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**Mahipal**

*Junior Coach Athletics,  
Depth. Of Sports and Youth  
Affairs,  
Panipat, Haryana, India*

## Effect of Six Weeks Training on the Physical Fitness Performance of Girls (U-14 to 16 Years) Hockey Players of Panipat

### Mahipal

#### Abstract

The aim of the present study was to find out the effect of six weeks training on the physical fitness test performance of girls under 14 to 16 years hockey players of Panipat, Haryana, India. To achieve the aim of the study total 35 girls state level performer was selected on a random basis. The age limit of the subjects was from 14 to 16 years. To investigate the effect of six weeks training on physical fitness, AAHPER physical fitness test was administered to the subjects. Further the subjects were given training for six weeks during the morning and evening sessions. After the training, physical fitness is again measured in terms of performance of the players in all the five physical fitness tests used in pre-training condition. Thus the performance of subjects pre and post training are taken to evaluate the physical fitness. 't' test was applied to the analysis data. The level of significance judged at 0.05 level. Results showed that the significant difference was found in 50 mt. dash, sit and reach, flexed arm hang, 12 min. cooper run and walk test except agility. Hence there is a significant effect of six weeks physical fitness training on the performance of girls players under 14 to 16 years of Panipat. It is concluded that physical training must be given by coaches to hockey players to improve the quantities such as speed, flexibility, agility, strength & endurance to achieve excellence in sports.

**Keywords:** Physical fitness, hockey players, training etc.

### 1. Introduction

Physical fitness is central to all objectives of physical education. It is an essential for the reconstruction and enjoyment of life. The movement like "Fitness for all and sports for all" are formed the basis of community building that is a directive for fitness awareness among the people. Everyone agrees that physical fitness is a basic necessity without which one can't perform or carry out assigned tasks comfortably. There have been innumerable physical fitness test batteries developed abroad, especially, in the United States. In India too, there have been two national attempts to develop such batteries, Physical fitness includes speed, flexibility, rhythm, power, strength, coordination, muscular endurance, cardiovascular endurance, agility etc. These characters are all equated with the healthy functioning of the body. Another important part of physical fitness is the athletic powers. The various aspects of physical fitness and the skills are interrelated.

Physical fitness is the ability of a person's body to meet the demands placed upon it by his work, by his way of life and by the necessity to meet emergency situations. Fitness is one of the basic elements which are essential for better performance. The players must needs be in top physical condition. Physical fitness is considered as the fitness of the body, but in the modern concept physical fitness means fitness of both body and mind.

### 2. Methodology

#### 2.1 Statement of the problem

Effect of six weeks training on the physical fitness performance of girls under 14 to 16 years hockey players of Panipat in Haryana.

#### 2.2 Hypothesis of the study

- There would be a significant difference on the physical fitness performance of girls hockey players in pre and post training.

**Correspondence:**

**Mahipal**

*Junior Coach Athletics,  
Depth. Of Sports and Youth  
Affairs,  
Panipat, Haryana, India.*

- There would be a significant effect of training on the physical fitness test performance of girls hockey players.

### 3. Materials and Methods

**3.1 Subjects:** The subjects for the present study consists of 35 girls hockey players within the age of 14-16 years who have participated in Haryana School State Hockey Tournament during the year 2013-14 were taken for the study. The selected subjects physical fitness was measured in five motor tests - speed, flexibility, agility, strength and endurance. Further the sample was given training for six weeks during the morning and evening sessions. After the training, physical fitness is again measured in terms of performance of the players in all the five physical fitness tests which were used in pre training condition.

**3.2 Methods:** As shown in table – 1, the 50 meter dash test was used to estimate the speed. The time taken by the subjects to complete the test in sec. was the net score of the subjects. Sit and reach test was used to assess lower body flexibility (score in inches). Shuttle run test was used to monitor the speed and agility of subjects (time in sec.). The time taken by

the subjects between the audible signal start and the finishing of the run was recorded to be the score (time in sec.). The flexed arm hang for girls to measure the arm and shoulder muscle strength (in 60 Sec.). The 12 min. cooper run & walk test was used to estimate the cardiovascular endurance of the subjects (distance covered measure in mtr.)

**Table 1:** Details of the physical fitness variables and test to measure them.

Physical Fitness Test (AAPHER)	
Variables	Test
Speed	50 mtrs. Dash
Flexibility	Sit and Reach
Agility	Shuttle Run (4 x 10 yards)
Strength	Flexed Arm Hang
Endurance	12 minute Cooper Run and walk

### 4. Statistical Analysis

To achieve the purpose of the study the data were statistically treated and interpreted in accordance with the rule. The Mean, Standard deviation and t-test is calculated and data analyzed.

**Table 2:** Five Physical Tests Performance of Hockey girls in two conditions (Pre and Post)

Tests	Conditions	Mean	S.D.	t-value	Significant at 0.05 level
Speed	Pre	9.21	0.593	5.622	Significant
	Post	8.96	0.556		P < 0.05
Flexibility	Pre	12.97	5.974	7.061	Significant
	Post	17.59	5.620		P < 0.05
Agility	Pre	10.67	0.548	1.519	Not Significant
	Post	10.61	0.496		
Strength	Pre	7.27	4.811	6.614	Significant
	Post	13.65	8.257		P < 0.05
Endurance	Pre	2486.89	479.469	4.761	Significant
	Post	2582.84	403.888		P < 0.05

\* Significant at 0.05 levels

### 5. Analysis and Interpretation of Result

Table 2 indicates that the pretest mean value of speed test performance of the pretest is 9.21 and posttest is 8.96. The mean value shows that the hockey girls have taken more time to complete the given task in pre training while less time is taken in post training condition. The standard deviation of speed in pre and post is 0.593 and 0.556 respectively. Whereas the ‘t’ value is 5.622. The difference in mean score is significant at 0.05 level.

The mean value of flexibility test performance is 12.97 and posttest is 17.59. The results show that flexibility is found to be improved after post training. The S.D. of pre and post training is 5.974 and 5.620 respectively. Whereas the ‘t’ value is 7.061 which is significant at 0.05 level.

The pretest mean value of agility test performance is 10.67 and posttest mean value is 10.61. There is a difference of 0.6 sec. It shows that girls have taken more time to complete the given task in pre training while less time taken after pre training condition. The S.D. of pre and post is 0.548 and 0.496 respectively. Whereas the ‘t’ value is 1.519. Hence there was no significant difference was found in regard of agility.

It is also evident that the pretest mean value of strength test performance is 7.27 and posttest mean value is 13.65. It indicates that the hockey girls' strength is found better after post training condition. The S.D. of pre and post is 4.811 and 8.257 respectively. Whereas the ‘t’ value is 6.614 which is significant at 0.05 level.

The pretest mean value of 12 min. cooper run & walk test performance is 2486.89 and posttest mean value is 2582.84. It indicates that hockey girls have covered less distance in pre training while more distance is covered in post training conditions. The standard deviation of endurance in pre and post is 479.469 and 403.888 respectively, whereas the ‘t’ value is 4.761 significant at 0.05 level.

### 6. Conclusion

Within the limitations of the present study, the following conclusions are drawn on the basis of obtaining results.

- There is a significant difference in physical fitness test performances of speed, flexibility, agility, strength and endurance.
- There is no significant difference was found in the physical fitness test performance of agility test performance between pre and post training condition.
- There is a significant effect of six week physical fitness training on the performance of girls (Under 14-16 years) hockey players of Panipat.

### 7. Recommendations

It is recommended that physical fitness training must be given by coaches to hockey players to improve the major quantities such as speed, flexibility, agility, strength and endurance to achieve excellence in sports. Similar studies can be conducted on other games and sports at the primary level.

### **8. Acknowledgement**

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