Cardiorespiratory fitness between Kho-Kho and Kabaddi players

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Abstract

The primary objective of the study is to find out the Cardiorespiratory fitness between Kho-Kho and Kabaddi players and to determine the level of fitness level among Kho-Kho and Kabaddi players. 50 Kho-Kho Players and 50 Kabaddi Players were participating in Krida Mahotsva 2015 in Swami Ramanad Teerth Marathwada University Nanded. The age, height, weight, and Cardiorespiratory fitness, of all subjects were measured in Nanded. Cardiorespiratory fitness was assessed using 12 minute run test. Participants were run for 12 minutes, and the total distance covered is recorded. Walking was allowed. BMI was calculated by Quetelet equation. The result reveals a statistically significant difference of body mass \( t=p<.05 \) between Kho-Kho and Kabaddi players. However the result reveals a statistically significant difference of Cardiorespiratory fitness \( t=p<.05 \) was found between Kho-Kho and Kabaddi player. The results of present study showed that cardiorespiratory fitness performance was better in Kho-Kho Players.

Introduction

Kho-Kho and Kabaddi are the most popular Indian game in the state of Maharashtra. The Indian games are simple in nature, easy to organise and less expensive. The importance of cardiorespiratory fitness to health for all individuals has been well documented. Physical fitness is a required element for all the activities in our life. Cardiorespiratory fitness of an individual is mainly dependent on lifestyle related factors such as daily physical activity levels. It was believed that the low cardiorespiratory fitness level of an individual is associated with higher mortality rate.

For cardiorespiratory fitness, the activity components included are not only for muscular development and endurance training. The lungs, heart, and circulatory system are also the focal points in health and fitness. The reason for this is to improve stamina, immune system, and maintain good body composition. Cardiorespiratory fitness reduces the risk of Cardiorespiratory diseases and other diseases like hypertension, Diabetes obesity, and may cure respiratory problems like asthma.

Low Cardiorespiratory fitness may result in high physical strain during the study period. The primary objective of the study is to find out the Cardiorespiratory fitness level between Kho-Kho and Kabaddi players and to determine the level of fitness level among Kho-Kho and Kabaddi players.
Methods

Target Population and Study Area:

50 Kho-Kho Players and 50 Kabaddi Players were participating in Krida Mahotshva 2015 in Swami Ramanad Teerth Marathwada University Nanded. The age, height, weight, and Cardiorespiratory fitness, of all subjects were measured in Nanded. Cardiorespiratory fitness was assessed using 12 minute run test. Participants were ruined for 12 minutes, and the total distance covered is recorded. Walking was allowed. BMI was calculated by Quetelet equation.

Assessment of cardio vascular test

12 minute Run
Cardiorespiratory fitness was assessed using 12 minutes run test. Place markers at set intervals around the track to aid in measuring the completed distance. Participants were ruined for 12 minutes, and the total distance covered is recorded. Walking was allowed, though the participants must be encouraged to push themselves as hard as they can.

Statistical analysis
The Statistical Package for the Social Sciences (SPSS; version 18.0) was used for the data analysis. Independent t tests were used to assess overall differences between Kho-Kho and Kabaddi players. The level of significant set up at 0.5 level of confidence.

Results and discussion
The present section is dedicated to the presentation of results along with the discussion of present study. The results and discussion have been presented in concise and comprehensive manner that is easy to comprehend starting with selected physical parameter. Comparison of Cardiorespiratory fitness between Kho-Kho and Kabaddi players.

Table 1
shows the criterion measure of variables of Kho-Kho and Kabaddi players

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Kho-Kho Players</th>
<th>Kabaddi Players</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>22.08</td>
<td>22.82</td>
</tr>
<tr>
<td></td>
<td>4.67</td>
<td>3.12</td>
</tr>
<tr>
<td>Height</td>
<td>170.98</td>
<td>170.11</td>
</tr>
<tr>
<td></td>
<td>20.14</td>
<td>22.22</td>
</tr>
<tr>
<td>Weight</td>
<td>66.40</td>
<td>69.67</td>
</tr>
<tr>
<td></td>
<td>11.21</td>
<td>13.80</td>
</tr>
</tbody>
</table>

Table 1 illustrates the age, height and weight of Kho-Kho and Kabaddi players. the mean age of these Kho-Kho Players were $22.08 \pm 4.67$, height were $170.98 \pm 24.14$ cm.
weight were 66.40 + 11.221 Kg and mean age Kabaddi Players were 21.87 + 3.54, height were 169 + 5.05 cm. the weight were 69.80 + 13.87 Kg.

Table -2
Comparison of body mass index among Kho-Kho and Kabaddi players

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test</th>
<th>Number</th>
<th>Mean</th>
<th>S.D.</th>
<th>T-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index</td>
<td>Kho-Kho Players</td>
<td>50</td>
<td>21.02</td>
<td>4.83</td>
<td>(t=&lt;,.05) *</td>
</tr>
<tr>
<td></td>
<td>Kabaddi Players</td>
<td>50</td>
<td>21.89</td>
<td>5.01</td>
<td></td>
</tr>
</tbody>
</table>

* Significant:
Table -2 Shows that mean scores, standard deviation and t-ratio of body mass index between Kho-Kho and Kabaddi players.

With regards to body mass index in Kho-Kho and Kabaddi players they have obtained mean value were 21.02 and 21.89 respectively, the result reveals statistically significant difference of body mass (t=<.05) was found between Kho-Kho and Kabaddi players; Kabaddi Players was found to get more body mass index as compare than Kho-Kho Players, which means that Kho-Kho Players incur significantly less obese as compare than their counterparts.

Table -3
Comparison of cardiorespiratory fitness between Kho-Kho and Kabaddi players

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test</th>
<th>Number</th>
<th>Mean (Mts.)</th>
<th>S.D.</th>
<th>T-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twelve minutes run &amp; Walk</td>
<td>Kho-Kho Players</td>
<td>50</td>
<td>2440.22</td>
<td>21.25</td>
<td>13.34*</td>
</tr>
<tr>
<td></td>
<td>Kabaddi Players</td>
<td>50</td>
<td>2340.90</td>
<td>20.71</td>
<td></td>
</tr>
</tbody>
</table>

*= Significant:
Table -3 Shows that mean scores, standard deviation and t-ratio of body 12 minutes run and walk between Kho-Kho and Kabaddi players.

With regards to 12minutes run and walk in Kho-Kho and Kabaddi players they have obtained mean value were 2440.22 and 2340.90 respectively, the result reveals a
A statistically significant difference of \( t = p < 0.05 \) was found between Kho-Kho and Kabaddi players. Kho-Kho Players was found to get more fitness as compare than Kabaddi Players, which means that Kho-Kho Players incur significantly more cardiorespiratory fitness as compare than their counterparts.

**Discussion**

The results of present study showed that Cardiorespiratory fitness performance was better in Kho-Kho Players, This may be due to mechanization, automation and computerization have minimised the opportunities for vigorous physical activities to cause physical exertion in Kabaddi Players population. The relatively greater Cardiorespiratory fitness of Kho-Kho Players were Probably due to Kho-Kho Players engaged in more time in running activity.

The results of this study suggest that Kabaddi Players have lower levels of Cardiorespiratory fitness as compared with Kho-Kho Players.

The research has provided early information to help the understand their physical fitness. It will motivate them to be involved in sports. The information can be applied as criteria in selecting or choosing. It is also a source to assist physical education teachers, sports directors, physical educationist and sports trainer to be proactive and change their perspective in order to improve the Cardiorespiratory fitness.

**References**


Jourkesh et. al. (2011)Annals of Biological Research, , 2 (2):460-467


