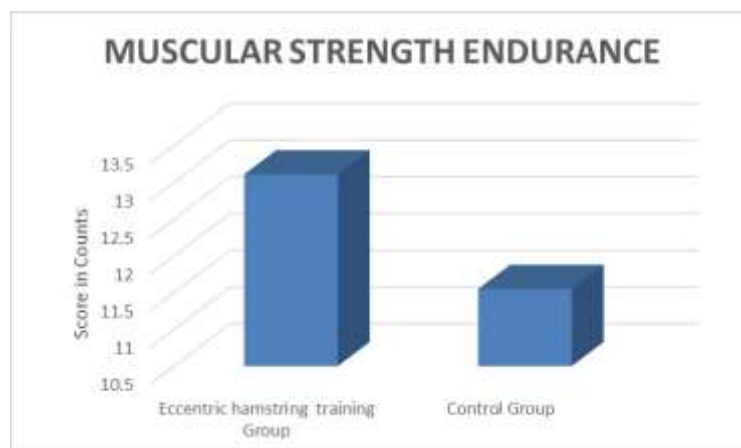
The training period was limited to eight weeks. The dependent variables selected for this study was health related variable of muscular strength endurance. All the subjects were tested prior to and immediately after the experimental period on the selected dependent variables.

The data obtained from the experimental groups before and after the experimental period were statistically organized with dependent 't'-test and Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post-test means was found to be outstanding performance study. The Scheffe's Post hoc test was organised to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases.

TABLE – 1 ANALYSIS OF COVARIANCE AMONG ECCENTRIC HAMSTRING TRAINING GROUP I AND CONTROL GROUP ON MUSCULAR STRENGTH ENDURANCE

	Eccentric hamstring training Group	Control Group	Source of Variance	Sum of square	df	Mean square	F-value
Pre test Mean	11.53	11.20	Between	0.833	1	0.833	0.21
			Within	108.13	28	3.862	
Post test Mean	13.26	11.4	Between	26.133	1	26.133	6.62*
			Within	110.533	28	3.948	
Adjusted post mean	13.11	11.55	Between	17.171	1	18.171	23.92*
			Within	20.505	27	0.759	

FIGURE – 1 THE ADJUSTED POST TEST MEAN VALUES OF ECCENTRIC HAMSTRING TRAINING GROUP I AND CONTROL GROUP ON MUSCULAR STRENGTH ENDURANCE



CONCLUSION

The findings of the study showed that there was a statistically significant improvement in the health related variable of muscular strength endurance as compared to control group.

1. The results of the study shows that the experimental group-I that had undergone Eccentric hamstring training group, improved health related variable in muscular strength endurance of volleyball players.

RECOMMENDATIONS

It is recommended that coaches and physical educators in the game of volleyball should give due to include Eccentric hamstring training in their training schedules.

In the physical exercise, while designing the training programme the effect of varied training modalities is explained on positively on physical fitness parameters and skill performance variables of volleyball players, the physical education teachers and coaches can prefer this type of training so as to achieve aim in time.

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