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"EFFECT OF LADDER TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE FOOTBALL PLAYERS"

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EFFECT OF LADDER TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE FOOTBALL PLAYERS

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ABSTRACT

This study was undertaken to determine the effect of ladder training on selected physiological variables among college men football players. In the present study, 30 men football players were selected by random sampling from Sourashtra College, Madurai, Tamilnadu, India. The subject chosen for the study were divided randomly into two group experimental group and control group consisting of 15 men in each group. Their age ranged from 18 to 25 years. Ladder training was given to subjects as per the training schedule for a period of six weeks where as the control group was not exposed to any training. The data collected from the subjects were statistically examined for significant difference, if any by applying analysis of co-variance (ANCOVA). In all the cases, 0.05 level of confidence was used to test the significance, which was considered as appropriate. The ladder training had shown better performance on resting heart rate and breath holding time than the control group.

KEYWORDS: Ladder Training, Physiological Variables, Football.

INTRODUCTION

Ladder training requires the co-ordination of several muscle groups to sustain the precisely timed and rhythmic movements that are integral to the exercise. It's the coordination of these muscle groups that increases the athlete capacity for dynamic balance the ability to maintain equilibrium while executing complex, vigorous, and Omni directional movements. Ladder training increases dynamic balance because the athlete must make numerous neuromuscular adjustments to the imbalance created by each of the hundreds of jumps per training session. These adjustments also force the athlete to balance the body weight on the balls of the feet, reinforcing the universal athletic position. The universal athletic position is a standing position of readiness that allows the athlete to react quickly in any direction and then move back to the starting position. In sports play this position also requires slightly crouching with the weight balanced on the balls of the feet and one foot placed slightly in front of the other. As in a basketball player's defensive position, the arms may be slightly extended to the side, preparing the athlete for Omni directional multi joint movements.

Football is perhaps India oldest favorite sport. It is played widely all over the country and is as popular in India as it Europe and Latin America. The game soccer was introduced in India during 1880 by the British people who ruled over India. The sports become popular first in Bengal before it spread to other parts of the country. The Christian Missionaries started many educational institutions in India. The Indian players got the opportunity to learn soccer through these institutions. This was the milestone for spreading soccer to the nook and corner of India. The military officer priests and teachers contributed much to the promotion growth and development of soccer in India (Morris, 1981).

METHODOLOGY

This study was undertaken to determine the effect of ladder training on selected physiological variables among college men football players. In the present study, 30 men football players were selected by random sampling from Sourashtra College, Madurai, Tamilnadu, India. The subject chosen for the study were divided randomly into two group experimental group and control group consisting of 15 men in each group. Their age ranged from 18 to 25 years. Ladder training was given to subjects as per the training schedule for a period of six weeks where as the control group was not exposed to any training. The data collected from the subjects were statistically examined for significant difference, if any by applying analysis of co-variance (ANCOVA). In all the cases, 0.05 level of confidence was used to test the significance, which was considered as appropriate.

RESULTS AND DISCUSSION

TABLE I
ANALYSIS OF CO-VARIANCE FOR THE PRE, POST AND ADJUSTED POST TEST MEAN VALUES FOR LADDER TRAINING GROUP AND CONTROL GROUPS ON RESTING HEART RATE

Test	Ladder Training Group	Control Group	Source of Variance	Sum of square	df	Mean Square	'F' ratio	Table Value
Pre Test Mean	73.93	72.66	Between	12.033	1	12.033	0.802	4.20
			With in	420.267	28	15.010		
Post Test Mean	71.13	74.66	Between	70.533	1	70.533	4.37*	4.20
			With in	452.133	28	16.148		
Adjusted Post Test Mean	70.59	74.75	Between	126.431	1	126.431	24.98*	4.21
			With in	136.636	27	5.061		

*Significant at 0.05 level of confidence.

The table I showed that the pre-test mean values on resting heart rate of ladder training group and control group are 73.93 and 72.66 respectively. The obtained 'F' ratio 0.802 for pre-test mean was less than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on resting heart rate. The post-test mean values on resting heart rate of ladder training group and control group are 71.13 and 74.66 respectively. The obtained 'F' ratio 4.37 for post-test mean was greater than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on resting heart rate. The adjusted post-test means of ladder training group and control group are 70.59 and 74.75 respectively. The obtained 'F' ratio 24.98 for adjusted post-test mean was greater than the table value 4.21 for df 1 and 27 required for significance at 0.05 level of confidence on resting heart rate.

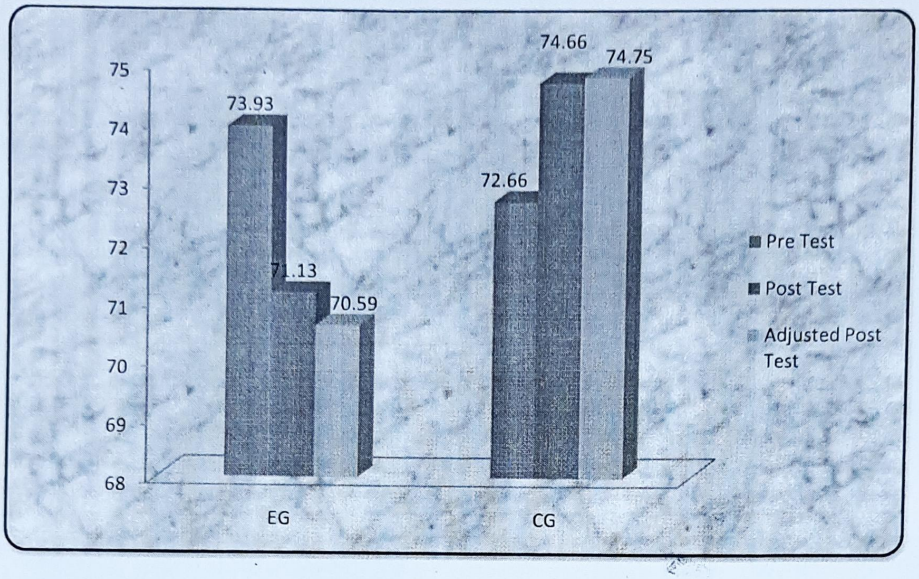

FIGURE I
BAR DIAGRAM SHOWING THE PRE, POST AND ADJUSTED POST MEAN VALUES OF LADDER TRAINING GROUP AND CONTROL GROUP ON RESTING HEART RATE

TABLE II
ANALYSIS OF CO-VARIANCE FOR THE PRE, POST AND ADJUSTED POST TEST MEAN VALUES FOR LADDER TRAINING GROUP AND CONTROL GROUPS ON BREATH HOLDING TIME

Test	Ladder Training Group	Control Group	Source of Variance	Sum of square	df	Mean Square	'F' ratio	Table Value
Pre Test Mean	40.78	40.74	Between	0.012	1	0.012	0.001	4.20
			With in	747.262	28	26.688		
Post Test Mean	43.98	40.76	Between	78.053	1	78.053	4.76*	4.20
			With in	459.035	28	16.394		

Adjusted Post Test Mean	43.98	40.77	Between	77.206	1	77.206	6.60*	4.21
			With in	315.678	27	11.692		

*Significant at 0.05 level of confidence.

The table II showed that the pre-test mean values on breath holding time of ladder training group and control group are 40.78 and 40.74 respectively. The obtained 'F' ratio 0.001 for pre-test mean was less than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on breath holding time. The post-test mean values on breath holding time of ladder training group and control group are 43.98 and 40.76 respectively. The obtained 'F' ratio 4.76 for post-test mean was greater than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on breath holding time. The adjusted post-test means of ladder training group and control group are 43.98 and 40.77 respectively. The obtained 'F' ratio 6.60 for adjusted post-test mean was greater than the table value 4.21 for df 1 and 27 required for significance at 0.05 level of confidence on breath holding time.

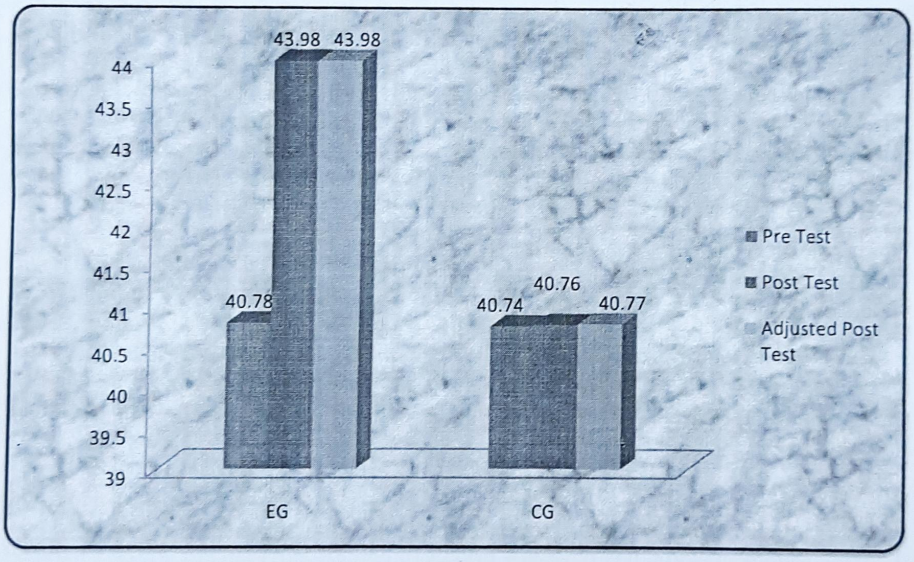

FIGURE II
BAR DIAGRAM SHOWING THE PRE, POST AND ADJUSTED POST MEAN VALUES OF LADDER TRAINING GROUP AND CONTROL GROUP ON BREATH HOLDING TIME

CONCLUSION

1. The ladder training had shown better performance on resting heart rate and breath holding time than the control group.

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