

Effect of Yogic Practice on Cardiovascular Endurance of Judokas

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Abstract

Context: India is where yoga, a comprehensive science of life, originated thousands of years ago. It is regarded the oldest personal development system in the world, encompassing body, mind and spirit. Yoga serves as a "Curative therapy," and the very essence of yoga lies in achieving mental tranquillity, enhanced concentration powers, calm lifestyle, and harmony in relationships. Yoga is an approach to life that emphasizes natural living and specific ways of thinking. Yoga is not a system of physical exercises or asanas but a perfect synthesis of body, mind, and spirit. It is the most significant scientific technique for developing an integrated personality. Yoga is a system of psycho-physical training that aims to uncover mystical consciousness.

Aim: The study was conducted to investigate the Effect of Yogic Practices on the Cardiovascular Endurance of Judokas.

Methodology: The study was conducted on 30 male judokas who had played at the national level from Mayai Lambi Judo Academy, Mayang Imphal, Manipur. Their age ranged between 16-19 yrs. They were divided equally into two groups, 15 in each. Group A – considered an Experiment Group, underwent yoga training. Group B is regarded as a Controlled group, and no training was given. Yoga training was given to the experimental group five days a week for 8 weeks, whereas the control group engaged in routine exercise five days a week. The pre-and post-tests were conducted before and after the eight weeks of yogic practice by using 600- yard run/walk test.

Results: The data was examined statistically using a paired sample t-test, and the significance level was fixed at 0.05. Outcomes from this study showed that the eight weeks of yogic practice significantly influenced the cardiovascular Endurance of the judokas of the experiment group (E.G.) compared to the control group (C.G.).

Conclusion: The study concluded that the yogic practice, when practiced regularly for eight weeks, enhances the cardiovascular Endurance of judokas.

Keywords: cardiovascular Endurance, judo, judokas, yogic practice, yoga

Introduction

India is where yoga, a comprehensive science of life, originated thousands of years ago. It is considered the oldest personal development system in the world, encompassing body, mind, and spirit (Ramakant Tripathy et al., 2022). It produces physiological changes and has a sound scientific basis. Throughout the world, scientists have extensively studied yoga asanas and have claimed that yoga increases the longevity of life and has therapeutic and rehabilitative effects (Suchitra B Parkhad, 2014). According to medical scientists, yoga therapy is successful because of the balance created in the nervous and endocrine systems, which directly influences all the other systems and organs of the body. Yoga serves as a "Curative therapy," and the very essence of yoga lies in achieving mental tranquillity, enhanced concentration powers, calm lifestyle, and harmony in relationships. (Jaswinder Kaur, 2016). Yoga is an approach to life that emphasizes natural living and specific ways of thinking. Yoga is not a system of physical exercises or asanas but a perfect synthesis of body, mind, and spirit. It is the most significant scientific technique for developing an integrated personality (Kaul, 1984)). Yoga is a system of psycho-physical

training that aims to uncover mystical consciousness (A.K Parashuram,2019).

Sports performance is not one-dimensional, but it is multi-dimensional. Several factors contribute to the final sports performance. Like motor ability components, the requirement of psychological variables also differs from game to game. Hence, players' mental and physical preparations are essential for better performance (Nagaraj G.P.,2019). Yoga plays a vital role in improving the physiological conditions of crucial organs, namely cardiovascular, respiratory, digestive, eliminative, endocrine, nervous, and muscle-skeletal systems. It also strengthens, cleans, and purifies the body consciously (Ramakant Tripathy et al., 2022). Cardiovascular Endurance may be defined as the ability of the heart and lungs to take in and transport adequate amounts of oxygen to the working muscles for activities that involve large muscle masses to be performed over long periods; for example, Running, swimming, and bicycling activities involve large muscles. Cardiovascular Endurance has many synonyms. The cardiorespiratory system is necessary for continuous running, swimming, climbing, hiking, aerobics, bicycling, etc. (Clarke & Clarke, 1987).

Objective of the Study

To find out the effect of Yogic Practice on cardiovascular Endurance of Judokas.

Methodology

Selection of Subjects

The study was conducted on 30 male judokas who had played at the national level from Mayai Lambi Judo Academy, Mayang Imphal, Manipur. Their age ranged between 16-19yrs. They were divided equally into two groups, 15 in each.

Group A – considered an Experiment Group, underwent yoga training.

Group B -is considered a controlled group. No training was given.

Yoga training was given to the experimental group five days a week, whereas the control group engaged in routine exercise five days a week.

Selection of Variable

Cardiovascular Endurance

Tools& Criterion Measures

Cardiovascular Endurance: Cardiovascular Endurance was determined by the total time covered in a 600-yard run/walk as fast as possible. Unit of measurement is in minutes and seconds.

Description and Administration of Test

The purpose of the distance runs is to measure Cardiovascular Endurance.

Procedure: The participants are given instructions to run 600 meters as quickly as they can. The signal "ready, start" signals the start of the activity. Participants should be informed of the duration of time that has passed when they cross the finish line. Walking is permitted, but the objective is to cover the distance as soon as possible.

Scoring: Time taken for completion (Run or Walk) in min and sec.

Yogic Practice Protocol

Yogic practice lasts for eight weeks and is done five days a week (Mon-Fri), with one hour of sessions in the morning (6:00 am to 7:00 am). The experiment group performed the yoga practice, while the control group performed no particular yoga practice. Throughout the experiment, the subjects engage in routine exercise.

The yoga session was as follows:

1. Yogic Sukshma Vayam (Yogic warm-up)
2. Suryanamaskar
3. Asanas
 - Tadasana
 - Utkatasana
 - Ardha Matsyendrasana
 - Ustrasana
 - Natrasana
 - Setu bandhasana
 - Pawanmuktasana
 - Bhujangasana
 - Dhanurasana

4. Pranayama
 - Chandra Bhedna
 - Surya Bhedana
 - Nadi Shodhan
 - Bhramari
 - Sitali
5. Meditation- Observing the breath (Swami Satyananda Saraswati,1993)

Table 1: Basic layout of two distinct training programs

Sl. No	Groups & Training Particulars	Treatment
1	Experimental Group	Judo and Yoga practice
2	Duration of Training	Yoga practice(60mins) after judo practice
3	Control Group	Judo Practice only
4	Training session/week	5days/week
5	Total Length of Training	8weeks
6	Progress of Training Load	Every week

Statistical Analysis

The statistical method employed to determine whether there was a significant difference between Control group (C.G.) and Experiment group (E.G.) in the pre-and post-test means for Cardiovascular Endurance was a Paired sample t-test. The level of significance was fixed at 0.05 level. SPSS was utilized for all statistical computation.

Results

Table 2: Table showing Number (N), Mean (M), Standard Deviation (S.D.), 't' value, and level of significance of Cardiovascular Endurance between pre-test and post-test of the experimental group and Control Group of judokas.

Variables	Group	Test	N	Mean	S.D.	't' value	Significance
Cardiovascular Endurance	Experiment Group	Pre-test	15	1.9440	0.284	3.075	0.008*
		Post-test	15	1.6927	0.318		
	Control Group	Pre-test	15	1.9773	0.373	1.468	0.164
		Post-test	15	1.9787	0.372		

*Significant at 0.05 level of confidence, Tabulated $t_{0.05(14)} = 1.761$

From the Table 1, the results of the paired sample t-test reveal the Cardiovascular Endurance mean score, Experiment Group (E.G.) Pre-test ($M=1.9440$, $SD=0.284$), (E.G.) Post-test ($M=1.6927$, $SD=0.318$) and Control Group (C.G.) Pre-test ($M=1.9773$, $SD= 0.373$), (C.G.) Post-test ($M=1.9787$, $SD=0.372$) at 0.05 level of significance.

Additionally, it was revealed that the calculated t-value of E.G. in Cardiovascular Endurance, $t(14) = 3.075$, is higher than the tabulated t-value, $t(14) = 1.761$, and p-value = 0.008, less than 0.05. Hence, a significant difference was found between the Pre- and Post-test of the experiment group (E.G.) in Cardiovascular Endurance of Judokas. Again, it is evident that the calculated t value of C.G. in Cardiovascular Endurance, $t(14) = 1.468$, which is less than the tabulated t-value, $t(14) = 1.761$, and p-value=0.164, more than 0.05. As a result, no significant difference was found between the Pre- and Post-test of the control group (C.G.) in the Cardiovascular Endurance of Judokas.

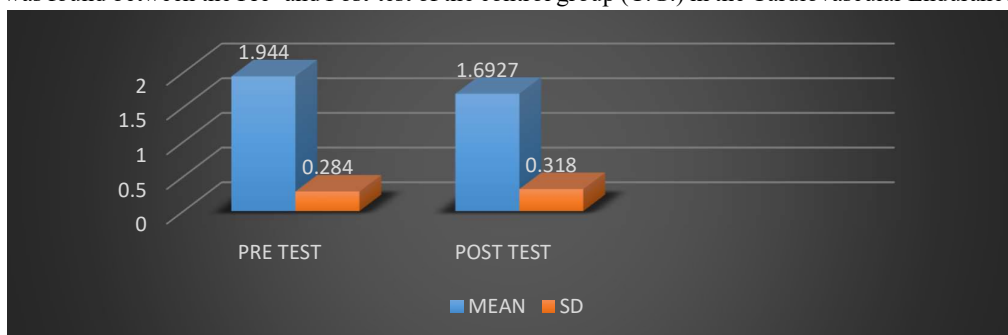


Figure 1: Graphical Representative of Mean, SD of pre and post-test of an experimental group of judokas.

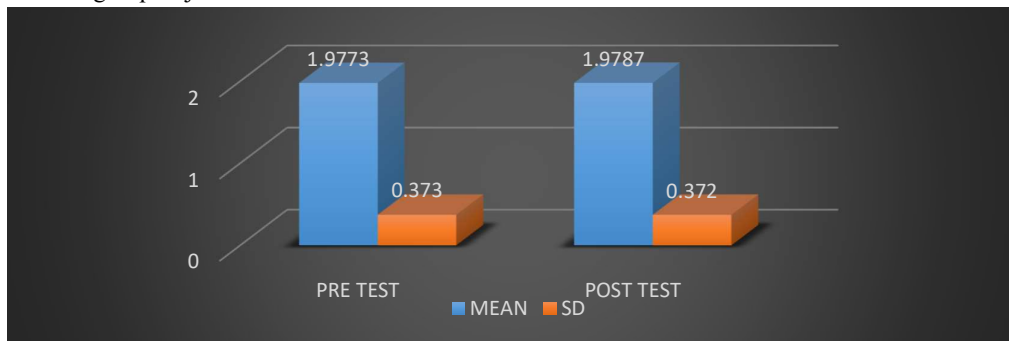


Figure 2: Graphical Representative of Mean, SD of pre and post-test of Control group of judokas.

Discussion

The present study experimented with the effect of yogic practice on the cardiovascular Endurance of Judokas. The findings of this study indicated that yogic practice enhanced cardiovascular Endurance for judokas. A key component of excellent athletic performance is this. In the present context, the cardiovascular Endurance of Judokas significantly improved due to the practice of Yoga for Eight weeks. The yogic practice selected in the present investigation profoundly impacts aspects of sports performance. The experimental (yogic practice) group performed better than the control group regarding cardiovascular Endurance. Yogic exercise, mainly the pranayama, is one of the best tonics for developing cardio-respiratory Endurance and related responses (Gulhane & Rane, 2015).

Conclusion

- In the case of the control group, no significant difference was obtained in cardiovascular Endurance between the pre-test and post-test.
- A significant difference was obtained in cardiovascular Endurance between the pre-test and post-test of the Experimental Group.

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