Relationship between some special physical fitness characteristics and attack from fourth center in elite Yemeni volleyball players

Dr. Ebrahim Ali Mohammed Al Warfi, Wadah Ahmed Saif Abdo and Dr. RK Badnay

Abstract

Purpose: To determine the relationship between some special physical fitness characteristics and attack from fourth center in elite Yemeni volleyball players.

Methodology: The descriptive method was utilized to achieve objectives of the study. The sample included 16 players from elite volleyball in Yemen.

Results: The study results showed there is relationship between some physical characteristics and attack from fourth center in elite Yemeni volleyball players.

Keywords: Volleyball, Physical characteristics, Attack.

Introduction

Volleyball game one of the team games, which we expect a better future be brighter than it is now because of the development of permanent, continuous and of the evolution of the form of performance skills, as well as plans and methods of playing, also to good planning by the authorities concerned for the International Federation of Volleyball. (Zaki M., 1998) [10]

The study of physical Characteristics, which is characterized by players levels top sports is one of the factors relied upon in determining the typical specifications required of a volleyball player, so that the elements of fitness is a set qualifications functional distinguish the players from each other, according to data hereditary or training. (Hamdaoui A., 2010) [4]

Per requirements of physical activity a certain athlete must be available in the individual athlete to reach the level of performance to the point of being able to achieve the highest possible level of Specialist activity. (Fatten T., 1993) [3]

Physical preparation is the development of the physical and motor characteristics, which plays a major role in sports depends on the degree of development of sports results in most cases. (Ali S., 1994) [2]

Volleyball game is adopting some elements of fitness heavily because of the skills you need for this kind of physical performance, we find that the attacking skills in volleyball, including skill crushing blow to their performance needs to prescription muscle strength and speed, in particular, and some of the elements in general. (Mohammed S., 1995) [9]

Attack, one of the basic skills in the game of volleyball, which is characterized by its importance in the games as a skill and effectiveness of its offensive, which plays a significant role in achieving significant results for any team and make teams advanced, so any athlete must interest in this field and give it some importance. (Mohammed K., 1996) [8]

Through what mentioned above crystallized research problem in being scientific study seeks to determine the relationship between some physical characteristics and attack from fourth center in elite Yemeni volleyball players.

Hypothesis

There is relationship between some physical characteristics and attack from fourth center in elite Yemeni volleyball players.
Objective of Study
The present study seeks to investigate some physical characteristics for elite volleyball players, also attacking for them, and to determine the relationship between some physical characteristics and attack from fourth center in elite Yemeni volleyball players.

Volleyball
A team game, it plays according to a set of laws by using only one ball on rectangular ground consist a net in the middle, happens between two teams each team consist six players, the purpose from game to score more goals in rival ground. It plays in the whole world from all genders. (Hassan A., 1987) [5]

Physical Characteristics
It's ability systems and organs of the body to return to normal state after performing a particular work, also it's physical characteristics that are used in the realms of activity that requires to strength, motor ability, speed, and endurance by minimal effort, which reflects the physical fitness of the athlete. (Kamal A., & Mohammed S., 1997) [6] (Marwan A., 2001) [7]

Attack
It's skill of offensive skills important in the game of volleyball as the player jumps and hits the ball quickly over the net to the rival ground by legal way. (Mohammed K., 1996) [8]

Methodology
The study used the descriptive method because it is appropriate for achieving the objectives.

Sample of Study
The study sample was selected purposely from elite volleyball players in Yemen, it included 16 players.

Table 1: Homogeneity of study sample in some growth rates (Age, Height, and Weight)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit</th>
<th>Mean</th>
<th>S.D</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Year</td>
<td>24.19</td>
<td>2.46</td>
<td>0.278</td>
</tr>
<tr>
<td>Height</td>
<td>Cm</td>
<td>1.85</td>
<td>6.18</td>
<td>-0.490</td>
</tr>
<tr>
<td>Weight</td>
<td>Kg</td>
<td>70.69</td>
<td>7.67</td>
<td>1.044</td>
</tr>
</tbody>
</table>

The table (1) shows there is no statistically significant difference in mean and skewness between the sample of study in (age, height, weight) they were limited to the value of skewness between (-3, 3+) which indicates the homogeneity of the sample of study.

Results
Table 2: Relationship between agility and attack from fourth center to fifth center.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>T.test</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agility</td>
<td>4.91</td>
<td>0.60</td>
<td>-6.73</td>
<td>0.00</td>
</tr>
<tr>
<td>Attack</td>
<td>10.25</td>
<td>2.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table (2) shows that there is significant difference between agility and attack from fourth center to fifth center at level (P≤0.05), was reached (P=0.00).

Accordingly, it can be concluded that there is relationship between the agility and attack from fourth center to fifth center among elite Yemeni volleyball players.

Table 3: Relationship between speed and attack from fourth center to fifth center.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>T. test</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>3.28</td>
<td>0.33</td>
<td>-9.87</td>
<td>0.00</td>
</tr>
<tr>
<td>Attack</td>
<td>10.25</td>
<td>2.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table (3) shows that there is significant difference between speed and attack from fourth center to fifth center at level (P≤0.05), was reached (P=0.00).

Through what mentioned above, it can be demonstrated that there is relationship between the speed and attack from fourth center to fifth center among elite Yemeni volleyball players.

Table 4: Relationship between strength and attack from fourth center to fifth center.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>T.test</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength</td>
<td>27.56</td>
<td>10.77</td>
<td>6.46</td>
<td>0.00</td>
</tr>
<tr>
<td>Attack</td>
<td>10.25</td>
<td>2.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table (4) shows that there is significant difference between strength and attack from fourth center to fifth center at level (P≤0.05), was reached (P=0.00).
The table (4) shows that there is significant difference between strength and attack from fourth center to fifth center at level ($P\leq0.05$), was reached ($P=0.00$).

The result mentioned above clearly indicated that there is relationship between the strength and attack from fourth center to fifth center among elite Yemeni volleyball players.

![Fig 4: Relationship between strength and attack from fourth center to fifth center.](image)

Table 5: Relationship between flexibility and attack from fourth center to fifth center.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>T.test</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>flexibility</td>
<td>50.06</td>
<td>6.35</td>
<td>27.14</td>
<td>0.00</td>
</tr>
<tr>
<td>Attack</td>
<td>10.25</td>
<td>2.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table (5) shows that there is significant difference between flexibility and attack from fourth center to fifth center at level ($P\leq0.05$), was reached ($P=0.00$).

From results above suggested that there is relationship between the flexibility and attack from fourth center to fifth center among elite Yemeni volleyball players.

![Fig 5: Relationship between flexibility and attack from fourth center to fifth center.](image)

Discussion

The results mentioned in tables (2, 3, 4, and 5) showed that there is statistically significant difference between some special physical fitness characteristics and attack from fourth center to fifth center in elite Yemeni volleyball players. These results due to the physical fitness among elite Yemeni volleyball players was high level in skill of attack, which accepted by many previous studies have done in same filed. (Ahmed A., 1991) the physical preparation and skill is basic foundation in volleyball and this depends on mastering basic skills and some physical characteristics, It's necessary to jointing between skills and physical characteristics for achieving highest levels. Also, this is consistent with (Marwan A., 2001) special fitness for volleyball players is basic factor to help in skills performance as required, physical preparation is necessary for upgrading player level, It must player Characterizes by all fitness Characteristics.

Conclusions

1. There is relationship between the agility and attack from fourth center to fifth center among elite Yemeni volleyball players.
2. There is relationship between the speed and attack from fourth center to fifth center among elite Yemeni volleyball players.
3. There is relationship between the Strength and attack from fourth center to fifth center among elite Yemeni volleyball players.
4. There is relationship between the flexibility and attack from fourth center to fifth center among elite Yemeni volleyball players.

Recommendations

1. Necessity of activating the joint work between the coach and the players in preparation requirements of the level of physical and tactical skills and to serve the game of volleyball.
2. Increase the number of training courses for the training of trainers to enable them to increase their scientific and theory knowledge in order to promote the game of volleyball.
3. Adoption of scientific methods in the process of training of volleyball players.
4. Measuring level of physical and skills of volleyball players continuously.
5. Providing hardware and modern tools necessary for training and testing of the volleyball players.
6. Apply the results of present study in evaluation of national volleyball teams.

References

8. Mohammed K. Modern in Volleyball (Date - Skills - Training), Dar Al-Amal for Published, Irbid, 1996, 87.