Impact of Yogic Exercises on Selected Physical and Physiological Variables among University Handball Players

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Abstract: This study was designed to investigate the impact of yogic exercises on selected physical and physiological variables among university handball players. To achieve the purpose of the study 30 university male handball players were selected from AMET University, Chennai. The subjects were randomly assigned into two groups (n=15) each. Group - I underwent yogic exercises and Group – II was acted as control group. The yogic exercises were given to the experimental group for 3 alternative days in a week (Monday, Wednesday and Friday) for the period of twelve weeks training programme.

The control group was not involved any training programme except their routine work. A pilot study was conducted to assess the initial capacity of the subjects in order to fix the load. The physical parameters of shoulder strength (Push-ups) and physiological parameters (Breath Holding Time, Resting Heart Rate) before and after training period. The data collected from the subjects was statistically analyzed with ‘t’ test to find out significant improvement if any at 0.05 level of confidence. The result of the shoulder strength, and Breath Holding Time, Resting Heart Rate speculated significant improvement due to influence of yogic exercise with the limitations of (food and diet, environment condition, daily routine work) status and previous training. The result of the present study correspond findings of the investigation done by different experts in the field of sports sciences. Yogic exercise group significantly improved shoulder strength, and Breath Holding Time, Resting Heart Rate college male handball players.

Keywords: yogic exercise, shoulder strength, breathe holding time, resting heart rate

INTRODUCTION

The word “Yoga” is derived from the Sanskrit root “Yuj” which means union, joining, harnessing, contact, or connection. Its mean communion or between the individual soul and merge with the universal soul. Yoga has also been described as wisdom in work or skillful living amongst activities, harmony and moderation. It is the fusion of a healthy body with a disciplined mind for the purpose of spiritual development. Yoga is also blissful contact with the supreme element, higher than the highest of the known elements. It is the harnessing of one’s inherent inner power, as well as the wider natural forces from which one have emerged. Yoga is an inseparable part of the Indian life and culture. It has come down to us from antiquity with an unbroken tradition. Integration encompasses putting together and controlling the same judiciously. This is consistent with the definition of Yoga in “Bhagavad Gita” which says, “Smatvameva Yoga Uchyate” that is equanimity is called Yoga. It means that yoga remains equipoise in success and failure, gain and loss, victory and defect etc.
The term ‘Samatva’ may also be translated as equilibrium, which leads to harmonious development of the physical, mental and spiritual aspects of human personality. Equanimity and equilibrium are thus the essential traits of Yoga. They help in the Skillful performance of an action.

Handball

The growing popularity of handball is not only due to the fact that it is a healthy competitive sport, but also due to the simple rules and even simpler equipment needed a ball, two goals and a small playing field (not forgetting, of course, the seven players needed in a team). The introduction of referees, unlimited substitutions, tactical moves, the quick switch from defense to attack have all contributed to the game enjoying universal popularity and it is now played in as many as 95 countries. In India, the game was first played at Rohtak (Haryana) in 1972 and since then it has spread all over the country. Its inclusion in the 1982 Asian Games at New Delhi was a major factor in helping to popularize the game in India. Handball is played by two teams, composed of six players and a goalkeeper each, who try and throw the ball into their opponents’ goal. Since the basis of the game is catching, throwing, jumping and shooting at goal, handball is a sport that develops the bodies of young players as well as keeping older players physically fit. A handball player must first and foremost be a good runner with an ability to make quick shots. He must also have a skill of catching and throwing with precision to teammates.

Good dribbling skills are a basic requirement and finally, a player must have the ability, to shoot at goal. These requirements mean that a player must train his body, arms and legs function as one harmonious unit. The basic elements of training a handball player must include dribbling, running, jumping, ball receiving, ball passing, ball handling skills, tactical awareness and probably the most important a sense of fair play.

Methods

Experimental Approach to the Problem In order to address the hypothesis presented herein, we selected 30 university men handball players from AMET University, Chennai. The subjects were randomly assigned in to two equal groups namely, yogic exercises group (YEG) (n=15) and Control group (CG) (n=15). A pilot study was conducted to assess the initial capacity of the subjects in order to fix the load. The respective training was given to the experimental group the 3 days per weeks (alternate days) for the training period of twelve weeks. The control group was not given any sort of training except their routine.

Design

The evaluated physical parameter was shoulder strength was assessed by Push-ups and the unit of measurement was in counts, and Breath Holding Time, Resting Heart Rate the unit of were measured at baseline and after 12 weeks of yogic exercise were examined.

Training Programme

The training programme was lasted for 60 minutes for session in a day, 3 days in a week for a period of 12 weeks duration. These 60 minutes included 15 loosening exercises, yogic exercises for 30 minutes and 15 minutes relaxation. Every three weeks of training 5% of intensity of load was increased from 55% to 75% of work load. The volume of yogic exercise is prescribed based on the number of sets and repetitions. The equivalent in yogic exercise is the length of the time each action in total 3 day per weeks (Monday, Wednesday and Friday). The intensity of training was tapered, so that fatigue would not be a factor during post testing.
Statistical Analysis
The collected data before and after training period of 12 weeks on the above said variables due to the impact of yogic exercises was statistically analyzed with ‘t’ test to find out the significant improvement between pre and post-test. In all cases the criterion for statistical significance was set at 0.05 level of confidence. Table I

Computation of ‘t’ Ratio on Selected yogic practice variables of University Handball players On Experimental Group and Control Group

<table>
<thead>
<tr>
<th>Group</th>
<th>Variables</th>
<th>M</th>
<th>N</th>
<th>SD</th>
<th>SE</th>
<th>‘t’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp. Gr</td>
<td>Shoulder Strength</td>
<td>Pre test</td>
<td>23.27</td>
<td>15</td>
<td>2.47</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>20.07</td>
<td>15</td>
<td>1.51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Breath Holding time</td>
<td>Pre test</td>
<td>22.82</td>
<td>15</td>
<td>3.55</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>24.50</td>
<td>15</td>
<td>2.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resting Heart Rate</td>
<td>Pre test</td>
<td>80.21</td>
<td>15</td>
<td>3.77</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>77.17</td>
<td>15</td>
<td>2.98</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Shoulder Strength</td>
<td>Pre test</td>
<td>22.41</td>
<td>15</td>
<td>2.04</td>
<td>0.67</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td>Post test</td>
<td>21.57</td>
<td>15</td>
<td>1.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Breath Holding time</td>
<td>Pre test</td>
<td>22.31</td>
<td>15</td>
<td>3.15</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>20.15</td>
<td>15</td>
<td>2.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resting Heart Rate</td>
<td>Pre test</td>
<td>80.17</td>
<td>15</td>
<td>8.21</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>78.26</td>
<td>15</td>
<td>7.23</td>
<td></td>
</tr>
</tbody>
</table>

Table I reveals the computation of mean, standard deviation and ‘t’ ratio on selected physical and physiological parameters namely shoulder strength, Breath Holding Time, Resting Heart Rate experimental group. The obtained ‘t’ ratio on shoulder strength, Breath Holding Time, Resting Heart Rate were 2.94, 5.33 and 7.11 respectively. The required table value was 2.14 for the degrees of freedom 1and 14 at the 0.05 level of significance. Since the obtained ‘t’ values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and ‘t’ ratio on selected physical and physiological parameters namely shoulder strength, Breath Holding Time, Resting Heart Rate control group. The obtained ‘t’ ratio on shoulder strength, Breath Holding Time, Resting Heart Rate were 1.27,0.26 and 0.22 respectively. The required table value was 2.14 for the degrees of freedom 1and 14 at the 0.05 level of significance. Since the obtained ‘t’ values were lesser than the table value it was found to be statistically not significant.

DISCUSSION FINDINGS

The present study experiment the impact of yogic exercise on physical and physiological parameters of handball players. The result of the study indicated that the yogic exercise improved the physical parameters such as shoulder strength, Breath Holding Time, Resting Heart Rate the findings of the present study had similarity with the findings of the investigations referred in this study. However, there was a significantly changes of subjects in the present study the shoulder strength, Breath Holding Time, Resting Heart Rate was significantly improved of subject in the group may be due to the in yogic practice.Vishnu Raj R (2017) Effect of yogic practices on physical and physiological parameters of inter-collegiate Male handball players, Ahilan, (2012) [2]. Effect of Asana and Pranayama on physiological variables. Chidambara Raja. S (2010) [3] “Effect of Yogic Practice and Physical Fitness on Flexibility, Anxiety and Blood Pressure. Rajakumar.
J, (2010) [6] the Impact of yogic exercise and Physical Exercises on Selected Physiological Variables among the Inter-Collegiate Soccer Players. From of result of the present study, it is speculated that the observed changes in shoulder strength, Breath Holding Time, Resting Heart Rate may properly designed yogic exercise which are suitable for men handball players at college level.

CONCLUSION

1. It was concluded that 12 weeks yogic exercise significantly improved the shoulder strength, Breath Holding Time, Resting Heart Rate of the university handball players.
2. Yogic exercise is one among the most appropriate means to bring about the desirable changes over physical and physiological variables of handball players. Hence, suggested that coaches and the experts deal with handball players to incorporate. Yogic exercise as a component in their training programme.

REFERENCES


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