A Study of Body Mass Index among Kabaddi and Kho-Kho Players

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ABSTRACT

The purpose of the study was to examine BMI of Kabaddi and kho-kho players. For this purpose 50 players were randomly selected from Kabaddi and 50 players were selected from game of kho-kho. Samples were selected from Bhim stadium Bhiwani, Haryana. The age limit of the samples was 16 to 20 and level was National. Body Mass Index formula (weight/height² in meters) was used as the tool of the study. The statistical tool was mean, standard deviation and ′t′ test was used. The findings It was found that for the BMI, the paired mean difference was 2.45, S.D difference 2.43 and ′t′ value was 7.11, which was highly significant at both 0.05 and 0.01. It may be observed from the result that there is a significant difference between Kabaddi and kho-kho players in reference to body mass index. The Kabaddi players group was found with a higher level of body mass index which shows greater body mass than the kho-kho players group.

Key Words: Body Mass Index, Kabaddi Players, Kho-Kho Players.

INTRODUCTION

Sports and games play an important role in our life. Physical education and sports have been considered as part of education. Sports are dynamic social forces in a culture. Sports have become an important part of cultures across the globe. They have significant influence on International Affairs and have social, political, legal and educational overtones. Sports have become cultural phenomena of great magnitude and complexity during the present century. Sport is fast becoming a social institution. It has become a potent educational, social and economic force. There is a profound cultural change with regard to the role of sports and physical recreation during present time. Sports are primarily cultural products.

Sports and games propagate the feelings of nationalism and help in creating a new generation of individuals with the feelings that the differences based on caste, community and religion have no meaning. The faith, love, peace, and the feeling of goodwill and brotherhood serve to a greater extent towards humanity. Sports and games provide a common platform where sportspersons from different regions, professing different religion and faiths, speaking different languages, having different customs and traditions interact with each other in a harmonious congenial atmosphere. Players forget all their differences and emerge as a homogenous group. Such type of thinking, insight and mental approach can play positive role in nation building. Sports and games help in creating such understanding and can play a very decisive and pivotal role in bringing about national integration.

Kabaddi is a traditional Indian sport and it has been very popular almost everywhere in India. Kabaddi is often seen as one of the ancient wrestling sport. Actually, it can be called a wrestling sport, but along with it plenty things are also involved. The word Kabaddi has come from Tamil word, kai-pidi which means “holding hands”. Kabaddi is popular not only in India but it is a national game of Bangladesh as well. Most of the Indian states do play this game, but it is more popular in the villages of Punjab, Tamil Nadu, Bihar, Maharashtra, Madhya Pradesh and Gujarat. Many of these states even call Kabaddi as ‘HU KU TU’.

This is the only combative sport in which offence is an individual effort whereas defence is a group effort. For an individual to face up to seven opponent and remain unscathed is no mean achievement. This calls for tremendous fitness of body and mind and the ability to concentrate as well as anticipate the opponent’s moves. This can only be achieved with a lot of tactical preparation and manoeuvring.

Kho-kho is a tag sport from the Indian subcontinent. It is played by teams of twelve players, of which nine enter the field, who try to avoid being touched by members of the opposing team. It is one of the two most popular traditional tag games of the south Asia, the other being Kabaddi apart from the south asia, it is also played in South Africa.
Body mass index (Height and Weight):

The BMI is a simple measure of the lean weight and fat weight components. It is used in epidemiological research and has a moderately high correlation \((r = -0.69)\) with body density. It is easily calculated from the following formula:

\[
\text{BMI} = \frac{\text{Weight}}{\text{Height}^2}
\]

Where, the weight is measured in kilograms and height in meters.

BMI is a very simple tool. Its best use is for risk assessment for the general population to calculate body fat. It was compared to height. Weight tables though; it has a much higher association with body fat of a person. It has another simple formula to calculate the BMI:

\[
\text{BHI} = \frac{\text{Body mass in Kilograms}}{(\text{Height}^2 \text{ in meters})}
\]

So, an example a 150 lb (68 kg) man/ woman who is 165 cm (1.65 m) tall.

\[
\text{BMI} = \frac{68}{1.65^2} \\
\text{BMI} = 68/2.7 \\
\text{BMI} = 25.185
\]

**BMI AT A GLANCE TO VIEW THE STATUS**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Risk</th>
<th>B.M.I. score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under weight</td>
<td>Moderate</td>
<td>Less than 18.5</td>
</tr>
<tr>
<td>Normal</td>
<td>Very low</td>
<td>18.5 to 24.9</td>
</tr>
<tr>
<td>Over weight</td>
<td>Low</td>
<td>25.0 to 29.9</td>
</tr>
<tr>
<td>Obese class 1</td>
<td>Moderate</td>
<td>30.0 to 34.9</td>
</tr>
<tr>
<td>Obese class 2</td>
<td>High</td>
<td>35.0 to 39.9</td>
</tr>
<tr>
<td>Obesity</td>
<td>Very high</td>
<td>Greater than 40.0</td>
</tr>
</tbody>
</table>

**Hypothesis**

There would be no significance difference between body mass index of Kabaddi and kho-kho players.

**Objective:**

To examine BMI of Kabaddi and kho-kho players.

**Delimitation**

1. The study was delimited to purposively select 100 male subjects age ranging from 16 to 20 years of Gurgoan schools Who has participated in inter zonal and school national of Kabaddi and kho-kho competition.
2. The study was delimited to Body Mass Index only.
3. The study was delimited to male players only.

**Limitations**

1. Individual differences among subjects were considered limitation for the study.
2. Social stigma/ religion, culture of the subjects in study may also be considered as limitation for the study.

**Significance of The Study**

1. The present study has significance of proposing guideline and index for future researchers in the field of Kabaddi and kho-kho.
2. The study seeks to bring out the significance through the comparision of this factor between Kabaddi and kho-kho players.
REVIEW OF LITERATURE

Huang et al. (2007) studied to evaluate the cross-sectional relationship between BMI and Physical Fitness Index based on four indicators of fitness in a national sample of Taiwanese Youth. Height, weight and four measures of physical fitness (sit-ups completed in 60 s, standing long jump, sit and rich test and 800 or 1600 m run walk) were measured in a national sample of Taiwanese youth 9-18 years. It was concluded that decline in a curvilinear manner with increasing BMI among youth 9-18 years of age.

Castelli et al. (2007) studied BMI (Physical fitness) and academic achievement in third and fifth grade students. The relationship between BMI and Academic Achievement has received much attention owing for the increasing prevalence of children who are overweight and unfit, as well as the inescapable pressure on schools to produce students who meet academic standards. This study examined 259 public school students in third and fifth grades and found that BMI was positively related to academic achievements. His findings are discusses with regards to maximizing school performance and the implications for educational polices.

METHODOLOGY

Sample:
Sample is the main concept upon which the whole study depends. 100 players (50 kabaddi and 50 kho-kho) were selected as the sample of this study. The method of sampling was random sampling.

Administration of the test items:
The research scholar has adopted required guidelines and precautions to be followed. The detailed procedure for administering this test has been described here as under:

Body mass index (Height and Weight):
The BMI is a simple measure of the lean weight and fat weight components. It is used in epidemiological research and has a moderately high correlation (r=-.69) with body density. It is easily calculated from the following formula:

\[
\text{BMI} = \frac{\text{Weight}}{\text{Height}^2}
\]

Where, the weight is measured in kilograms and height in meters.

Statistical design:
In first step, descriptive statistics was employed in which mean, S.D. were computed with the help of SPSS software. ‘T’ test were computed. The level of significance was set at 0.5 level of confidence.

RESULT AND DISCUSSION:

Table 1: Regarding significance of mean comparison of B.M.I

<table>
<thead>
<tr>
<th>Variable</th>
<th>Paired Difference</th>
<th>Mean Difference</th>
<th>S.D.</th>
<th>‘t’ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index</td>
<td>2.45</td>
<td>2.43</td>
<td>7.11</td>
<td></td>
</tr>
</tbody>
</table>

Significance at 0.05 level (df=49)
Significance at 0.01 level (df=49)

Table reflect the status of two tailed equal group statistical significance mean comparison for which ‘t’ test was employed on both the sets of data kabaddi and kho-kho players with the help of SPSS.
It was found that for the BMI, the paired mean difference was 2.45, S.D difference 2.43 and ‘t’ value was 7.11, which was highly significant at both 0.05 and 0.01. it may be observed from the result that there is a significant difference between Kabaddi and kho-kho players in reference to body mass index. Thus our hypothesis is accepted.

CONCLUSION

The Kabaddi players group was found with a higher level of body mass index which shows greater body mass than the kho-kho players group.

REFERENCES