



EFFECTS OF LADDER TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG HOCKEY PLAYERS

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ABSTRACT

This study was designed to investigate the impact of ladder training on selected physical fitness variables among hockey players. Thirty men hockey players were randomly selected from Department of Physical Education, Bharathiar University, Coimbatore. The subject's age ranged from 21 to 25 years. They were divided into two equal groups. The group 1 is considered as experimental group (ladder training) and group 2 was considered as control group. Pre-test was conducted on Speed, Agility and leg explosive power for both the groups and the reading were carefully recorded in their respective unit as pre-test score. After pre test, experimental group was treated with specific ladder training, for duration of 45 minutes, three days per week for a period of six weeks. The control group was not treated with any special training. After six weeks of training post test was conducted and the reading were carefully recorded in their respective units as post test score. The pre and post test were taken for analysis. The collected data on physical fitness variables due to six weeks ladder training was analysed by dependent 't' test with 0.05 level of confidences. From the results of the study, it was found that there was a significant improvement on physical fitness variables among hockey players.

KEYWORDS: Ladder training, Physical Fitness Variables, Hockey Players.

1. INTRODUCTION

Hockey is the fastest and most beautiful of ball games. Though it was introduced into the sub-continent by the British Indians have developed their own style or game. It is now India's national game. The origin of the game is lost in antiquity. There are various theories as to where and when and how it originated. We really do not know its exact origin. However, one fact is clear. Hockey is one of the oldest games in the world.

Agility ladder drills aren't just for the elite athlete. Ladder exercises can be the perfect way to get started with athletic style training, even for the nonathletic. Plus, a speed and agility ladder workout is a great way to get your heart pumping (and calories melting).

The agility ladder, also known as a speed ladder, improves three key fitness factors-speed, agility, and quickness in addition to strengthening your joints, ligaments, and tendons. Let's explore the benefits of agility ladder training and 11 awesome agility ladder exercises

An agility ladder workout is great for so many reasons. Yes, your heart rate gets up there and you're going to burn calories, but there's so much more to it than that. Ladder drills will mix up your workout and keep you interested even when you're in a fitness rut. Here are just some of the benefits of speed ladder training. Whether you're a pro athlete or an exercise newbie, agility ladder drills are the perfect form of

cross-training because they help improve your speed, agility, and quickness.

Speed: your ability to move in one direction as fast as possible

Agility: your coordination-your ability to accelerate, decelerate, and change directions

Quickness: your ability to react or switch positions quickly.

2. STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effects of ladder training on selected physical fitness variables among hockey players.

3. HYPOTHESES

- It was hypothesized that there would be significant improvement to the six week of ladder training on speed among college level hockey players.
- It was hypothesized that there would be significant improvement to the six week of ladder training on Agility among college level hockey players.
- It was hypothesized that there would be significant improvement to the six week of ladder training on leg explosive power among college level hockey players.

4. EXPERIMENTAL DESIGN

The selected thirty subjects were randomly divided into two equal groups consist of 15 each such an experimental



group and control group. Pre-test was conducted on Speed, Agility and leg explosive power for the two groups and the reading were carefully recorded in their respective unit as pre-test score. After pre test, experimental group was treated with specific ladder training, for duration of 45 minutes, three days per week for a period of six weeks. The control group was not treated with any special training. After six weeks of training post test was conducted and the reading were carefully recorded in their respective units as post test score. The pre and post test were taken for analysis.

4.1 Training Program

The training program is design for 60 minutes per session in a day, three days in weeks for a period of six weeks

5. RESULTS

Table 1: Computation of ‘t’ ratio between pre and post-test means of experimental group on physical fitness variables

Experimental Group					
Physical Fitness Variables	Pre/Post test	Mean	Std. Deviation	Std Error Mean	‘t’ Ratio
Speed	Pre-Test	7.63	0.58	0.24	10.28*
	Post-Test	7.38	0.63		
Agility	Pre-Test	10.99	0.60	0.42	11.06*
	Post-Test	10.95	0.60		
Leg Explosive power	Pre-Test	2.26	0.12	0.01	20.40*
	Post-Test	2.28	0.12		

*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table 1 reveals that the Computation of ‘t’ ratio between pre and post-test means of experimental group on Physical fitness variables. The ‘t’ ratio on Speed, Agility and Leg Explosive power are 10.28, 11.06 and 20.40 respectively.

duration these 60 minutes included 10 minutes warm up and 10 minutes warm down remaining 40 minutes allotted for ladder training program. Every two weeks 10% intensity is increase from 50% to 60% of work load. The training load is increased from the maximum working capacity of the subjects.

4.3 Statistical Technique

The collected data on physical fitness variables due to six weeks ladder training analyzed by using means and standard deviation. In order to find out the significant changes if any dependent ‘t’ test will be applied 0.05 level of confidences fixed to level of significant.

The required table value was 2.14 for the degrees of freedom 14 at 0.05 level of significance. Since the obtained ‘t’ ratio values were greater than the table value, it was found statistically significant.

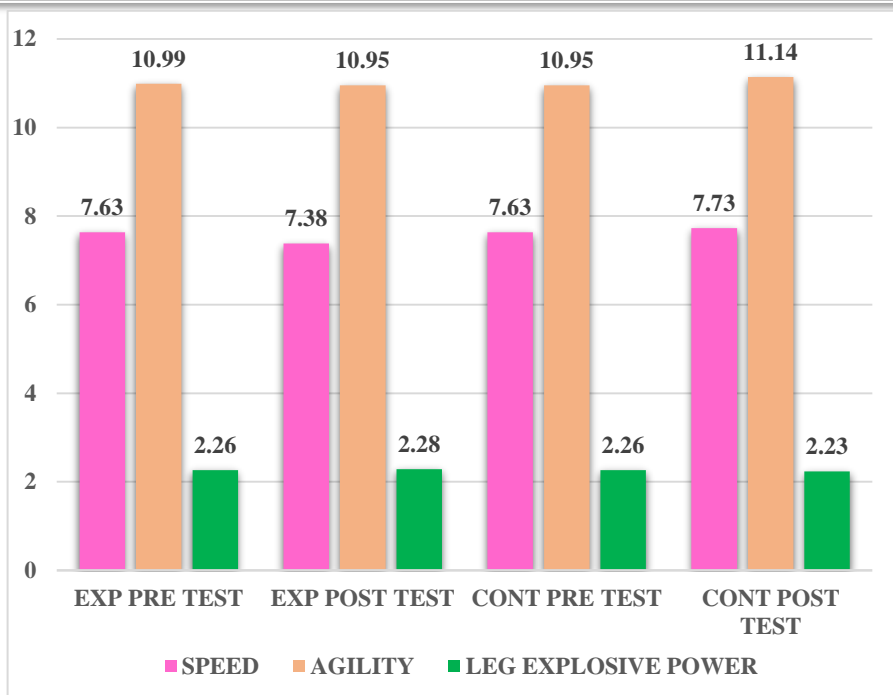
Table 2: Computation of ‘t’ ratio between pre and post-test means of Control group on Physical Fitness variables

Control Group					
Physical Fitness Variables	Pre/Post test	Mean	Std. Deviation	Std Error Mean	‘t’ Ratio
Speed	Pre-Test	7.63	0.58	0.55	1.12
	Post-Test	7.73	0.57		
Agility	Pre-Test	10.95	0.60	0.03	1.17
	Post-Test	11.14	0.61		
Leg Explosive power	Pre-Test	2.26	0.12	0.89	1.04
	Post-Test	2.23	0.11		

*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table 2 reveals that the Computation of ‘t’ ratio between pre and post-test means of control group on Physical fitness variables. The ‘t’ ratio on Speed, Agility and Leg Explosive power are 1.12, 1.17 and 1.04 respectively. The

required table value was 2.14 for the degrees of freedom 14 at 0.05 level of significance. Since the obtained ‘t’ ratio values were lower than the table value, it was found statistically insignificant.



6. DISCUSSION ON FINDINGS

The effect of ladder training is a fantastic training which has been found to be beneficial for the hockey players. To study the ladder training on physical fitness variable of college level men hockey players, it was tested under, to differentiate between ladder training group and control group. The ladder training includes on pull ups, medicine ball throw, burpee, speed squats, skipping, depth jump, abdominal crunch. It also improves the dribbling ability, game tactics, anaerobic capacity, quickness, eye hand coordination and other than some physical fitness components are namely speed, agility, and power.

The following studies was revealed that **A hidyat (2022)¹**, effect of agility ladder exercise on agility of participants extra curricular futsal at bina darma university. The result of the study supports the result of the present study. **V Pratheep Kumaret al., (2019)⁴**Effect of ladder training and combination of ladder training with plyometric training on selected skill performance variable of school basketball players.. The result of the study supports the result of the present study. These finding had not been previously replicated for a sample of college students. The result of the study showed that the control group was not significantly improved.

7. TESTING HYPOTHESES

1. In First hypotheses, it was hypothesized that there would be significant improvement on speed of men hockey players due to effect of ladder training. The result of study indicates that speed improved significantly to ladder training. Hence, the first hypothesis of the investigator was accepted.
2. In Second hypotheses, it was hypothesized that there would be significant improvement on agility of men hockey players due to effect of ladder training. The result of study indicates that agility enhanced

significantly to ladder training. Hence, the second hypothesis of the investigator was accepted.

3. In Third hypotheses, it was hypothesized that there would be significant improvement on leg explosive power of men hockey players due to effect of ladder training. The result of study indicates that agility progressed significantly to ladder training. Hence, the third hypothesis of the investigator was accepted.

8. CONCLUSIONS

Based on the findings and within the limitation of the study it is noticed that practice of ladder training helped to improve physical fitness variable among hockey players. It was also seen that there is progressive improvement in the selected criterion variables of ladder training group of college level men hockey players after six weeks. Further, it also helps to improve speed, agility and leg explosive power. It was concluded that individualized ladder training group showed a statistically significant over the course of the treatment period on physical fitness variables of among men hockey players.

1. It was concluded that individualized effect of control group showed a statistically insignificant over the course of the period on selected physical fitness variables of men Hockey players.
2. The results of comparative effects lead to conclude that the ladder training group had better significant improvement on selected physical fitness variables (speed, agility and leg explosive power) of men hockey players as compared to their performance with control group.

9. REFERENCE

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