ABSTRACT

This study compares the level of biomotor abilities in between college level hand ballers and basketball players. Above mentioned events need all biomotor abilities because this is the fastest events in sports and almost similar in nature that is why comparison between these events is apt and useful in sports. For the success of sports biomotor abilities are necessary. Proper training and guidance will help us to achieve proper biomotor abilities. Biomotor ability reflects once level of fitness, wellness, ability to resist fatigue etc.

Keywords: Biomotor Ability; Basketball; Handball

INTRODUCTION

Motor ability mainly divided into general and specific motor ability. We need fitness for doing general activities like walking, running, etc. that type of fitness called as general motor ability. General fitness is part of oral health. Being generally fit means having a healthy body weight as well as ability to perform physical activities without straining easily. Specific motor ability means ability to doing specific activities. Specific training prepares to perform well in their sports. So we need both general and specific fitness.

We measure motor ability through some test one is barrow motor ability test and other is scot motor ability test. The one is used for men and another used for women. Motor ability test is used to find out motor ability of a human being, if we know the motor ability we can improve the performance of the athletes.

REVIEW OF RELATED LITERATURE

Becirovic Ervin, Ismaili' (March 2010) Conducted a study on Basic motor abilities: Predictive value on the situational test results in 12-14 years old soccer players. In a number of anthropological sciences, research on mutual relations between the dimensions of real subsystems and between different subsystems within a system has a significant place. To successfully manage a system, such as man, one must know the structure of certain subsystems within the system and their mutual relations. The main aim of this study was to determine the impact of the predictive system of variables (basic motor ability) against the criterion set of variables (situational motor ability). The test sample in this survey was the students of school clubs FC "Sloboda", FC Tuzla and FC KLUB-7 based in Tuzla of 12-14
years of age. The students of all three soccer schools were members of the pioneer competition selection in the above mentioned soccer clubs. The average age of respondents who comprised the sample ranged within 13±1 years. Factor analysis was used with the intention to perform factorization of variables of the situational motor ability in order to find a general situational motor ability. Regression analysis was used to determine the impact of the predictive system of variables (basic motor ability) against the criterion. The analysis of the obtained results showed that the applied basic motor variables are dominantly responsible for achieving better results in players' situational motor abilities. Four out of fifteen applied variables showed statistically significant partial effect on the criteria, i.e.: MBFTAN - leg tapping, MFLBOS - side legs wide spread, MES20V running 20 m (sprint), MBAU20 - standing upright on both legs with eyes open. In this study there were detected the abilities of most influence on improving results in tests of situational motor abilities. This information can contribute to more efficient means of selecting exercises that would be applied in working with young players. At the end, we have to say that excellent success is only possible if the athletes' preparation process and sport itself are based on scientifically founded tendencies, and this is probably the only and the right way in guiding our league competition towards contemporary attainments of the soccer game.

Chetna Chaudhary, Birendra Jhajharia (March 2010) Investigated on Effects of polymeric exercises on selected motor abilities of university level female basketball players. Today there is not a single sport in the world at the competitive level for which resistance training in some or the other form is not used as conditioning exercises. Polymeric training is an excellent method of developing body power and it is proved as a very effective method for improving explosive strength. The purpose of the study was to find out the effects of polymeric exercises on selected motor abilities of university level female basketball players. The subjects, 20 female basketball players of Lakshmibai National Institute of Physical Education, Gwalior, were randomly divided in two groups, that is, experimental and control group. The age of subjects varied between 18 and 22 years. The criterion measures vertical jump, 20-m dash, movement speed, flexibility and agility in the beginning and at the end of the experimental period of 6 weeks for both the groups. In order to study the effect of polymeric exercises on selected motor abilities, the analysis of co-variance is used at the 0.05 level of significance. It was concluded that the polymeric training is an effective means for improving the following variables: agility, flexibility vertical jump and movement speed. On the other hand, polymeric training is not an effective means for improving the variable, that is, speed of movement (20-m dash). There was no significant improvement in case of control group

OBJECTIVE
These studies help us to understand the biomotor ability of basket ballers and handballers

Hypothesis
The study hypothesized that basketball players have more bio-motor ability than handball players

METHODOLOGY
Sampling
The investigator will select a total of 40 inter collegiate level handball and basketball players. The subject are male, the age will be 17 to 21 years. The handball players are selected from st. Joseph’s Academy Of Higher Education and Research moolamattam, st Albert’s college ernakulam New Man college thodupuzha, The basketball players are selected from st. Joseph’s Academy Of Higher Education and Research moolamattam and S B college changanashersy.

Administration of Test
The following test is taken for collecting the bio motor ability of intercollegiate level boys.
ZIG-ZAG RUN
SIT AND REACH
VERTICAL JUMP
50-YARD DASH
SIT-UP (BENT KNEES)
1-RM Tests (Repetition maximum tests)

Collection of Data
The data on bio motor ability of handball players and basketball players was collected by conducting the vertical jump, 50meters sprint, sit and reach, sit ups, zigzag run, and 1Rm.

Orientation of Testers
The motor ability test was conducted with the help of investigator before conducting the test testers was oriented and the purpose of the test was explained. The procedure or conducting test and method of scoring were specifically explained as well as demonstrated by the investigator to enrich the tester’s ability.

Statistical Technical
This chapter contains the statistical analysis of data, findings, and discussions of findings. The study was undertaken to compare the biomotor ability between inter collegiate handball and basketball players.

The data collected from the subjects were statistically analyzed were ‘t’ ratio test is used find out significance difference of one variable. The level of significance was fixed at 0.05 level confidences.

Statistical Analysis
The data pertaining to the biomotor ability components like agility, speed, explosive strength, strength endurance of handball and basketball players were analyzed. To find out difference between two groups handball and basketball players biomotor ability, ‘t’ test was used to measure and the significance set at 0.05 confidence level.

RESULTS
The detailed statistical analysis of the data collected is presented in the following tables and figures:

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>Sd</th>
<th>Df</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDBALL PLAYERS</td>
<td>20</td>
<td>7.15</td>
<td>1.38</td>
<td>19</td>
<td>0.616</td>
</tr>
<tr>
<td>BASKETBALL PLAYERS</td>
<td>20</td>
<td>7.45</td>
<td>1.48</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

Note: Significance at 0.05 levels

The above table indicates that, there is no significant difference between handball and basketball players on speed since the calculated ‘t’ value of speed, 0.616 is less than table value, 01.729 at 0.05 level of significance with 19 degrees of freedom. The difference in means of speed is presented in fig 1.
Fig.1. Comparison of Mean Score of Handball Players and Basketball Players on Their Speed

Table 2. Mean Score on Explosive Strength between Handball and Basketball Players on Explosive Strength

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>Sd</th>
<th>Df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDBALL PLAYERS</td>
<td>20</td>
<td>48.00</td>
<td>8.05</td>
<td>19</td>
<td>1.690</td>
</tr>
<tr>
<td>BASKETBALL PLAYERS</td>
<td>20</td>
<td>47.20</td>
<td>8.89</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

Note: Significance at 0.05 levels

The above table indicates that, there is no significant difference between handball and basketball players on explosive strength since the calculated ‘t’ value of explosive strength, 1.690 is less than table value, 01.729 at 0.05 level of significance with 19 degrees of freedom. The difference in means of explosive strength is presented in fig 2.

Fig.2. Comparison Of Mean Score Of Handball Players And Basketball Players On Their Explosive Strength

Table 3. Mean Score on Flexibility between Handball and Basketball Players

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>Sd</th>
<th>Df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDBALL PLAYERS</td>
<td>20</td>
<td>7.80</td>
<td>1.16</td>
<td>19</td>
<td>0.352</td>
</tr>
<tr>
<td>BASKETBALL PLAYERS</td>
<td>20</td>
<td>7.95</td>
<td>1.41</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

Note: Significance at 0.05 levels

The above table indicates that, there is no significant difference between handball and basketball players on flexibility since the calculated ‘t’ value of flexibility, 0.352 is less than table value, 01.729 at 0.05 level of significance with 19 degrees of freedom. The difference in means of flexibility is presented in fig 3.
Fig. 3. Comparison of Mean Score of Handball Players and Basketball Players on Their Explosive Strength

**Table 4. Mean Score on Agility Between Handball And Basketball Players**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>Sd</th>
<th>Df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDBALL PLAYERS</td>
<td>20</td>
<td>8.50</td>
<td>0.496</td>
<td>19</td>
<td>1.606</td>
</tr>
<tr>
<td>BASKETBALL PLAYERS</td>
<td>20</td>
<td>8.16</td>
<td>0.6994</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Significance at 0.05 levels

The above table indicates that, there is no significant difference between handball and basketball players on agility since the calculated ‘t’ value of agility, 1.606 is less than table value, 1.729 at 0.05 level of significance with 19 degrees of freedom. The difference in means of agility is presented in fig 4.

Fig. 4. Comparison of Mean Score of Handball Players and Basketball Players on Their Agility

**Table 5. Mean Score on Strength Endurance between Handball and Basketball Players**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>Sd</th>
<th>Df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDBALL PLAYERS</td>
<td>20</td>
<td>50.25</td>
<td>4.68</td>
<td>19</td>
<td>0.478</td>
</tr>
<tr>
<td>BASKETBALL PLAYERS</td>
<td>20</td>
<td>49.45</td>
<td>5.26</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Significance at 0.05 levels

The above table indicates that, there is no significant difference between handball and basketball players on strength endurance since the calculated ‘t’ value of strength endurance, 0.478 is less than table value, 1.729 at 0.05 level of significance with 19 degrees of freedom. The difference in means of strength endurance is presented in fig 5.
**Fig 5.** Comparison of Mean Score of Handball Players and Basketball Players on Their Strength Endurance

**Table 6.** Mean Score on Maximum Strength between Handball and Basketball Players

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>Sd</th>
<th>Df</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handball Players</td>
<td>20</td>
<td>66.60</td>
<td>13.42</td>
<td>19</td>
<td>0.811</td>
</tr>
<tr>
<td>Basketball Players</td>
<td>20</td>
<td>69.55</td>
<td>12.89</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Significance at 0.05 levels

The above table indicates that, there is no significant difference between handball and basketball players on maximum strength since the calculated ‘t’ value of maximum strength, 0.811 is less than table value, 1.729 at 0.05 level of significance with 19 degrees of freedom. The difference in means of maximum strength is presented in fig 6.

**Fig 6.** Comparison of Mean Score of Handball Players and Basketball Players on Their Maximum Strength

**DISCUSSION ON FINDINGS**

The comparison of biomotor ability between basketball players and handball players shows no significant difference. This finding is in agreement with the findings of the study conducted by Amin Mohammadi Demih, Ali Khajeh Landi in April 2007, a study of Comparison of the basic motor abilities and school achievements in the first grade elementary school boys.

The result of the study showed that there was no significant difference on biomotor ability of intercollegiate handball players and basketball players.

**Discussion of Hypothesis**

It was hypothesized that basketball players have more bio-motor ability than handball players. The result of the study showed that there was no significant difference of biomotor ability among...
basketball players and handball players. The statistical difference proved negatively so that the hypothesis was rejected.

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