THE EFFECT OF PLYOMETRIC TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES OF COLLEGE MEN KABADDI PLAYERS

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ABSTRACT

This study was conducted to invention the effect of plyometric training on particular physical fitness variables of college men Kabaddi players. **Thirty** college men Kabaddi players from Sangli district were selected. The subjects were aged between 18 to 20 years. The subjects chosen for the study were divided into two equal groups called **control** and **experimental** group consisting of thirty students, each group consists of fifteen Players. Plyometric training was given to the experimental group. The control group was not allowed to participate in any of the special training programme except their routine practices. Information for the selected variables was taken at the pre-test and at the end of the experimental period post-test. **Speed, Strength and Explosive power** were selected as variables and measured with the valid test namely **50 meters run, Modified Push-ups and Vertical jump** to measure changes due to the influence of plyometric training. Analysis of SPSS was used for interpreting the results. On the basis of the results the effects of Plyometric training have significantly contributed to improve the selected physical fitness variables specifically Speed, Strength and Explosive power.

Key Words: Plyometric Training, Speed, Strength, Explosive power, Modified Push-Ups.

INTRODUCTION

Plyometric training is one of the most requested forms of training by many athletes as well by college men Kabaddi players. Plyometric originated as a training method in the secretive eastern countries where it was raised to as "Jump Training" or "Shock training" In the 1920s. The sport of track and field to employ a systematic method of using plyometric training method. This method of power development was being used by other sports that required explosive power for successful competition. Plyometric training is particular work for the improvement of explosive power. It improves the relationship between maximum strength and explosive the elastic energy and the development of power. A good example of this is watching any college men Kabaddi player jump. They jump higher when they can take a few steps before the jump. The reason for this is that the few steps create momentum. This energy is used to create a bigger and faster "load" on the leg plant subsequent to jumping. Speed and strength are essential components of fitness found in changing degrees in nearly all men Kabaddi players' movements. Simply put the combination of speed and strength is power. For many years, coaches and athletes have sought to improve power in order to develop performance. Throughout this century and no doubt long before, jumping, bounding and hopping exercises have been used in various ways to improve athletic performance. In recent years, this different method of training for power or explosiveness has been designated plyometric.

METHODOLOGY:

The purpose of the study was to find out the effect of plyometric training on selected physical fitness variables of college men Kabaddi players. For this purpose thirty college men Kabaddi players from Sangli District were selected with their interest. The subjects were aged between Eighteen to Twenty years. The subjects chosen for the study were divided into two equal groups called control and experimental group

consisting of thirty students, each group consists of fifteen students. Plyometric training was given to the experimental group. The control group was not allowed to participate in any of the special training programme except their routine practices. Data for the selected variables were taken at the beginning (pre-test) and at the end of the experimental period (post-test).

Statistical Analysis

The data collected from two groups were statistically studied for significant differences. Analysis of covariance was used for interpreting the results. The level of confidence was fixed at 0.01 level of confidence.

RESULTS AND DISCUSSION Table – I:

Analysis of Covariance for the Data on Speed for Control Group and Experimental Group.

Mean	Control Group	Exp. Group	Sum of Squares	df	Ms	F ratio
PRE TEST	7.16 ± 0.29	7.56 ±0.29	0.221	1	0.241	1.14
			6.201	28	0.201	
POST TEST	7.58 ± 0.31	7.52 ± 0.40	1.29	1	1.30	4.11
			8.345	28	0.281	
ADJUSTED test	7.56	7.50	0.302	1	0.282	13.33
			0.685	27	0.021	

*significant at 0.05 level.

Table-I shows that the pre-test means in speed of control group was 7. 16 ± 0.29 and experimental group was 7.56 ± 0.29, resulted in an 'F' ratio of 1.14 which indicates statistically no significant difference between the pre-test means at 0.05 level of confidence. Table-I shows that the post-test means in speed of control group was 7.58 ± 0.31 and experimental group was 7.52 ± 0.40 resulted in an 'F' ratio of 4.11 which indicates statistically significant difference between the post-test means at 0.05 level of confidence. The adjusted post- test means of control group was 7.56 and experimental group was 7.50 resulted in an 'F' ratio of 13.33 which indicates statistically significant difference between the adjusted post-test means at 0.05 level of confidence. The results of the above statistical analysis reveal that there was a significant difference in speed between the two groups after the training period Details of the pre, post and adjusted posttest mean value of speed for control and experimental group have been presented in Fig – 1.

Fig - 1 : Pre, Post and Adjusted Post Test Mean Value of Speed for Control and Experimental Group

Table – II: Analysis of Covariance on Strength for Control Group and Experimental Group

Mean	Control Group	Exp. Group	Sum of Squares	df	Ms	F ratio
PRE TEST	31.99 ± 2.96	31.98 ± 3.45	49.73	1	50.23	1.1
			1009.03	28	37.02	
POST TEST	32.55 ± 2.98	37.99 ± 3.05	84.17	1	83.35	4.04
			500.09	28	17.09	
ADJUSTED test	31.72	36.92	5.13	1	4.98	25.83
			4.77	27	0.19	

*significant at 0.05 level.

Table-II shows that the pre-test means in strength of control group was 31.99 ± 2.96 and experimental group was 31.98 ± 3.45, resulted in an 'F' ratio of 1.1 which indicates statistically no significant difference between the pre-test means at 0.05 level of confidence.

Table-II shows that the post-test means in strength of control group was 32.55 ± 2.98 and experimental group was 37.99 ± 3.05 resulted in an 'F' ratio of 4.04 which indicates statistically significant difference between the post-test means at 0.05 level of confidence. The adjusted post-test means of control group was 31.72 and experimental group was 36.92 resulted in an F' ratio of 25.83 which indicates statistically significant difference between the adjusted post-test means at 0.05 level of confidence. The results of the above statistical analysis reveal that there was a significant difference in strength between the two groups after the training period. Details of the pre, post and adjusted posttest mean value of strength for control and experimental group have been presented in Fig – 2.

Fig - 2: Pre, Post and Adjusted Post Test Mean Value of Strength For Control and Expt. Group Table – III: Analysis of Covariance on Explosive Power for Control Group and Experimental Group

Mean	Control Group	Exp. Group	Sum of Squares	df	Ms	F ratio
PRE TEST	45.01 ± 1.76	46.25 ± 2.03	150.32	1	149.12	1.42
			2093.82	28	81.25	
POST TEST	45.33 ± 2.22	51.45 ± 2.41	354.16	1	317.92	4.52
			2010.12	28	76.18	
ADJUSTED test	45.04	51.12	52.09	1	53.02	9.01
			149.24	27	4.81	

*significant at 0.05 level.

Table-III shows that the pre-test means in explosive power of control group was 45.01 ± 1.76 and experimental group was 46.25 ± 2.03, resulted in an 'F' ratio of 1.42 which indicates statistically no significant difference between the pre-test means at 0.05 level of confidence. Table-III shows that the post- test means in explosive power of control group was 45.33 ± 2.22 and experimental group was 51.45 ± 2.41 resulted in an 'F' ratio of 4.52 which indicates statistically significant difference between the post-test means at 0.05 level of confidence. The results of the above statistical analysis expose that there was a significant difference in explosive power between the two groups after the training period. Details of the pre, post and adjusted post-test mean value of explosive power for control and experimental group have been presented in Fig – 3.

DISCUSSION ON FINDINGS

The result of the study indicated that there was a significant improvement in the experimental group in speed, strength and explosive power as compared with the control group.

CONCLUSION

On the base of the results found from the statistically analyzed data on physical fitness variables, the effects of plyometric training have significantly funded to improve selected physical fitness variables namely speed, strength and explosive power.

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