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Effect of Ladder Training on Selected Physical Fitness Components of Basketball Players

Dr. R. Thanalakshmi

Associate Professor, Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur, Tamilnadu, India.

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Abstract

The purpose of the study was to find out the effect of ladder training on selected physical fitness components of Basket ball players. To achieve this purpose of this study, twenty four men Basket ball players studying in the Aditanar Educational Institutions, Tiruchendur, Tamilnadu, India, during the academic year 2018 – 2019 were randomly selected as subjects. The age, height and weight of the selected subjects were ranged from 18 to 23 years, 165 to 182 cm and 58 to 75 kilogram respectively. The selected subjects were divided into two equal groups of twelve subjects each at random. Group I underwent ladder training for three days per week for twelve weeks. Group II acted as control that did not undergo any special training programme apart from their regular activities. In this study, the ladder training were selected as independent variable. The following variables namely speed and agility were selected as criterion variables. The pre and post test random group design was used as experimental design. The data were collected from the two groups at prior to and immediately after the training programme on selected dependent variables such as speed and agility by using 50mts run and shuttle run. The analysis of covariance (ANCOVA) was used to determine the differences, if any, among the adjusted post test means on selected dependent variables. The .05 level of confidence was fixed as the level of significance. The results of the study showed there was a significant difference between ladder training group and control group on selected physical fitness components such as speed and agility. The ladder training showed significant improvement on selected physical fitness components such as speed and agility.

Keywords: Ladder Training, Physical Fitness, Basketball.

Introduction

Training is the process of preparation for some task. The term "training is widely used in sports. But there is some disagreement among coaches and sports scientists regarding the meaning of the word. A ladder training is an excellent piece of training equipment and is useful to enhance body control, agility and foot speed .This will help to teach the body's muscle memory system to the basic skill.

Methodology

The purpose of the study was to find out the effect of ladder training on selected physical fitness components of Basket ball players. To achieve this purpose of this study, twenty four men Basket ball players studying in the Aditanar Educational Institutions, Tiruchendur, Tamilnadu, India, during the academic year 2018 – 2019 were randomly selected as subjects. The age, height and weight of the selected subjects were ranged from 18 to 23 years, 165 to 182 cm and 58 to 75 kilogram respectively. The selected subjects were divided into two equal groups of twelve subjects each at random. Group I underwent ladder training for three days per week for twelve weeks. Group II acted as control that did not undergo any special training programme apart from their regular activities. In this study, the ladder training were selected as independent variable. The following variables namely speed and agility were selected as criterion variables. The pre and post test random group design was used as experimental design. The data were collected from the two groups at prior to and immediately after the training programme on selected dependent variables such as speed and agility by using 50mts run and shuttle run. The analysis of covariance (ANCOVA) was used to determine the differences, if any, among the adjusted post test means on selected dependent variables. The .05 level of confidence was fixed as the level of significance.

Correspondence
Dr. R. Thanalakshmi
Dr.Sivanthi Aditanar College of Physical Education

Analysis of the Data

The influence of ladder training on each criterion variables were analysed separately and presented below.

Speed

The analysis of covariance on speed of the pre and post test scores of ladder training group and control group have been analyzed and presented in Table 1.

Table 1
Analysis of covariance of the data on speed of pre and post tests scores of ladder training group and control groups

Test	Ladder training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	7.43	7.47	Between	0.008	1	0.008	0.174
S.D.	0.36	0.37	Within	1.021	22	0.046	
Post Test							
Mean	7.10	7.46	Between	1.148	1	1.148	5.92*
S.D.	0.371	0.379	Within	4.272	22	0.194	
Adjusted Post Test							
Mean	7.14	7.46	Between	1.111	1	1.111	5.697*
			Within	4.112	21	0.195	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence with df 1 and 22 and 1 and 21 were 4.30 and 4.33 respectively).

The table 1 shows that the adjusted post-test means on average speed of ladder training group and control group are 7.14 and 7.46 respectively. The obtained "F" ratio of 5.697 for adjusted post-test mean is greater than the table value of 4.33 for df 1and 21 required for significance at .05 level of confidence on average speed. The results of the study showed that there was a significant difference between the adjusted post test mean of ladder training group and control group on speed.

Agility

The analysis of covariance on agility the pre and post test scores of ladder training group and control group have been analyzed and presented in Table 2.

Table 2
Analysis of covariance of the data on agility of pre and post tests scores of ladder training and control groups

Test	Ladder Training group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	7.79	7.81	Between	0.01	1	0.01	1.0
S.D.	0.07	0.07	Within	0.22	22	0.01	
Post Test							
Mean	7.70	7.80	Between	3.46	1	3.46	402.33*
S.D.	0.07	0.07	Within	0.19	22	0.0086	
Adjusted Post Test							
Mean	7.66	7.80	Between	4.75	1	4.75	153.23*
			Within	0.67	21	0.031	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence with df 1 and 22 and 1 and 21 were 4.30 and 4.33 respectively).

The table 2 shows that the adjusted post-test means of ladder training group and control group are 7.66 and 7.80 respectively on agility. The obtained "F" ratio of 153.33 for adjusted post-test means is more than the table value of 4.33 for df 1 and 21 required for significance at .05 level of confidence on agility. The results of the study indicated that there was a significant difference between the adjusted post-test means of ladder training group and control group on agility.

Conclusions

1. There was a significant difference between ladder training group and control group on speed and agility.

2. And also it was found that there was a significant improvement on selected criterion variables such as speed and agility due to ladder training.

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