Effect of mobility training on selected bio-motor variables among kabaddi players

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Abstract
The aim of this study is to find out the effect of mobility training on selected bio-motor variables among kabaddi players. To execute the training for professional kabaddi players were selected studying in colleges, according to inclusion and exclusion criteria. The age group was ranged from 17-21 years. Approval and written consent was taken from each player for the study. The players were further divided into two groups: control group and experimental groups. In control group (N=15 players) where they did not participated in any activity and in experimental group (N=15 players) who underwent mobility training for Alternative 3 days/weeks, 6 weeks. The outcome measure for both the groups was speed 50 meter dash and agility shuttle run and ‘t’ test. The outcome measures of both the group were taken before and after training session. The collected data was statistically analyzed by paired ‘t’ test and. From the result of the statistic, the speed and agility performance of the experimental group with ‘t’ value is 0.05 considered extremely significant. From the result of the study, it was found that there was significant improvement on speed and agility performance of the experimental group when compared to the control group.

Keywords: Kabaddi, mobility training, speed, agility

Introduction
Kabaddi is basically a combative sport, with seven players on each side; played for a period of 40 minutes with a 5 minutes break (20-5-20). The core idea of the game is to score points by raiding into the opponent’s court and touching as many defense players as possible without getting caught on a single breath. One player, chanting Kabaddi!!! Kabaddi!!!! Kabaddi!!!! Charges into the opponent court and try to touch the opponent closest to him, while the seven opponents make manoeuvres to catch the attacker. This is Kabaddi, the match of one against seven, known as the game of struggle. The players on the defensive side are called “Antis” while the player of the offence is called the “Raid”. The attack in Kabaddi is known as a ‘Raid’. The antis touched by the raider during the attack are declared ‘out’ if they do not succeed in catching the raider before he returns to home court. These players can resume play only when their side scores points against the opposite side during their raiding turn or if the remaining players succeed in catching the opponent’s raider. The origin of the game dates back to pre-historic times played in different forms. The modern Kabaddi game was played all over India and some parts of South Asia from 1930. The first known framework of the rules of Kabaddi as an indigenous sport of India was prepared in Maharashtra in the year 1921 for Kabaddi competitions on the pattern of Sanjeevani and Gemini in a combined form. Thereafter a committee was constituted in the year 1923, which amended the rules framed in 1921. The amended rules were applied during the All India Kabaddi Tournament organized in 1923. The All India Kabaddi Federation was formed in the year 1950 to look after the promotion of the game and the Senior National championship started from the year 1952. The new body, Amateur Kabaddi Federation of India (AKFI) came in to existence from the year 1972 affiliated to Indian Olympic Association (IOA) with a view to popularize the game in India & neighboring countries of Asia. After formation of this body, Kabaddi took a new shape and National level competitions started for Junior and Sub-junior boys & girls also. The 1st Asian Kabaddi Championship was held in the year 1980 and was included as a demonstration game in the 9th Asian Games, New Delhi in the year 1982.
The game was included in the South Asian Federation (SAF) games from the year 1984 at Dacca, Bangladesh. Kabaddi was included as a discipline in the 11th Asian Games Beijing 1990 and India won the Lone Gold Medal of Kabaddi in the 11th Asian Games Beijing 1990. India is the reigning champion in the succeeding Asian Games held in Hiroshima 1994, Bangkok 1998, and Busan 2002 & recently at Doha 2006 and created history in Indian sports by winning five consecutive Gold medals in the Asian Games so far. 1st World Cup of Kabaddi was organized in 2004 at Mumbai (India), India won the First World Cup by beating Iran in the finals. The second World Cup was held Panvel (India) in 2007 and India once again became Champion. The First Asian Women Championship was held at Hyderabad in 2005 and India won the Gold Medal. Women Kabaddi was included for the first time in the South Asian Games held in Colombo, Sri Lanka in 2006. For the first time in the history of Asian Games a separate indoor stadium was built for Kabaddi competition and training in the 15th Asian Games held at Doha [Qatar] 2006. The training/ warming up courts and main field of play was made up of puzzle mats of Korean make. The main field of play was equipped with a giant public screen, which displayed replays and the running score. Two ‘Tissot’ plasma scoreboards, info terminals for the presentation crew, the ceremony crew and the media were provided. The 15th Asian Games Doha provided an excellent opportunity to showcase Kabaddi to the Europeans and Australians who were in great numbers in organizing the Asian Games. A good many spectators belonging to European countries, USA, Australia, Western Asia, and the Mediterranean countries, who saw the Game for the first time, were very impressed with the simple rules and the thrill of the sport and desired to introduce the sport in their countries. This has given Kabaddi very good and positive exposure for its future development in the continents of Europe, USA, Australia and Africa. Kabaddi was included in the 2nd Asian Indoor games held at Macau from 25th October to 3rd November 2007. Once again India Won the Gold Medal. Kabaddi Men & Women both was included in 1st Asian Beach Games being hosted by Indonesia in 2008 at Bali, India Won Both the Gold Medals of Men & Women Events. There has been a gradual but significant change in the trends of the game since the past 50 years. What was once considered a game of brawn is not so now. The introduction of mats, shoes, new techniques & changes in rules has made the sport more interesting and advantageous to skilled players who are now able to defeat heavier players with better skills & techniques.

Mobility Training

Muscle, strength, endurance, fat losses are the most common terms we associate fitness with But there's an important component to fitness that isn't openly discussed as much called mobility. Trainers underemphasize the importance of it, and athletes far too often drop it down on the priority list. But mobility is an indication on how well and efficiently we move and even help us ward off injuries. Mobility is the ability to move a limb through the full range of motion with control. Mobility is based on voluntary movement while flexibility involves static holds and is often dependent upon gravity or passive forces. Mobility demands strength to produce full range movement, whereas flexibility is passive, thus not strength dependent. Some authorities refer to mobility as 'active flexibility'. It is possible to have good mobility without being especially flexible, just as one can be flexible with poor mobility, i.e., control. Of the two, mobility is more important. It is better to be inflexible with good mobility than flexible with poor mobility. The percent difference between your mobility and flexibility is the same percent chance of creating a muscular-skeletal injury during physical activities. Brook, Norman (1997) (2)

Methodology

The purpose of the study was to investigate the effect of mobility training on selected bio-motor variables among kabaddi players. It was hypothesized that there would be significant difference on selected bio-motor variables due to the effect of mobility training among college level kabaddi players. For the present study the 30 college level kabaddi player from Gobi arts and Science College, Gobichettyopalayam, Erode district, Kamadhenu arts and Science College, sathyamanglam, Erode district, Tamlilnadu, India were selected at random and their age ranged from 17 to 24 years. For the present study Pre-test and Post-test random group design, which consists of control group and named as group A and B. A group underwent mobility training and B group have not undergone any training. Speed and agility were assessed by 50 meter dash and shuttle run and t-test. The data were collected before and after six weeks of training. The data were analyzed applying t-test. The test level significance was set at 0.05.

Training Programme

For experimental group underwent their training programme as three days per week for six weeks. Training was given in the evening session. The training session includes warming up and cool down. Every day the workout lasted for 45 to 60 minutes approximately. The subjects underwent their training programmes as per the schedules such as side bends, standing calf stretch, lying hamstring stretch, kneeling hip flexor stretch and seated truck twist under the strict supervision of the investigator. During experimental period control group did not participate in any of the special training.

Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>Pre-test Mean</th>
<th>Std. Dev</th>
<th>Post-test Mean</th>
<th>Std. Dev</th>
<th>'t' Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Control</td>
<td>7.36</td>
<td>0.27</td>
<td>7.35</td>
<td>0.27</td>
<td>2.00</td>
</tr>
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<td></td>
<td>Experimental</td>
<td>7.32</td>
<td>0.24</td>
<td>7.27</td>
<td>0.24</td>
<td>35.92*</td>
</tr>
<tr>
<td>Agility</td>
<td>Control</td>
<td>18.57</td>
<td>0.24</td>
<td>18.57</td>
<td>0.24</td>
<td>1.74</td>
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<td></td>
<td>Experimental</td>
<td>18.46</td>
<td>0.22</td>
<td>18.45</td>
<td>0.22</td>
<td>3.87*</td>
</tr>
</tbody>
</table>

Pre & Post-test among Plyometric and Control Groups

*Significant at 0.05 level of confidence
Table-1 reveals that the obtained mean values of per test and Post-test of control group for speed and agility were 7.36 and 7.35, 18.57 and 18.57, respectively; the obtained ‘t’ ratio were 2.00 and 1.74 respectively. The tabulated ‘t’ value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated ‘t’ ratio was lesser than the table value. It is found to be insignificant change in speed and agility of the kabaddi players. The obtained mean values of Pre-test and Post-test scores of experimental group were 7.32 and 7.27, 18.46 and 18.45 respectively, the obtained ‘t’ ratio was 35.92* and 3.87* The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated ‘t’ ratio was greater than the table value. It is found to be significant changes in speed and agility of the kabaddi players.

![Bar Diagram Showing the Pre-test and Post-test on bio-motor variables of Control and experimental Groups (SCG, SEG, ACG & AEG)](image)

**Discussion on Findings**

The result of study indicates that the experimental group, namely mobility training group had significantly improved the selected depended variables, namely speed and agility, when compared to the control group. It is also found that the improvement caused by mobility training when compared to the control group.

**Conclusion**

1. There was a significant difference between control and experimental group on speed and agility after the training period.
2. There was a significant improvement in speed and agility. However the improvement was in favor of experimental group due to six weeks of mobility training.

**References**

1. History, Amateur Kabaddi Federation of India [national sports federation of kabaddi (all forms)], 2017.