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Strength Training Parallel with Plyometric and Cross training Influences on Speed Endurance

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Abstract

The purpose of the study was to find out the influence of weight training parallel with plyometric and cross training on speed endurance. To achieve this purpose of the study, forty-five men students studying CSSR & SRRM Degree College, Kamalapuram, YSR (D), Andhra Pradesh, India were randomly selected as subjects during the year 2015-2016. They were divided into three equal groups of fifteen subjects each. Group I underwent weight training parallel with plyometric training for three sessions per week for twelve weeks. Group II underwent weight training parallel with cross training for three sessions per week for twelve weeks. And group III acted as control group who did not participated in any of the special training programme. Speed endurance was only selected as dependent variable. Weight training parallel with plyometric training and weight training parallel with cross training were selected as independent variables. Speed endurance was measured by using 150 mts run. The data were collected at prior and immediately after the training programme on elastic power. The collected data were analysed statistically by using analysis of covariance. The scheffe's post hoc test was used to find out paired mean differences, if any. The results of the study revealed that weight training with plyometric training and weight training with cross training groups significantly improved speed endurance when compared with control group. Among the training weight parallel with plyometric training is better to develop speed endurance than weight parallel with cross training.

Keywords: Strength Training, Plyometric, Cross Training, Speed Endurance.

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Introduction

Sport has very prominent role in modern society. It is important to an individual, a group, a nation indeed the world. To a large extent general education was physical education in early societies, for the environment made great demands on the physical conditions of man. Youth how lacked in physical courage, stamina, and skill were a danger to the community. The increase the chances of group survival, the tribe encouraged youths to develop the strength, endurance, agility and skills needed to withstand the rigors of outdoor life, to obtained the defensive actions. In addition to acquiring the physical browses necessary to perform the work required for survival, youths were expected to master the communication media of bodily movement through which they could articulate their wants and fears to the invisible forces that controlled their lines.

Methodology

The purpose of the study was to find out the influence of weight training parallel with plyometric and cross training on speed endurance. To achieve this

purpose of the study, forty-five men students studying CSSR & SRRM Degree College, Kamalapuram, YSR (D), Andhra Pradesh, India were randomly selected as subjects during the year 2015-2016. They were divided into three equal groups of fifteen subjects each. Group I underwent weight training parallel with plyometric training for three sessions per week for twelve weeks. Group II underwent weight training parallel with cross training for three sessions per week for twelve weeks. And group III acted as control group who did not participated in any of the special training programme. Speed endurance was only selected as dependent variable. Weight training parallel with plyometric training and weight training parallel with cross training were selected as independent variables. Speed endurance was measured by using 150 mts run. The data were collected at prior and immediately after the training programme on elastic power. The collected data were analysed statistically by using analysis of covariance. The scheffe's post hoc test was used to find out paired mean differences, if any.

Analysis of the Data

The analysis of covariance on speed endurance of pre and post tests for weight training parallel with plyometric training group, weight training parallel with cross training group and control group was analysed and

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presented in Table 1.

Table 1

Analysis of covariance on speed endurance of pre and post tests for weight training parallel with plyometric training group, weight training parallel with cross training group and control group

Test	Weight parallel with plyometric training group	Weight parallel with Cross training group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	18.44	18.46	18.51	Between	0.018	2	0.0009	1.80
S.D.	0.01	0.01	0.02	Within	0.21	42	0.005	
Post Test								
Mean	17.85	18.03	18.47	Between	0.013	2	0.0065	32.50*
S.D.	0.01	0.02	0.02	Within	0.007	42	0.0002	
Adjusted Post Test								
Mean	17.92	18.11	18.49	Between	4.51	2	2.25	17.31*
				Within	5.49	41	0.13	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for df 2 and 42 and 2 and 41 are 3.22 and 3.23 respectively).

The table 1 shows that the adjusted post test means on speed endurance of weight and plyometric training group, weight and cross training group and control group were 17.92, 18.11 and 18.49 respectively. The obtained 'F' ratio for adjusted post test of 17.31 which was more than the table value of 3.23 with df 2 and 41 required for significance at .05 level. The results of the study indicated that there was a significant

difference on speed endurance among the adjusted post test means of weight training parallel with plyometric training group, weight training parallel with cross training group and control group. Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table 2.

Table 2

The scheffe's test for the differences between paired means on speed endurance

Weight training parallel with plyometric training group	Weight training parallel with and Cross training group	Control Group	Mean Differences	Confidence Interval Value
17.92	18.11		0.19	0.21
17.92	-	18.49	0.57*	0.21
-	18.11	18.49	0.38*	0.21

* Significant at .05 level of confidence.

The table 2 shows that the mean difference values between weight training parallel with plyometric training group and control group and weight parallel with cross training group and control group 0.57 and 0.38 respectively on speed endurance which are greater than the required confidence interval value 0.21 for significance. And also the table shows that the mean difference between weight training parallel with plyometric training group and weight training parallel with cross training group 0.19 which is less than the required confidence interval value 0.21. The results of this study showed that there was a significant difference exists between weight training parallel with plyometric training group and control group and weight training parallel with cross training group and control group on speed endurance. The results of the study also showed

that there was no significant difference between weight training parallel with plyometric training group and weight parallel with cross training group on speed endurance.

Conclusions

1. There was a significant difference exist among weight training parallel with plyometric training group, weight training parallel with cross training group and control group on speed endurance.
2. No significant difference exists between weight training parallel with plyometric training group and weight training parallel with cross training group on speed endurance. However, the improvement of speed endurance was in favour of weight training parallel with plyometric power.

3. There was a significant improvement on speed endurance due to weight training parallel with plyometric training and weight parallel with cross training.

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