



Effects of Asanas and Pranayama Practices on Flexibility of Badminton Players

G. D. Youvaraj¹ & Dr. K. Vaithianathan²

¹Research Scholar, Department of Yoga, Tamilnadu Physical Education and Sports University, Chennai, Tamilnadu, India.

²Vice Chancellor (Rtd), Tamilnadu Physical Education and Sports University, Chennai, Chennai, Tamilnadu, India.

Received 24th June 2015, Accepted 27th August 2015

Abstract

The purpose of the study was to find out the effects of asanas and pranayama practices on flexibility of badminton players. To achieve this purpose of the study, thirty junior badminton players in Hongkong, China were selected as subjects at random. Their age ranged between 14 to 17 years. The selected subjects were divided into three equal groups of ten each namely asanas group, pranayama group and control group. The experimental group I underwent asanas practices, group II underwent pranayama practices for five days per week for twelve weeks whereas the control group (Group III) maintained their daily routine activities and no special training was given to them. The following variable namely flexibility was selected as criterion variable. The subjects of the three groups were tested on flexibility using sit and reach test at prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. Whenever the obtained "F" ratio was found to be significant, the scheffe's test was applied as post hoc test to find out the paired mean difference, if any. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate. The results of the study showed that there was a significant difference exists among asanas, pranayama and control groups on flexibility. And also asanas group and pranayama group showed significant improvement on flexibility when compared to control group.

Keywords: Asanas, Pranayama practices, Flexibility, Analysis of Covariance (ANCOVA), Scheffe's test.

© Copy Right, IJRRAS, 2015. All Rights Reserved.

Introduction

Yoga is a science of right living and it works when integrated in our daily life. It works on all aspects of the person: the physical, mental, emotional, psychic and spiritual. The word yoga means 'unity' or 'oneness' and is derived from the Sanskrit word 'yuj' which means 'to join'. Yoga provides one of the best means of self-improvement and attaining one's full potential. In the advanced stages of yoga, superconscious states are attained which result in a feeling of bliss, deep peace and the emergence of psychic powers. (Edwin Bryant, 2009). The third "anga" is Asana. Asana means posture. We give all possible movements to the body by aligning our body into different postures, hold on to those postures for some time and then relax the whole body. This wide range of posturing improves suppleness and flexibility in the body. Further it tones up the nervous system, function of all vital internal organs, stimulation of the glands and regulation of the blood flow. The muscles in our body are thus formed and strengthened. Pranayama is the fourth "anga" in Raja yoga.. Pranayama means breath control. In other words it is the control of air by means of inhalation holding the air and exhalation. Mainly the pranayama is used to prepare the mind

for meditation.

Methodology

The purpose of the study was to find out the effects of asanas and pranayama practices on flexibility of badminton players. To achieve this purpose of the study, thirty junior badminton players in Hongkong, China were selected as subjects at random. Their age ranged between 14 to 17 years. The selected subjects were divided into three equal groups of ten each namely asanas group, pranayama group and control group. The experimental group I underwent asanas practices, group II underwent pranayama practices for five days per week for twelve weeks whereas the control group (Group III) maintained their daily routine activities and no special training was given to them. The following variable namely flexibility was selected as criterion variable. The subjects of the three groups were tested on flexibility using sit and reach test at prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. Whenever the obtained "F" ratio was found to be significant, the scheffe's test was applied as post hoc test to find out the paired mean difference, if any. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

Correspondence

G.D. Youvaraj,

E-mail: yuva@yuvaayoga.com, Ph. +85266285295

Training Programme

During the training period, the Group I underwent asanas practices, and group II underwent pranayama practices for five days per week for twelve weeks. Every day the workout lasted for 45 to 60 minutes approximately including warming up and warming down periods. Group III acted as control who did not participate in any strenuous physical exercises and specific training throughout the training period.

Results

Table I. Analysis of covariance of the data on flexibility of pre and post tests scores of asanas, pranayama and control groups

Test	Asanas group	Pranayama group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	31.50	31.80	31.60	Between	0.47	2	0.23	0.05
S.D.	2.01	2.04	2.06	Within	124.50	27	4.61	
Post Test								
Mean	36.40	33.60	31.70	Between	111.80	2	55.90	5.78*
S.D.	4.29	1.80	2.10	Within	260.90	27	9.66	
Adjusted Post Test								
Mean	36.53	33.44	31.73	Between	118.00	2	59.00	10.29*
				Within	149.06	26	5.73	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 27 and 2 and 26 are 3.37 and 3.35 respectively).

The adjusted post-test means of asanas group, pranayama group and control group on flexibility are 36.53, 33.44 and 31.73 respectively. The obtained "F" ratio of 10.29 for adjusted post-test means is greater than the table value of 3.35 for df 2 and 26 required for significance at .05 level of confidence on flexibility.

Analysis of the Data

The analysis of covariance on flexibility of asanas group, pranayama group and control group have been analyzed and presented below. The analysis of covariance on flexibility of the pre and post test scores of asanas group, pranayama group and control group have been analyzed and presented in Table I.

Since, three groups were compared whenever the obtained "F" ratio for the adjusted post test was found to be significant, the scheffe's test was applied as post hoc test to find out the paired mean differences, if any and it was presented in table I- A.

Table I – A. The scheffe's test for the differences between paired means on flexibility

Asanas group	Pranayama group	Control Group	Mean Differences	Confidence Interval Value
36.53	33.44	-	3.08*	0.62
36.53	-	31.73	4.79*	0.62
-	33.44	31.73	1.71*	0.62

* Significant at .05 level of confidence.

The table I- A showed that the mean difference values between asanas group and pranayama group, asanas group and control group, pranayama group and control group on flexibility were 3.08, 4.79 and 1.71 respectively which were greater than the required confidence interval value 0.62. The results of the study

showed that there was a significant difference between asanas group and pranayama group, asanas group and control group, pranayama group and control group on flexibility.

Results and Discussions

Based on the results of the study, the following conclusions were made,

1. The results of the study showed that there was a significant difference among asanas group, pranayama group and control group on flexibility.
2. And also it was showed that there was a significant improvement on flexibility due to asanas and pranayama practices, whereas the improvements were in favour of pranayama practices.

References

1. Barrow, Harold A. and McGee Rosemary, A Practical Approach to Measurements in Physical Education. Philadelphia: Lea and Febiger Publihers, 1979.
2. Bompa, Tudor O., Periodization Training for Sports. Illinois: The Human Kinetics Publishers, 1999.
3. Bryant, Edwin (2009). The Yoga Sutras of Patañjali: A New Edition, Translation, and Commentary. New York, USA: North Point Press. ISBN 978-0865477360.
4. Bucher A. Charles, Foundations of Physical Education. St. Louis: The C.V. Mosby Company, 1990.
5. Clarke and Clarke, Application of Measurement to Health and Physical Education. Englewood Cliffs, New Jersey: The Prentice Hall Inc., 1976.
6. James S. Basco and William F. Gustafson, Measurement and Evaluation of Physical Education Fitness and Sports. Englewood Cliffs, New Jersey : The Prentice Hall Inc., 1989.
7. Matvey L., Fundamentals of Sports Training. Moscow :Progress Publishers, 1981.
8. Robert V. and Hockey, E.D., Physical Fitness, the Pathway to Healthful Living. New Jersey : Times Mirror/Mosby College Publishing, 1989.
9. Singh, Hardayal, Science of Sports Training. New Delhi: D.V.S. Publications, 1991.
10. Worthington, Vivian (1982). A History of Yoga. Routledge. ISBN 0-7100-9258-X.