



IMPACT OF LADDER TRAINING ON SELECTED PHYSICAL AND PHYSIOLOGICAL VARIABLES AMONG COLLEGE MEN KHO-KHO PLAYER

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Abstract:

The purpose of the study was to find out the Impact of Ladder training on selected physical and physiological variables of college men kho-kho. To achieve the purpose of these study fifteen kho-kho from Arul Anandar College, Karumathur, Madurai. The subjects were in the age group of 18 to 24. The subjects were given training programme for three days per week for six weeks. In this study the investigator measured Leg explosive strength (Standing broad jump), Cardio Respiratory endurance (Cooper 12 Minutes Run/ walk), Speed (50 yards dash), Agility (t test) and Resting heart rate and Breath holding time pretest for initially. After the Ladder training for six weeks, the subjects were measured of their performance in Leg explosive strength, Cardio Respiratory Endurance, Speed, Agility and Resting Heart Rate, Breath Holding time which was the final scores. The difference between the initial and final scores was the Impact of Ladder Training. The obtained data were subjected to statistical treatment using 't' ratio test. Results of the study proved that there was significant improvement in selected physical and physiological variables of college men kho-kho players due to Ladder training.

Key Words: Ladder Training, Leg Explosive Strength, Cardio Respiratory Endurance, Speed, Agility, Resting Heart Rate And Breath Holding Time.

Introduction:

Performance in sports and games depends on a physical and mental ability. Body and mind have an equal contribution in human life. Aristotle and John Locke the world's greatest thinkers have said that the body is the temple of the soul to reach harmony of the body and spirit the body must be physically fit and also a sound mind in a sound body. Sports can be a positive experience for all our body and mind. Outdoor unstructured activities and games are essential for one. Let a person explore trekking with his friends from him encourage him to play run around jump etc. these activities are an essential way out physical energy, Sports derive its roots meaning from disport meaning to amuse oneself. It carried the original implication of people diverting their attention from the vigorous and pressures of daily life by participating in the mirth and whims of frolic some physical activities.

Methodology:

This chapter describes the procedure adapted for the selection of subjects. Experimental design used the selection of subjects, reliability of the data, reliability instrument and test procedure for dependent variables and statistical techniques employed for analysing the data. This study was designed to deal the impact of ladder Training on Selected Physical and Physiological Variables among College Men kho-kho Player

Independent Variables:

- Ladder Training

Dependent Variables:

- Leg Explosive Strength
- Cardio Respiratory Endurance
- Resting Heart Rate
- Speed
- Agility
- Breath Holding Time

Physiological Variables:

Selection of Variables & Tests Measures:

Table 1: Criterion measures of Physical Variables

S.No	Physical Variables	Test	Unit of Measure
1	Leg explosive strength	Standing Broad Jump	Meters
2	Cardio Respiratory Endurance	Cooper 12 Minutes Run and walk	Meters
3	Speed	50meter dash	Seconds
4	Agility	'T' test	Seconds

Table 2: Criterion measures of Physiological Variables

S.No	Physiological Variables	Test Instruments	Score
1	Resting Heart Rate	Digital pulse Monitor	Beats/Per minutes
2	Breath Hold Time	Manual	Seconds

Table 3: Analysis of 't' Ratio for the Pre and Post tests of Control and Experimental group on leg explosive strength

Variables	Group	Mean		SD		Std Error	df	't' Ratio
		Pre	Post	Pre	Post			
Leg Explosive Strength	Control	2.16	2.15	0.19	0.17	0.007	14	0.25
	Experimental	2.17	2.23	0.22	0.18			

Significance at 0.05 level of confidence 2.15

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The table 3 shows that the mean values of pre-test and post-test of control group on leg explosive strength were 2.16 and 2.15 respectively. The obtained 't' ratio was 0.25, was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically not significant. The mean values of pre-test and post-test of experimental groups on leg explosive strength were 2.17 and 2.23 respectively. The obtained 't' ratio was 3.90* since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant.

Figure 1: Bar Diagram Shows the mean values of Pre and Post-tests of Control and Experimental Group on Leg Explosive Strength

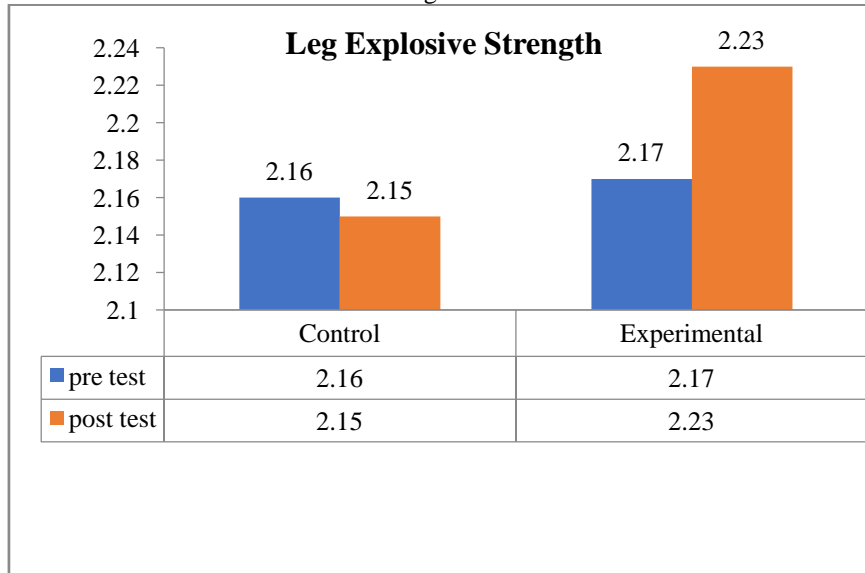


Table 4: Analysis of 't' Ratio for the Pre and Post tests of Control and Experimental group on Cardio Respiratory endurance

Variables	Group	Mean		SD		Std Error	df	't' ratio
		Pre	Post	Pre	Post			
Cardio Respiratory Endurance	Control	1953.33	1963.33	101.53	111.48	5.79	14	1.73
	Experimental	1984	2260	239.51	98.12			66.64

Significance at 0.05 level of confidence 2.15

The table 4 shows that the mean values of pre-test and post-test of control group on Cardio Respiratory Endurance were 1953.33 and 1963.33 respectively. The obtained 't' ratio was 1.73, was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically not significant. The mean values of pre-test and post-test of experimental groups on Cardio respiratory Endurance were 1985 and 2260 respectively. The obtained 't' ratio was 4.14* since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a not significant control group in Cardio Respiratory Endurance. It may be concluded from the result of the study that experimental group improved Cardio Respiratory Endurance in due to six weeks of Ladder training.

Figure 2: Bar Diagram Shows the mean values of Pre and Post-tests of Control and Experimental Group on Cardio respiratory endurance

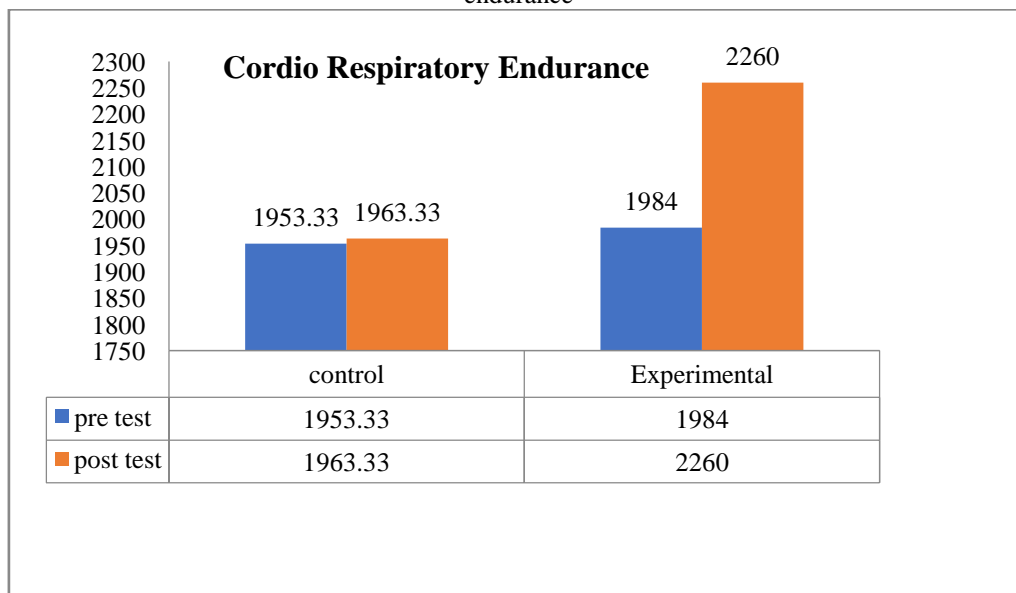


Table 5: Analysis of 't' Ratio for the Pre and Post tests of Control and Experimental group on Speed

Variables	Group	Mean		SD		Std Error	df	't' Ratio
		Pre	Post	Pre	Post			
Speed	Control	8.12	8.05	0.41	0.42	0.03	14	1.88
	Experimental	8.08	7.50	0.55	0.34	0.14		4.01*

Significance at 0.05 level of confidence 2.15

The table 5 shows that the mean values of pre-test and post-test of control group on Speed were 8.12 and 8.05 respectively. The obtained 't' ratio was 1.88 was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically not significant. The mean values of pre-test and post-test of experimental groups on Speed were 8.08 and 7.50 respectively. The obtained 't' ratio was 4.01* since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a not significant control group in speed. It may be concluded from the result of the study that experimental group improved speed in due to six weeks of Ladder training.

Figure 3: Bar Diagram Shows the mean values of Pre and Post-tests of Control and Experimental Group on Speed

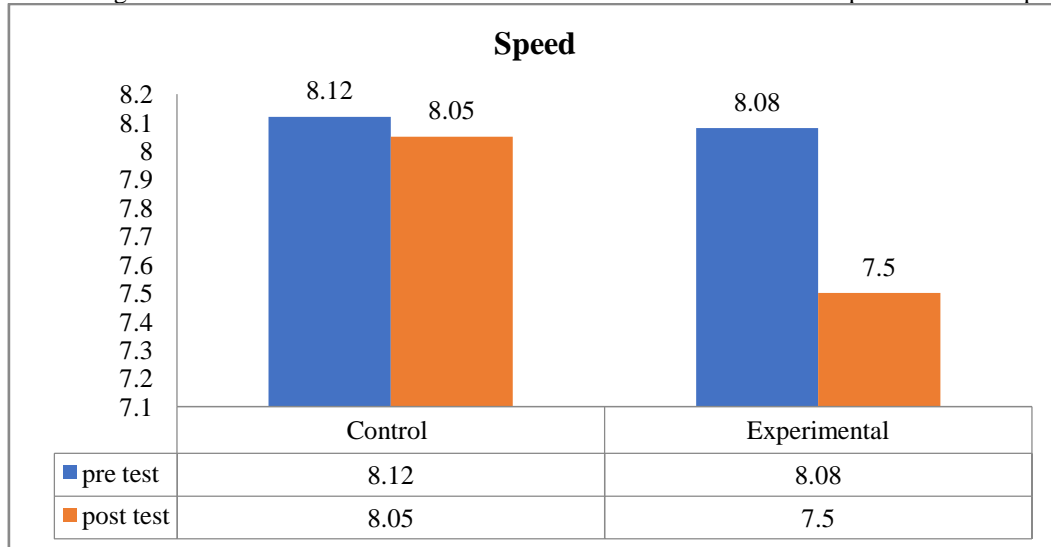


Table 6: Analysis of 't' Ratio for the Pre and Post tests of Control and Experimental group on Agility

Variables	Group	Mean		SD		Std Error	df	't' ratio
		Pre	Post	Pre	St			
Agility	Control	11.43	11.30	0.45	0.59	0.12	14	1.06
	Experimental	11.46	11.05	0.42	0.37	0.41		4.77*

Significance at 0.05 level of confidence 2.15

The table 6 shows that the mean values of pre-test and post-test of control group on Agility were 11.43 and 11.30 respectively. The obtained 't' ratio was 1.06, was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically not significant. The mean values of pre-test and post-test of experimental group on Agility 11.46 and 11.05 respectively. The obtained 't' ratio was 4.77* since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a not significant control group in Agility. It may be concluded from the result of the study that experimental group improved Agility in due to six weeks of Ladder training.

Figure 4: Bar Diagram Shows the mean values of Pre and Post-tests of Control and Experimental Agility

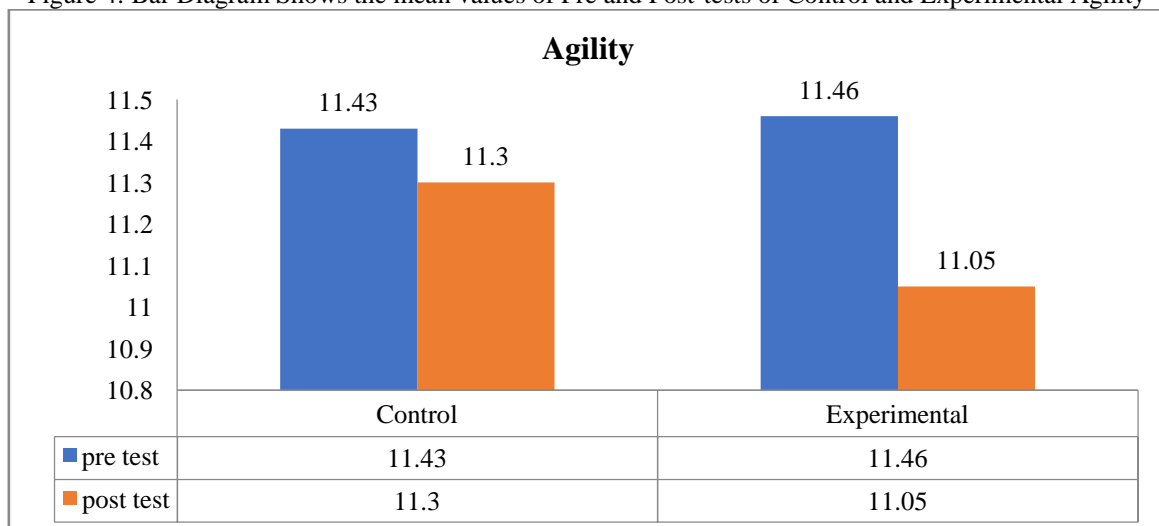


Table 7: Analysis of 't' Ratio for the Pre and Post tests of Control and Experimental group on Resting Heart Rate

Variables	Group	Mean		SD		Std Error	df	't' Ratio
		Pre	Post	Pre	Post			
Resting Heart Rate	Control	73.07	72.93	0.88	1.68	0.38	14	1.41
	Experimental	73.00	71.73	0.84	0.80			

Significance at 0.05 level of confidence 2.15

The table 7 shows that the mean values of pre-test and post-test of control group on Resting Heart Rate were 73.07 and 72.93 respectively. The obtained 't' ratio was 0.52, was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically not significant. The mean values of pre-test and post-test of experimental groups on Resting Heart Rate were 73.00 and 71.73 respectively. The obtained 't' ratio was 4.75* since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a not significant control group in Resting Heart Rate. It may be concluded from the result of the study that experimental group improved Resting Heart Rate in due to six weeks of Ladder training.

Figure 5: Bar Diagram Shows the mean values of Pre and Post-tests of Control and Experimental Group on Resting heart rate

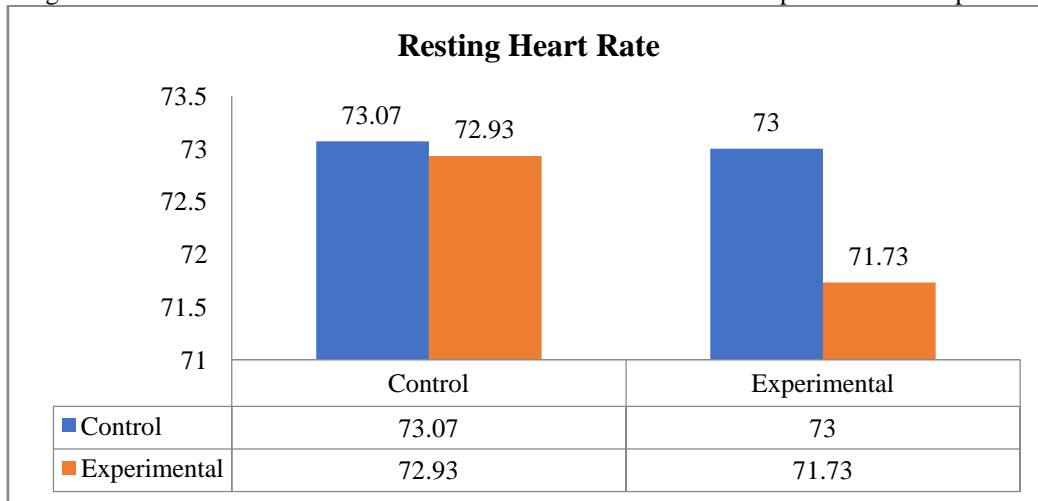


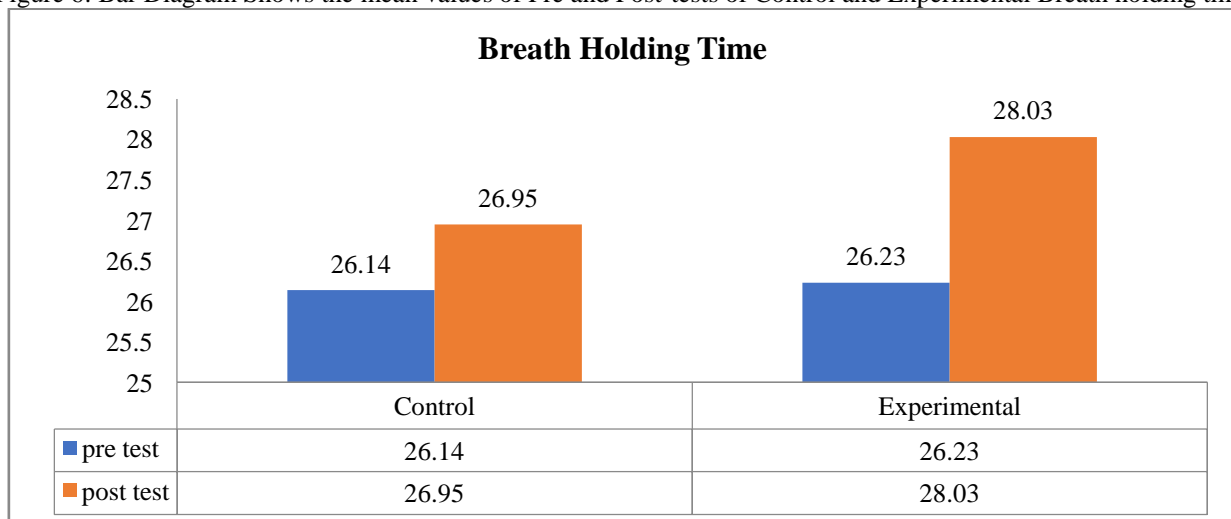
Table 8: Analysis of 't' Ratio for the Pre and Post tests of Control and Experimental group on Breath Holding Time

Variables	Group	Mean		SD		Std Error	df	't' Ratio
		Pre	Post	Pre	Post			
Breath Holding Time	Control	26.14	26.23	0.74	0.91	0.14	14	0.64
	Experimental	26.95	28.03	1.47	1.51			

Significance at 0.05 level of confidence 2.15

The table 8 shows that the mean values of pre-test and post-test of control group on Breath Holding were 26.14 and 26.23 respectively. The obtained 't' ratio was 0.64, was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically not significant. The mean values of pre-test and post-test of experimental groups on Breath Holding Time were 26.95 and 28.03 respectively. The obtained 't' ratio was 8.97* since the obtained 't' ratio was greater than the required table value of 2.15 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a not significant control group in Breath Holding Time. It may be concluded from the result of the study that experimental group improved Breath Holding in due to six weeks of Ladder Training.

Figure 6: Bar Diagram Shows the mean values of Pre and Post-tests of Control and Experimental Breath holding time



Conclusions:

Within the limitations and delimitations of this study, the following conclusions were drawn,

- It was concluded that there was significant improvement in selected physical and physiological variables of leg explosive strength, Cardio Respiratory Endurance, Speed, Agility, and Resting heart rate, Breath holding time due to ladder training among College men kho-kho players.
- The result of the study reveals that ladder training would improve College men kho-kho Players physical and physiological variables significantly.

Recommendations:

- A similar study may be conducted for different age group of male and female.
- A similar study may be conducted by adding more number of physical and physiological variables.
- A similar study may be conducted at different levels of players in University, State, National, etc.
- Similar studies can be conducted for various weight categories.
- Similar studies can be conducted for various districts.

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