



Effect of yogic practices on physical and physiological parameters of inter-collegiate Male handball players

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Abstract

This study was designed to investigate the impact of yogic practices on physical and physiological parameters of college male handball players. To achieve the purpose of the study 30 inter-collegiate male handball players were selected from affiliated colleges of Bharathiar University, Coimbatore. The subjects were randomly assigned to two equal groups (n=15). Group - I underwent yogic practices (YPG) and Group - II was acted as control group (CG). The yogic practice was given to the experimental group for 3 days per week (Monday, Wednesday and Friday) for the period of twelve weeks. The control group was not given any sort of training 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 practices with the limitations of (diet, climate, life style) status and previous training. The result of the present study coincides with findings of the investigation done by different experts in the field of sports sciences. Yogic practices group significantly improved shoulder strength, and Breath Holding Time, Resting Heart Rate college male handball players.

Keywords: yogic practices, shoulder strength, breath holding time, resting heart rate

Introduction

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 spurts. He must also have a knack 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 gymnastic exercises, running, jumping, catching, ball handling skills, tactical awareness and probably the most important a sense of fair play.

Yogic Practice

The word "Yoga" is derived from the Sanskrit root "Yuj" which means union, joining, harnessing, contact, or connection. It is union between the individual self and the universal self. 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 has 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 defeat 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.

Methods

Experimental Approach to the Problem In order to address the hypothesis presented herein, we selected 30 inter-collegiate men handball players from affiliated colleges of Bharathiar University, Coimbatore. The subjects were randomly assigned in to two equal groups namely, yogic practices group (YPG)

(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 parameters were 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 practices were examined.

Training Programme

The training programme was lasted for 45 minutes for session in a day, 3 days in a week for a period of 12 weeks duration. These 45 minutes included 10 loosening Practices, yogic practices for 25 minutes and 10 minutes relaxation. Every

three weeks of training 5% of intensity of load was increased from 65% to 80% of work load. The volume of yogic practices is prescribed based on the number of sets and repetitions. The equivalent in yogic practices is the length of the time each action in total 3 day per weeks (Monday, Wednesday and Friday). The intensity of exercise for 10 weeks before tapering off during 11th and 12th weeks as removal by Piper and Erdman (1998). 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 practices 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 1: Computation of ‘T’ Ratio on Selected yogic practice variables of college men handball players. On Experimental Group and Control Group

Group	Variables		Mean	N	Std. Deviation	Std. error	t ratio
Experimental group	Shoulder Strength	Pre test	20.40	15	1.72	0.21	3.16*
		Post test	21.07	15	1.86		
	Breath Holding time	pre test	21.53	15	2.23	0.33	6.25*
		Post test	23.60	15	2.35		
	Resting Heart Rate	Pre test	79.40	15	4.89	0.34	8.51*
		Post test	76.47	15	4.15		
Control group	Shoulder Strength	Pre test	20.47	15	1.84	0.37	1.80
		Post test	20.53	15	1.64		
	Breath Holding time	Pre test	21.47	15	3.31	0.407	0.16
		Post test	21.40	15	3.99		
	Resting Heart Rate	Pre test	79.47	15	5.76	1.16	0.22
		Post test	79.73	15	7.57		

*Significant level 0.05 level degree of freedom (2.14, 1 and 14)

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 3.16, and 6.25, 8.51 respectively. The required table value was 2.14 for the degrees of freedom 1 and 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 1.80, and 0.16, 0.22 respectively. The required table value was 2.14 for the degrees of freedom 1 and 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.

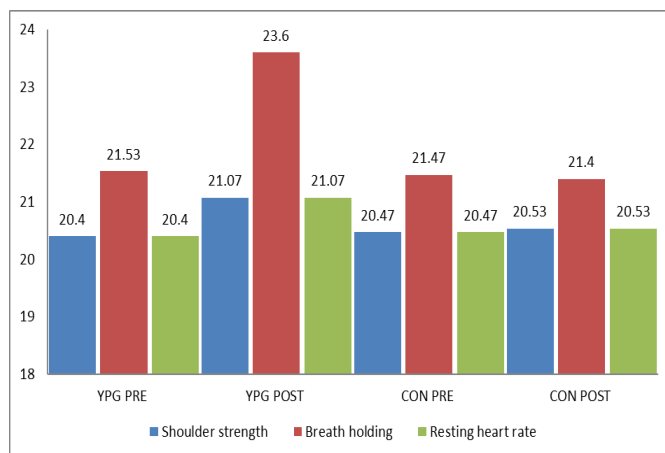


Fig 1: Bar diagram showing the mean value on physical and physiological Parameters of inter collegiate male handball Players on experimental and control group

Discussion Findings

The present study experimented the impact of yogic practice on physical and physiological parameters of handball players. The result of the study indicated that the yogic practice 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. Ahilan, (2012)^[1]. 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 Practices 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 practice which are suitable for men handball players at college level.

Conclusions

1. It was concluded that 12 weeks yogic practices significantly improved the shoulder strength, Breath Holding Time, Resting Heart Rate of the inter collegiate male handball players.
2. Yogic practices 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 practices as a component in their training programme.

References

1. Ahilan R, Nathan, Senthil. Effect of Asana and Pranayama on physiological variables. Internet. J. Phy. Edu. 2012; 5(1):24-26.
2. Anis Chaouachi *et al.* Anthropometric, physiological and performance characteristics of elite team-handball players, Journal of Sports Sciences. 2009; (27):151-157.
3. Chidambara Raja S. Effect of Yogic Practice and Physical Fitness on Flexibility, Anxiety and Blood Pressure, Indian Journal for Research in Physical Education and Sports Sciences. 2010; 5:1.
4. Komathi R, Kalimuthu M. Effect of Yogic Practices on Abdominal Strength among School Boys” Recent Treads in Yoga and Physical Education. 2011; 1:51.
5. Madanmohan *et al.* Effect of Yoga Training on Reaction Time, Respiratory Endurance and Muscular Strength. Indian Journal of Physiology and Pharmacology. 1992; 30(6):22
6. Rajakumar J. The Impact of Yogic Practices and Physical Exercises on Selected Physiological Variables among the Inter-Collegiate Soccer Players, Journal for Bloomers of Research. 2010, 2(2).
7. Sekarbabu K, Kulothugan P. Effect of Yogic Practices on Selected Physiological Variables of Men Hockey Players,

Recent Treads in Yoga and Physical Education. 2011; 1:321.

8. Tran *et al.* Effects of Hatha Yoga Practice on the Health-Related Aspects of Physical Fitness, Preventive cardiology. 2001; 2:165.
9. Yokesh TP, Chandrasekaran K. Effect of yogic practice on selected physical fitness among over weighted school boys, Recent Research in Science and Technology. 2011; 3(9):43-45. ISSN 2076-5061.