



The Influence Of Yogic Practices On Abdominal Strength In Hockey Players: A Scientific Analysis

¹Dr. R. SATHESH FRANKLIN, ²SAMESWARI, T., & ³Dr. C. SELVARAJA

¹Director of Physical Education, ²UG Student & ³Assistant Professor

¹St. Xavier's College of Education, Palayamkottai, Tirunelveli, Tamilnadu, India

^{2&3}Department of Physical Education, St. Xavier's College, Palayamkottai, Tirunelveli, Tamilnadu, India

Abstract: Twenty male hockey players from St. Xavier's College in Palayamkottai, Tirunelveli, Tamilnadu, India, were chosen at random to serve as research participants. They were between the ages of 18 and 25. The chosen participants were split into two groups at random, such as group "A," which engaged in yoga exercises (n = 10), and group "B," which served as the control group (n = 10). Group "A" practiced yoga five days a week for eight weeks, including an hour-long session each day. The control group engaged in routine activities but was not given any special instruction. Bent knee sit-ups were chosen as a variable, and the "Abdominal strength" (minutes per count) was measured. Data on a few chosen criteria variables were gathered both before and just after the training session. The dependent "t" test and analysis of covariance (ANCOVA) were used to statistically analyse the pre- and post-test results. The significance threshold was set at 0.05. The group who practiced yoga was found to have considerably increased abdominal strength. However, there had been no discernible increase in abdominal strength in the control group.

Index Terms – Yogic, Abdominal Strength, Men, Hockey Players

1. INTRODUCTION

Today, Global recognition of Yoga almost attracts the attention of intellects of varied fields with sports. Worldwide, there seems a considerable rise in scientific research in the field of Yoga. Yoga is a science as well as an art of healthy living physically, mentally, morally and spiritually. It is not limited by race, age, sex, religion, cast or creed and can be practiced by those who want to have a more meaningful life. Yoga is about developing harmony between mind and body. Yoga – is a “science of sciences” is too comprehensive in its nature and too profound in its scope of teachings to be fitted into the frame work of any particular philosophy, religion or belief, ancient or modern” (Taimni, 2005). Yoga is a psycho-somatic-spiritual discipline for achieving union & harmony between our mind, body and soul and the ultimate union of our individual consciousness with the Universal consciousness (Madanmohan, 2008).

Athletes in the realm of sports are constantly looking for ways to enhance their abilities, physical health, and general well-being. Hockey players must keep their physical and mental focus at their highest levels because it is a hard and physically demanding sport. One tactic that has been more well-liked in recent years is incorporating yoga positions, or Yogasana, into an athlete's training routine. With origins in ancient Indian traditions, yogasana is a set of postures and breathing techniques designed to improve mental clarity, flexibility, and physical endurance (Telles et al., 2016).

Hockey is a competitive sport, and both the players and the teams practice hard to perform at a medal-winning level. Due to their intense training, hockey players frequently sustain injuries to their legs, lower limbs, or other significant lower body muscles. Leg muscle strengthening may be beneficial for reducing the risk of injury. Yoga asanas can also help to strengthen the leg muscles. The prone and supine poses, as well as some other back extension poses, have been demonstrated to build back strength in various research investigations. Positive outcomes have been obtained from research on a variety of topics. (Trivedi & Kamra, 2023)

2. METHODOLOGY

Twenty male hockey players from St. Xavier's College in Palayamkottai, Tirunelveli, Tamilnadu, India, were chosen at random to serve as research participants. They were between the ages of 18 and 25. The chosen participants were split into two groups at random, such as group "A," which engaged in yoga exercises (n = 10), and group "B," which served as the control group (n = 10). Group "A" practiced yoga five days a week for eight weeks, including an hour-long session each day. The control group engaged in routine activities but was not given any special instruction. Bent knee sit-ups were chosen as a variable, and the "Abdominal strength" (minutes per count) was measured. Data on a few chosen criteria variables were gathered both before and just after the training session. The dependent "t" test and analysis of covariance (ANCOVA) were used to statistically analyse the pre- and post-test results. The significance level was set at the .05 level of confidence since it was thought to be suitable.

3. RESULTS AND DISCUSSIONS

TABLE-1
MEANS AND DEPENDENT "T" TEST FOR THE EXPERIMENTAL AND CONTROL GROUP'S ABDOMINAL STRENGTH PRE AND POST TESTS

Criterion variables	Test	Experimental Group Mean	Control Group Mean
Abdominal strength	Pre test	36.49	36.25
	Post test	48.66	37.59
	't'test	13.49	1.93

*Significant at .05 level. (Table value required for significance at .05 level for 't'-test with df 9 is 2.26)

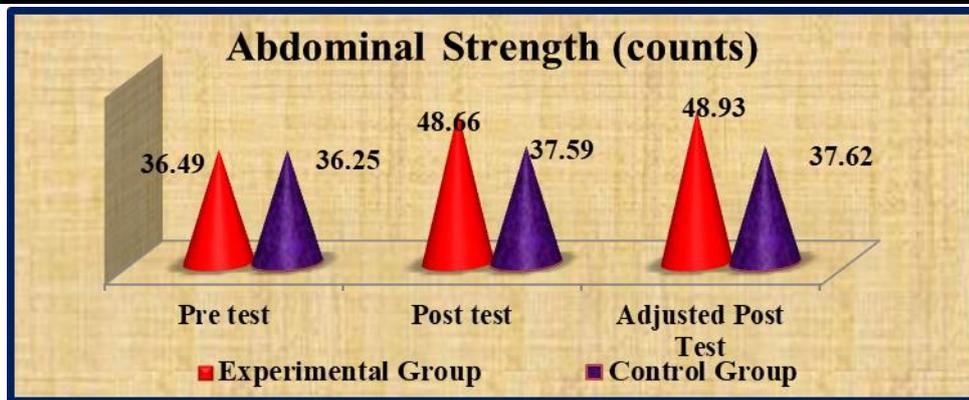
The table-1 shows that the obtained dependent t-ratio values between the pre and posttest means of yogic practices and control groups are 13.49 and 1.93 respectively. The table value required for significant difference with df 9 at 0.05 level is 2.26. From the above table the dependent 't'-test value of Abdominal strength between pre and post tests means of experimental group was greater than the table value 2.26 with df 9 at .05 level of confidence, it was concluded that the experimental group had significant improvement in the Abdominal strength when compared to control group.

TABLE-2
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE ABDOMINAL STRENGTH OF EXPERIMENTAL AND CONTROL GROUPS

	Experimental Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Square	F
Abdominal strength (Adjusted PostMean)	48.93	37.62	BG	262.76	1	262.76	24.58*
			WG	181.73	17	10.69	

* Significant at 0.05 level. Table value for df 1, 17 was 4.45

Table-2 shows that the adjusted post test means values on abdominal strength of experimental and control groups 32.12 & 27.84 respectively. The obtained f- ratio of 24.95 for adjusted post test mean is greater than the table value 4.45 with df 1 and 17 required for significance at 0.05 level of confidence. The results of the study indicated that there was a significant mean difference exist between the adjusted post test means of yogic practices and control groups on Abdominal strength.



The mean values of the pre, post, and modified post tests on the abdominal strength of yoga practices and control groups are shown in the bar diagram figure 1.

4. DISCUSSION ON FINDINGS

The present study reveals a statistically significant improvement in abdominal strength among male hockey players who engaged in yogic practices. This outcome aligns with previous research, such as that of Ratan K. D. & Mahesh M. P. (2023) and Arumugam S. & Thanga Banu S. (2019), which also highlighted the positive impact of yoga on core strength and overall athletic performance. One of the key factors contributing to this improvement is the incorporation of yoga asanas that specifically target the abdominal muscles, such as Navasana (Boat Pose), Bhujangasana (Cobra Pose), and Dhanurasana (Bow Pose). These postures enhance core stability, endurance, and flexibility, all of which are crucial for hockey players who require strong abdominal muscles for balance, agility, and powerful movements on the field. Furthermore, yogic breathing techniques (pranayama) and mindfulness may play a role in improving muscle endurance by enhancing oxygen supply and reducing fatigue. The holistic approach of yoga—combining strength, flexibility, and mental focus—offers a unique advantage over traditional strength training alone. These findings suggest that integrating yogic practices into hockey training programs can be an effective strategy for enhancing abdominal strength, thereby improving overall performance and reducing the risk of injuries.

5. CONCLUSIONS

Within the limitations and delimitations of this study the following conclusions were drawn from the result.

1. There was significant improvement on abdominal strength due to the effect of yogic practices among hockey players.
2. On all of the chosen variables, the control group had not, however, shown any appreciable improvement.

6. REFERENCES

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