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EFFECTS OF OWN BODY EXERCISES AND PLYOMETRIC TRAINING ON COORDINATION OF BADMINTON PLAYERS

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ABSTRACT

The purpose of the study is to find out the effects of own body exercises and plyometric training on coordination of badminton players. The study was formulated as a true random group design consisting of a pre-test and post test. The subjects (N=60) were randomly assigned to three equal groups of twenty. The selected subjects were divided into three groups randomly. Experimental Group I was considered as own body weight exercises group, experimental group II was considered as plyometric exercises group and control group was not involved in any special treatment. Pre test was conducted for experimental Groups I and II and the control group on coordination. Experimental groups underwent the respective training for 12 weeks. Immediately after the completion of 12 weeks training, all the subjects were measured of their post test scores on the selected criterion variables. The difference between the initial and final scores was considered the effect of respective treatments. To find out statistical significance of the results obtained, the data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the significance of the study.

Key Words: Own Body Exercises, Plyometric Training and Coordination

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INTRODUCTION

The concept of sports has been changed now a day. Due to the innovations brought by different sports sciences in the field of sports, now there are a number of scientific methods to improve each and every quality, which determines the performance in each games and sports. The same time development is according to the rate of demand of each games and sports. This is the main reason why the performance standards are going higher day by day .

Sports is an institutionalized competitive activity that involves physical exertion or the use of relative complex physical skills by individuals whose participation is motivated by a combination of the intrinsic satisfaction associated with the activity itself and the external rewards earned through participation. (Anaheim, 1987)

METHODOLOGY

SELECTION OF SUBJECTS

The purpose of the study is to find out the effects of own body exercises and plyometric training on coordination of Badminton players.

. For these purpose intercollegiate level Badminton players who participated at inter-collegiate level competitions in Yogi Vemana University, Andhra Pradesh were selected. 60 i players in the age group of 19 to 22 were randomly selected as

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subjects for this study. The subjects were randomly selected into three groups, namely, experimental group I, experimental group II and control group consisting of 20 in each.

EXPERIMENTAL DESIGN

The study was formulated as a true random group design consisting of a pre-test and post test. The subjects (N=60) were randomly assigned to three equal groups of twenty. The selected subjects were divided into three groups randomly. Experimental Group I was considered as own body weight exercises group, experimental group II was considered as plyometric exercises group and control group was not involved in any special treatment. Pre test was conducted for experimental Groups I and II and the control group on coordination. Experimental groups underwent the respective training for 12 weeks. Immediately after the completion of 12 weeks training, all the subjects were measured of their post test scores on the selected criterion variables. The difference between the initial and final scores was considered the effect of respective treatments. To find out statistical significance of the results obtained, the data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the significance of the study.

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RESULTS ON COORDINATION

The statistical analysis comparing the initial and final means of Coordination due to Own body exercises and Plyometric training among Badminton players is presented in Table I

Table I

COMPUTATION OF ANALYSIS OF COVARIANCE OF COORDINATION

	OWN BODY EXERCISES	PLYOMETRIC TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	22.00	22.94	22.71	Between	9.57	2	4.79	2.62
				Within	104.04	87	1.83	
Post Test Mean	20.69	21.46	22.76	Between	43.75	2	21.88	11.75*
				Within	106.16	87	1.86	
Adjusted Post Test Mean	21.18	21.10	22.61	Between	28.69	2	14.35	40.34*
				Within	19.91	86	0.36	
Mean Diff	1.32	1.48	0.05					

Table F-ratio at 0.05 level of confidence for 2 and 87 (df) =3.10, 2 and 86 (df) =3.10.

*Significant

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As shown in Table I, the obtained pre test means on Coordination on Own body exercises group was 22.00, Plyometric training group was 22.94 was and control group was 22.71. The obtained pre test F value was 2.62 and the required table F value was 3.10, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Coordination on Own body exercises group was 20.69, Plyometric training group was 21.46 was and control group was 22.76. The obtained post test F value was 11.75 and the required table F value was 3.10, which proved that there was significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 40.34 was greater than the required value of 3.10 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table II.

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Table II

Scheffe's Confidence Interval Test Scores on Coordination

MEANS				Required . C I
Own body exercises Group	Plyometric training Group	Control Group	Mean Difference	
21.18	21.10		0.08*	0.47
21.18		22.61	1.43*	0.47
	21.10	22.61	1.51*	0.47

***** Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Own body exercises group and control group (MD: -1.43). There was significant difference between Plyometric training group and control group (MD: -1.51). There was no significant difference between treatment groups, namely, Own body exercises group and Plyometric training group. (MD: 0.08).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I.

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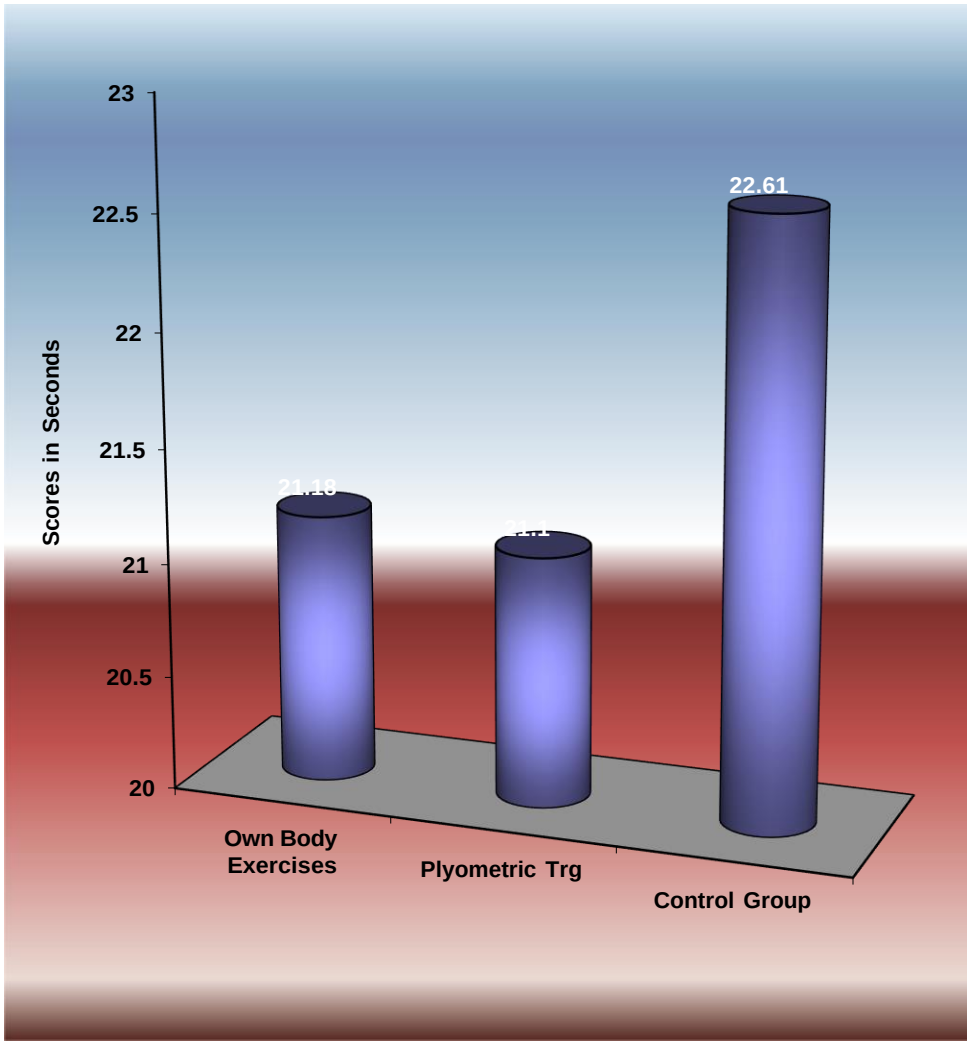
Figure I

BAR DIAGRAM ON ORDERED ADJUSTED MEANS ON COORDINATION



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DISCUSSIONS ON FINDINGS ON COORDINATION

The effect of Own body exercises and Plyometric training on Coordination is presented in Table I. The analysis of covariance proved that there was significant difference between the experimental group and control group as the obtained F value 40.34 was greater than the required table F value to be significant at 0.05 level.

Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table II proved that there was significant difference between Own body exercises group and control group (MD: 1.43) and Plyometric training group and control group (MD: 1.51). Comparing between the treatment groups, it was found that there was no significant difference between Own body exercises and Plyometric training group among badminton players.

Thus, it was found that Own body exercises and plyometric training were significantly better than control group in reducing time and thereby improve Coordination of the Badminton players.

CONCLUSIONS

1. It was concluded that 12 weeks own body weight exercises and plyometric training significantly improved coordination among

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Badminton players compared to control group. Comparisons between the treatment groups proved that there was no significant difference on coordination.

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