

# Effect of Posterior Chain Exercise on Selected Physical Variables among College Men Kabaddi Players

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## Abstract

*The purpose of the study was to investigate on Effect of Posterior Chain Exercise on Selected Physical variables among college men kabaddi Players. It was hypothesized that there would be significant differences on selected Physical variables due to the effect of Posterior Chain Exercise among college men kabaddi players. For the present study the 30 college men kabaddi player from Madurai district. The age of the subjects ranged from 17 to 21 years. The selected subjects were divided into one experimental group and one control group at random. For the present study pre test and post test random group design, which consists of control group and experimental group was used. On a random sampling, 30 players were selected. The selected subjects were equally divided into two group's of fifteen each namely experimental group with Posterior Chain Exercise and Control Group have not underwent any training. Abdominal strength was assessed by One Minutes Sit Up Test and Cardio Respiratory Endurance was assessed by 12 minutes Cooper Test. The data were collected before and after six weeks of training. The data were analyzed by applying t-ratio. The level of significance was set at 0.05 level of confidence. The experimental group showed better improvement on Abdominal strength and Cardio Respiratory Endurance among the college men kabaddi players than the control group.*

**Keywords:** *Posterior Chain Exercise, Abdominal strength, Cardio Respiratory Endurance and Kabaddi.*

## Posterior Chain Exercise

The posterior chain exercise refers to the muscle groups located on the backside of the body which forms a chain to create movement. The major muscles of the posterior chain

include upper, middle, and lower traps, posterior deltoids, lats, rhomboids, spinal erectors, transverse abdominis, glutes, adductors, hamstrings, and calves. The main function of the posterior chain is hip extension, which is a key movement for sprinting, jumping, and strength exercises like the squat and dead lift. The posterior chain also controls backward force, which helps to stabilize the spine and hips, keeping the body upright. Beyond exercise, having a strong posterior chain is beneficial to those who spend long hours seated at a desk, as strengthening the muscles that retract the scapula may help maintain an upright posture and help prevent back pain.

### Methodology

The purpose of the study was to investigate the effect of Posterior Chain Exercise on Selected Physical variable among college men kabaddi Players. It was hypothesized that there would be significant differences on selected Physical variables due to the effect of Posterior Chain Exercise among college men kabaddi players. For the present study the 30 college men kabaddi players from Madurai district were selected at random and their age ranged from 17 to 21 years. For the present study pre test and post test random group design, which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group ‘A’ and Group ‘B’. Group ‘A’ underwent Posterior Chain Exercise and Group ‘B’ has not undergone any training. Abdominal strength was assessed by One Minutes Sit Up Test and Cardio Respiratory Endurance was assessed by 12 minutes Cooper Test. The data were collected before and after six weeks of training. The data were analyzed by applying t-test. The level of significance was set at 0.05.

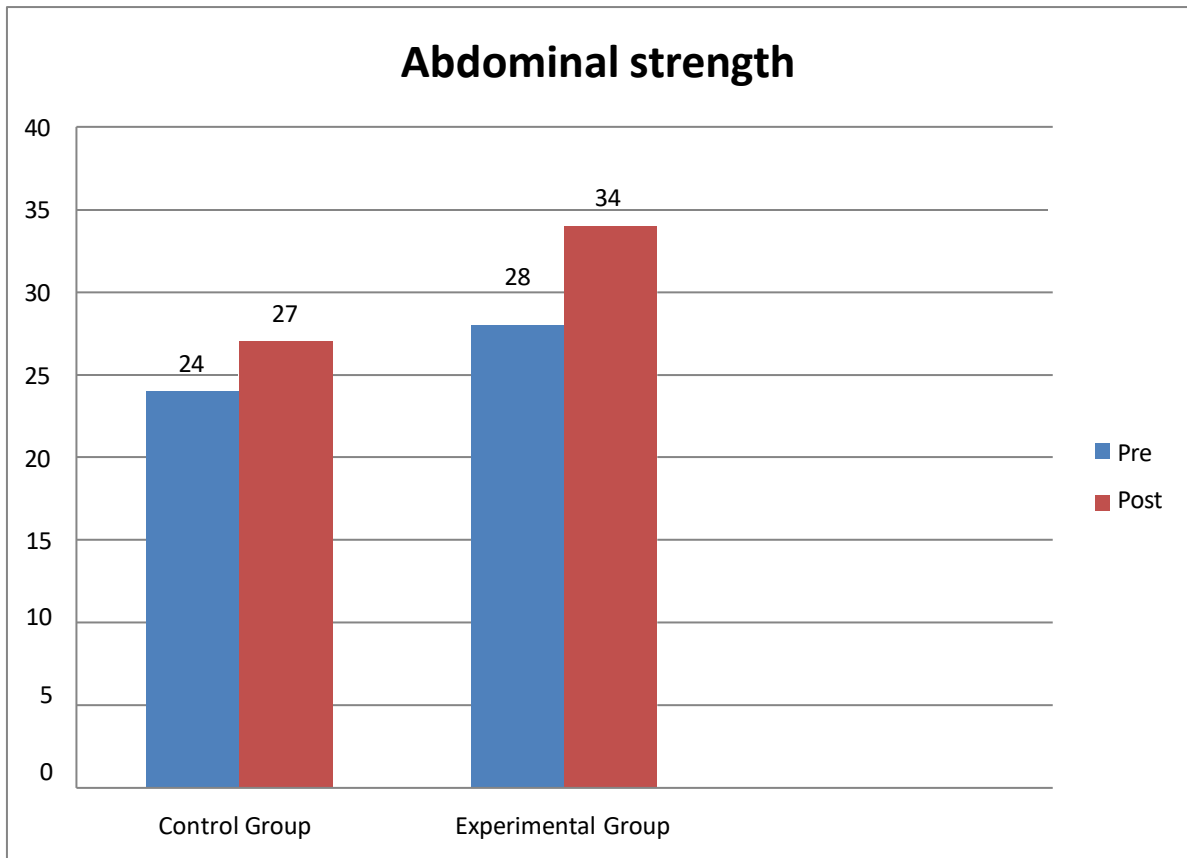
**Table –1**

**Analysis of t-Ratio Pre and Post-test for Control and Experimental group on Abdominal Strength**

Variables	Group	Mean		Sd		Sd Error	df	‘t’ ratio
		Pre	Post	Pre	Post			
<b>Abdominal Strength</b>	Control	24	27	1.45	1.61	0.71	14	1.59
	Experimental	28	34	1.73	2.21	0.45		<b>3.45*</b>

\*Significance of .05 level of confidence Table Value = 2.15

**Figure 1: Bar diagram showing the pre and post test means values of Abdominal Strength**



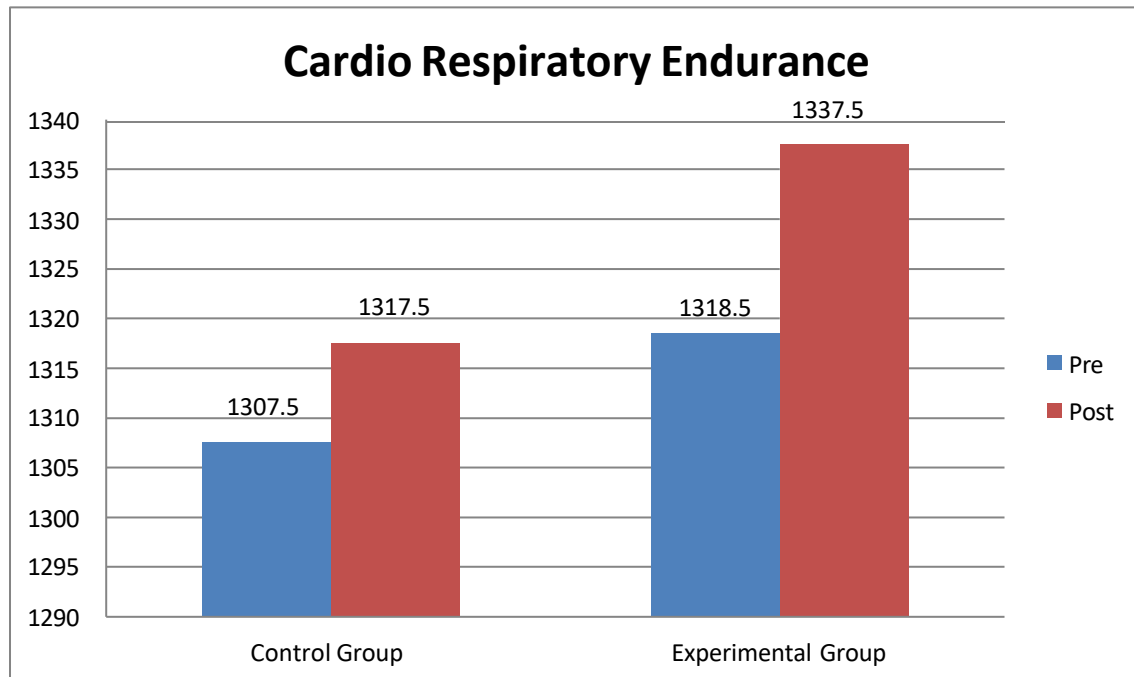
**Table – 2**

**Analysis of t-Ratio Pre and Post-test for Control and Experimental group on Cardio Respiratory Endurance**

Variables	Group	Mean		SD		Std Error	df	't' ratio
		Pre	Post	Pre	Post			
Cardio Respiratory Endurance	Control	1307.50	1317.50	65.44	55.84	13.19	14	0.83
	Experimental	1318.50	1337.50	65.44	63.33	6.17		<b>4.61*</b>

\*Significance of .05 level of confidence Table Value = 2.15

**Figure 1: Bar diagram showing the pre and post test means values of Cardio Respiratory Endurance**



### Discussion on Findings

The results of the study indicate that the experimental group namely Posterior Chain Exercise had significantly improved in the selected dependent variable namely Abdominal strength and Cardio Respiratory Endurance.

From the results of the present investigation, it is also concluded that significant difference on Posterior Chain Exercise in developing dependent variable Abdominal strength and Cardio Respiratory Endurance the hypothesis was accepted.

### Conclusion

On the basis of findings and within the limitations of the study the following conclusions were drawn:

- ❖ Posterior Chain Exercise had positive impact on Abdominal strength and Cardio Respiratory Endurance among college men kabaddi players.
- ❖ The experimental group showed better improvement Abdominal strength and Cardio Respiratory Endurance among college men kabaddi players than the control group.

## References

1. Alter, J. S. (2000). *Kabaddi, a national sport of India: The internationalism of nationalism and the foreignness of Indianness* (pp. 81-116).
2. Dr. Surender Kumar Sharma 2020 *Test, Measurement and Evaluation in Physical Education* ISBN 978-81-947997-5-7.
3. Dr. Ashok Kumar Sharma 2020 *Measurement and Evaluation in Physical Education* ISBN 978-93-88457-83-5.
4. **Palanisamy 2019** effect of Posterior Chain Exercise on muscular endurance among crors country runners, *thinkindia journal*.
5. **Tataryn N, Simas V, Catterall T, Furness J, Keogh JWL**. Posterior-Chain Resistance Training Compared to General Exercise and Walking Programmes for the Treatment of Chronic Low Back Pain in the General Population: A Systematic Review and Meta-Analysis. *Sports Med Open*. 2021;7(1):17. doi:10.1186/s40798-021-00306-w.
6. **Narsinga Rao, Laxmikanth Rathod (2022)** effect of Posterior Chain Exercise on selected sprint and middle performance introduced in *journal of fisheries science*.