A comparative study on physical fitness between under 17 years state football and hockey players

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Abstract

Today, there is a growing emphasis on looking good, feeling and living longer. Increasingly, scientific evidence tells us that one of the keys to achieve these ideals is fitness and exercise. Get moving on is a challenge because today physical activity is less a part of our daily lives. The decision to carry out a physical fitness programme cannot be taken lightly. It requires a lifelong commitment of time and effort.

Purpose of the study: To find out the physical fitness of under 17 year state Football and Hockey players. To compare physical fitness between the Football and Hockey players. The result would provide useful information for future research.

Methodology: Total 40 male students were selected for this study. Among the subjects, 20 were in Football group and 20 were from Hockey group. The subjects were taken from Balurghat Town Club and Dakshin Dinajpur D.S.A.

Result and conclusions: In the present study Football group have maximum abdominal strength and endurance in comparison to Hockey group, Football group is better in speed than Hockey group. In Shuttle run (10 x 4 yard) and 600 yard run Hockey group is shows higher values and more consistent than Football group.

Keywords: Physical fitness of under 17 year state Football and Hockey players

Introduction

Today, there is a growing emphasis on looking good, feeling and living longer. Increasingly, scientific evidence tells us that one of the keys to achieve these ideals is fitness and exercise. Get moving on is a challenge because today physical activity is less a part of our daily lives. There are few jobs that require physical exertion. We have become a mechanical mobile society, relying on machines rather than muscles to get around. In addition, we have become a nation of observers with more people (including children) spending their leisure time pursuing just that – leisure. Consequently, statistics show that obesity and overweight, the problems that come with high blood pressure, diabetes, cardiac arrest etc. are on the rise.

The decision to carry out a physical fitness programme cannot be taken lightly. It requires a lifelong commitment of time and effort. Exercise must become one of those things that you do without question, like bathing and brushing your teeth. Unless you were convinced of the benefits of fitness and the risks of unfitness, you will not succeed. It has been realized that fitness adds not only years to one’s life, but life to one’s years.

It is to remember that fitness is an individual quality that differs from person to person. It is influenced by age, sex, heredity, personal habits, exercise eating habits, diet, and attitude toward life, anxiety, tension and stress, values of physical fitness.

Purpose of the Study

➢ To find out the physical fitness of under 17 year state Football and Hockey players.
➢ To compare physical fitness between the Football and Hockey players.
➢ The result would provide useful information for future research.

Methodology

SUBJECT: Total 40 male students were selected for this study. Among the subjects, 20 were in Football group and 20 were from Hockey group. The subjects were taken from Balurghat Town Club and Dakshin Dinajpur D.S.A. The age of the subjects ranges from 14-17 years.
Criterion Measure
For the fulfillment of the purpose of the study the research collected the age, Height and Weight of the subject and AAHPERD Youth Fitness Test battery were conducted among the subject

Equipment for Collection of Data
Equipment’s were used for the test, which were –
1. Measuring steel tape
2. Lime dust
3. Two wooden block (2” x 2” X 4”)
4. A wooden or metal bar approx. 1.5” in diameter a piece of pipe for pull up.
5. Stop watch

Procedure for Collection of Data
Age: The age of the subject collected from the admission date of birth certificate. According to the birth certificate those who were ranging from 14 years 6 months of under 17 years were considered as the population of the study among them only 20 subjects was selected of National level.

Height: The height of the subjects was taken in centimeter.

Weight: The weight of the subjects was taken in pounds.

AAHPERD Youth Fitness Test: The AAHPERD Youth Fitness Test had been constructed with 6 test items i.e. 50 Yard dash, Bent-knee sit up, 10 x 4 Yard shuttle run, Standing broad jump, Pull up, 600 Yard run.

Analytical procedure
After collecting the data to reach into the result and conclusion the following statistical calculation is adopted Mean and Standard Deviation as descriptive statistics and ‘t’ value (mean difference)

Result and Discussion
In this chapter the collected data, presented and analysis of the data, interpretation of results and testing of hypothesis had been presented.

The Data
The performance score of six items of AAHPERD Youth Fitness Test were obtained and presented below-

The Presentation and Analysis of Data

<table>
<thead>
<tr>
<th>Players</th>
<th>No.</th>
<th>Age (year)</th>
<th>Height (cm)</th>
<th>Weight (k.g.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>10</td>
<td>Mean: 15.1, SD: ±0.7</td>
<td>171.59, ±9.04</td>
<td>57.4, ±4.94</td>
</tr>
<tr>
<td>Hockey</td>
<td>10</td>
<td>Mean: 16.5, SD: ±0.80</td>
<td>170.68, ±2.35</td>
<td>55.7, ±5.13</td>
</tr>
</tbody>
</table>

From Table- 1, it appeared that the mean & S.D of Age, Height and Weight of the Football and Hockey Players. The Football players (Mean- 15.1) were slightly below Ages than Hockey Players (Mean- 16.5). The Height of the Football Players (Mean- 171.59) & Hockey Players (170.68) were almost same. Football Players (Mean- 57.4) body weight was greater than Hockey Players (Mean- 55.7).

Table 1: Represent the MEAN and S.D values of age, Height and Weight of the Football and Hockey players' were calculated as comparative statistics.
Table 4: Represents the mean, S.D and ‘t’ value of Shuttle Run of Football and Hockey groups

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Football Players</th>
<th>Hockey Players</th>
<th>“t” value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shuttle run</td>
<td>Mean 40</td>
<td>Mean 49.5</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>S.D 30.41</td>
<td>S.D 17.38</td>
<td></td>
</tr>
</tbody>
</table>

df = 18, ‘t’ value at 0.05 level = 2.10, not significant

From table- 4, it appeared that the mean and S.D of Football groups were 40 & 30.41 and Hockey groups were 49.5 & 17.38. Though, it was not significant, but Hockey players were better than Football players in Shuttle run.

Table 5: Represents the mean, S.D and ‘t’ value of Standing Broad Jump of Football and Hockey groups

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Football Players</th>
<th>Hockey Players</th>
<th>“t” value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing broad jump</td>
<td>S.D 16.74</td>
<td>S.D 24.80</td>
<td>2.75*</td>
</tr>
</tbody>
</table>

df = 18, ‘t’ value at 0.05 level = 2.10, * significant

From Table- 5, it was appeared that so mean & S.D were respectively 16.74 & 24.80 for Football and Hockey groups respectively. If we compared the mean value there were different in values exist. To observed that the significant difference between means ‘t’ was calculated and found to be 2.75 which were *significant at 0.05 level but not significant at 0.01 level

Table 6: Represents the mean, S.D and ‘t’ value of 50 yard dash of Football & Hockey groups

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Football Players</th>
<th>Hockey Players</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 yard dash</td>
<td>Mean 57</td>
<td>Mean 28.5</td>
<td>3.39**</td>
</tr>
<tr>
<td></td>
<td>S.D 23.57</td>
<td>S.D 10.01</td>
<td></td>
</tr>
</tbody>
</table>

df = 18, ‘t’ value at 0.05 level = 2.10 & 0.01 level = 2.88 ** significant

From Table- 6, it appears that the mean & S.D of Football group were 57 & 23.57 and Hockey group were 28.5 & 10.01 respectively. Comparing the mean value of two different groups were found that there were difference in values exist. To observed that the significant difference between means ‘t’ was calculated and found to be 3.39 which were **significant at 0.05 level & 0.01 level.

Table 7: Represents the mean, S. D and ‘t’ value of 600 Yard Run of Football and Hockey groups

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Football Players</th>
<th>Hockey Players</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 yards run</td>
<td>Mean 62</td>
<td>Mean 64</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>S.D 13.45</td>
<td>S.D 19.33</td>
<td></td>
</tr>
</tbody>
</table>

df = 18, ‘t’ value at 0.05 level = 2.10, not significant

From Table- 7, it appears that the mean and S.D of Football group were 62 & 13.45 and 64 & 19.33 for Hockey group. Comparing the mean value of two different groups it was found that there were different values exist. To observed that the significant difference between means ‘t’ was calculated and found to be 0.25 which were not significant at 0.05 levels.

Conclusion
From the above result and discussion the following conclusion is drawn:
- The Football players are slightly below ages than Hockey Players.
- The height of the Football Players and Hockey Players is almost same.
- Football Players body weight is greater than Hockey Players.
Football group performed better than Hockey group in pull ups.

The result of Bent knee sit up shows that Football group have maximum abdominal strength and endurance in comparison to Hockey group.

In Shuttle run (10 x 4 yard) the Hockey group is shows higher values and more consistent than Football group.

Standing broad jump, the researcher found that the Football group are better than Hockey group.

The Football group in 50mt. Dash is superior to Hockey group which means the Football group is better in speed than Hockey group.

In 600 yard run there are very little difference between the Football and Hockey groups, where Handball group are shows better result than Football group.

Reference
5. Website: www.youthfitnessetest (wikipedia.org)