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# Effects of Hatha Yoga on Selected Physical Fitness Variables among College Men Hockey Players

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**Abstract**

*The purpose of the study was to find out the effect of hatha yoga on selected physical fitness variables such as muscular endurance and flexibility among college men hockey players. To achieve this purpose of the study, thirty college men hockey players studying in Voorhees College, Vellore, Sacred Heart College, Vellore Kingston Engineering College, Vellore and Thanthai Periyar Government Institute of Technology, Vellore, Tamilnadu, India were selected as subjects at random. The age of the subjects were ranged from 18 to 24 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as hatha yoga group (Group I) and control group (Group II). The hatha yoga group (Group I) underwent their respective training programme for three days per week for twelve weeks. Group II acted as control in which they did not undergo any special training programme apart from their regular day today activities. All the subjects of two groups were tested on selected criterion variable such as muscular endurance and flexibility at prior to and immediately after the training programme by using bend knee sit ups and sit and reach test respectively. The analysis of covariance (ANCOVA) was used to analysis the significant difference, if any in between the groups. The level of significant to test the 'F' ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate. The results of the study revealed that there was a significant difference between hatha yoga group and control group on selected physical fitness components such as muscular endurance and flexibility. Significant improvements on selected criterion variables were also noticed due to hatha yoga.*

**Keywords:** Hatha Yoga, Physical Fitness, Hockey.



## Introduction

Hatha is a general category that includes most yoga styles. It is an old system that includes the practice of *asanas* (yoga postures) and *pranayama* (breathing exercises), which help bring peace to the mind and body, preparing the body for deeper spiritual practices such as meditation. Both Hatha and Vinyasa yoga work to increase flexibility and strength, improve breathing and quiet the mind. Each form of yoga aims to create fitness of the body and mind, though the way to these goals differs. The science of Hatha, or Hatha Vidya, originated in 15th-century India and earned a reputation for purifying the body in preparation for meditation. Vinyasa yoga, also called Ashtanga yoga, is a fast-paced series of postures or asanas that focuses on the flow between movements, rather than individual poses. Hatha yoga's pace is slow and gentle, it is an ideal starting place for people who are new to yoga. One of the more challenging aspects of a yoga practice is combining movements with breathing control, or pranayama; a slow pace assists newcomers in moving correctly with the breath according to Hatha principles.

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## Methodology

The purpose of the study was to find out the effect of hatha yoga on selected physical fitness variables such as muscular endurance and flexibility among college men hockey players. To achieve this purpose of the study, thirty college men hockey players studying in Voorhees College, Vellore, Sacred Heart College, Vellore Kingston Engineering College, Vellore and Thanthai Periyar Government Institute of Technology, Vellore, Tamilnadu, India were selected as subjects at random. The age of the subjects were ranged from 18 to 24 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as hatha yoga group (Group I) and control group (Group II). The hatha yoga group (Group I) underwent their respective training programme for three days per week for twelve weeks. Group II acted as control in which they did not undergo any special training programme apart from their regular day today activities. All the subjects of two groups were tested on selected criterion variables such as muscular endurance and flexibility at prior to and immediately after the training programme by using bend knee sit ups and sit and reach test respectively. The analysis of covariance (ANCOVA) was used to analysis the significant

difference, if any in between the groups. The level of significant to test the 'F' ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate.

**Analysis of the Data**

The influence of hatha yoga on each physical fitness variable were analyzed separately and presented below.

**Muscular Endurance**

The analysis of covariance on muscular endurance of the pre and post test scores of hatha yoga group and control group have been analyzed and presented in Table 1.

Table 1
Analysis of covariance of the data on muscular endurance of pre and post tests scores of hatha yoga group and control group

| Test | Hatha Yoga Group | Control Group | Source of Variance | Sum of Squares | df | Mean Squares | Obtained 'F' Ratio |
|---|---|---|---|---|---|---|---|
| **Pre Test** | | | | | | | |
| Mean | 38.73 | 38.27 | Between | 1.63 | 1 | 1.63 | 0.67 |
| S.D. | 1.57 | 1.24 | Within | 67.87 | 28 | 2.42 | |
| **Post Test** | | | | | | | |
| Mean | 42.93 | 38.53 | Between | 145.20 | 1 | 145.20 | 20.97* |
| S.D. | 1.44 | 1.31 | Within | 193.87 | 28 | 6.92 | |
| **Adjusted Post Test** | | | | | | | |
| Mean | 42.75 | 38.71 | Between | 119.44 | 1 | 119.44 | 408.24* |
| | | | Within | 7.90 | 27 | 0.29 | |

* Significant at .05 level of confidence.
(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.21 respectively)

The table 1 shows that pre-test means on muscular endurance of hatha yoga group and control group are 38.73 and 38.27 respectively. The obtained "F" ratio of 0.67 for pre -test means is less than the table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on muscular endurance. The post-test means on muscular endurance of hatha yoga group and control group are 42.93 and 38.53 respectively. The obtained "F" ratio of 20.97 for post-test means is more than the table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on muscular endurance. The table 1 further shows that the adjusted post-test mean values of hatha yoga group and control group are 42.75 and 38.71 respectively. The obtained "F" ratio of 408.24 for adjusted post-test means is greater than the required table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on muscular endurance. The results of the study indicated that there was a significant difference between the adjusted post-test means of hatha yoga group and control group on muscular endurance.

**Flexibility**

The analysis of covariance on flexibility of the pre and post test scores of hatha yoga group and control group have been analyzed and presented in Table 2.

Table 2
*Analysis of covariance of the data on flexibility of pre and post tests scores of hatha yoga group and control group*

| Test | Hatha Yoga Group | Control Group | Source of Variance | Sum of Squares | df | Mean Squares | Obtained 'F' Ratio |
|---|---|---|---|---|---|---|---|
| **Pre Test** | | | | | | | |
| Mean | 15.60 | 15.67 | Between | 0.03 | 1 | 0.03 | 0.02 |
| S.D. | 1.45 | 1.15 | Within | 54.93 | 28 | 1.96 | |
| **Post Test** | | | | | | | |
| Mean | 18.13 | 16.07 | Between | 32.03 | 1 | 32.03 | 11.69* |
| S.D. | 1.25 | 1.29 | Within | 76.70 | 28 | 2.74 | |
| **Adjusted Post Test** | | | | | | | |
| Mean | 18.16 | 16.04 | Between | 33.69 | 1 | 33.69 | 98.78* |
| | | | Within | 9.21 | 27 | 0.34 | |

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.21 respectively)

The table 2 shows that pre-test means on flexibility of hatha yoga group and control group are 15.60 and 15.67 respectively. The obtained "F" ratio of 0.02 for pre -test means is less than the table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on flexibility. The post-test means on flexibility of hatha yoga group and control group are 18.13 and 16.07 respectively. The obtained "F" ratio of 11.69 for post-test means is more than the table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on flexibility. The table 2 further shows that the adjusted post-test mean values of hatha yoga group and control group are 18.16 and 16.04 respectively. The obtained "F" ratio of 98.78 for adjusted post-test means is greater than the required table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on flexibility. The results of the study indicated that there was a significant difference between the adjusted post-test means of hatha yoga group and control group on flexibility.

**Conclusions**

1. There was a significant difference between the adjusted post-test means of hatha yoga group and control group on muscular endurance.
2. There was a significant difference between the adjusted post-test means of hatha yoga group and control group on flexibility.
3. And also it was found that there was a significant improvement on selected criterion variables such as muscular endurance and flexibility due to hatha yoga.

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