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## **Effect of resistance training preceded with PNF stretching on selected variables of college women kabaddi players**

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### **Abstract**

To achieve the purpose of the study was to find out the effect of resistance training preceded with PNF Stretching on selected variables of College women kabaddi players. To achieve the purpose of the study, sixty subjects were selected at randomly, their age ranged from 18 to 25 years. The study was conducted on 60 subjects from Inter collegiate women kabaddi players, at various places of Coimbatore district. The selected subjects were divided into two equal groups consisting of thirty each. No attempt was made to equate the groups. Experimental Group I underwent the Resistance Training preceded with PNF Stretching group (RTPWPNFSG) for three days a week and for a duration of 6 weeks. Group II acted as control group (CG), the subjects in control group were not engaged in any training programme other than their regular work. At the end of the treatment period, as post-test, the subjects belonging to the treatment group namely experimental group-I Resistance Training preceded with PNF Stretching group (RTPWPNFSG) and group II Control Group (CG) were tested on selected variables. Further, the group mean gains pre and post-test recorded by three groups during the experimental period of six weeks to the criterion measures were tested for significance by applying 't' – test.

**Keywords:** Resistance training, yogasana practices, kabaddi

### **Introduction**

India has been shining with its own heritage and majestic talents. This promising land holds many old, back traditions, each of which is unique and distinct. Arts, science, techno, sports and humanity holds a desired position in the cultural heritage of India. On, among the prideness of glory and victory of Indian traditional sports "Kabaddi" always proves to be a sport of bravery and still represents the brave heart of millions of Indians...!!!!

Kabaddi is aptly known as the "game of the masses" due to its popularity, simplicity, easy to comprehend rules, and public appeal. The game calls for no sophisticated equipment what so ever, which makes it a very popular sport in the developing countries. Kabaddi is a combative team game, played on a rectangular court, either out-doors or indoors with seven players on the ground for each side. Each side takes alternate chances of offence and defense. The basic idea of the game is to score points by raiding into the opponent's court and touching as many defense players as possible without getting caught on a single breath. During play, the players on the defensive side are called "Antis" while the player of the offense is called the "Raider". Kabaddi is perhaps the only combative sport in which attack is an individual attempt while defense is a group effort. The attack in kabaddi is known as a 'Raid'. The antis touched by the raider during the attack are declared 'out' if they do not succeed in catching, the raider before he returns to home court. These players can resume play only when their side scores points against the opposite side during their raiding turn or if the remaining players succeed in catching the opponent's raider.

Resistance training is an important tool for achieving a complete healthy life. Resistance training is not just for athletes, who want to build and tone the muscles, or are using resistance training to achieve a better-looking body. According to the resistance training is a "specialized method of conditioning designed to increase muscle strength, muscle endurance and muscle power". Resistance training can be performed in a variety of ways; with resistance machines, free-weights (dumbbells and barbells), rubber tubing, or own body

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weight, as in doing pushups, squats, or abdominal crunches (American Sports Medicine Institute 2009). Resistance exercise is used to develop the strength and size of skeletal muscles. Properly performed, resistance training can provide significant functional benefits and improvement in overall health and well-being. (Campos *et al.*, 2002).

Asana is a body posture, it is a Sanskrit word used to describe a position of the body. Patanjali, the founder of Ashtanga Yoga defines asana as "Steady and comfortable posture". Asanas have been evolved over the centuries so as to exercise every muscle, nerve and gland in the body. They reduce fatigue and soothe the nerves. But their real importance lies in the way they train and discipline the mind (Iyengar BKS, 2008) [2].

The purpose of the study was to find out the effect resistance training preceded with PNF Stretching on selected variables of college women kabaddi players.

**Methodology**

To fulfill the purpose of the study, totally sixty women kabaddi players were selected as subjects. The selected subjects were the participants of inter college level kabaddi tournaments belonging to Tiruppur Kumaran college for women, L.R.G. Government Arts college, St. Joseph’s college for women, Tiruppur, Tamilnadu, India. The age of the subjects for the present study was fixed in the range

from 18 to 25 years. The selected subjects hailed from various socio economic conditions.

The study was formulated as a pre and posttest random group design. Sixty women students were randomly selected and divided into two groups namely Experimental group-I Resistance training preceded with PNF Stretching (RTPWPNFSG) and Group-II Control Group (CG) each consisting of 30 subjects. The selected subjects were initially tested on criterion variables used in this study and this is considered as the pre-test. After assessing the pre-test, the subjects belonging to experimental group-I were treated with resistance training and PNF Stretching. As far as the subjects in the group II - Control Group (CG) was concerned; they were not given any specific training. After six weeks of their training programme again the subjects were tested on the same criterion variables as such in the pre-test and considered this as the post-test. Further, the group mean gains pre and posttest recorded by two groups during the experimental period of six weeks to the criterion measures were tested for significance by applying student’s ‘t’ – test.

**Results and Discussion**

All the subjects were tested on selected criterion variable prior to and immediately after the training period. The collected data will be comparing on balance to analyses in “t- ratio” will be used in 0.05 level of confidence.

**Table I:** Pre Test and Post Test Mean Values of Resistance Training Preceded With Pnf Stretching Group on Selected Variables of College Women Kabaddi Players

Variables	Pre- Test	Post Test	MD	SD	SEM	t-ratio
Speed (Seconds)	7.65	7.58	0.073	0.087	0.016	4.62*
Muscular strength endurance (Numbers)	23.07	27.60	4.53	2.177	0.398	11.41*
Explosive power (Centimeter)	34.83	36.13	1.30	1.37	0.249	5.20*
Flexibility (Centimeter)	21.93	24.17	2.23	0.971	0.177	12.59*
Cardio-respiratory endurance (Meters)	1287.8	1315.7	27.83	36.21	6.61	4.21*
Cant ability (Seconds)	12.16	13.50	1.34	0.883	0.161	8.31*

The obtained ‘t’ – ratios on selected variables were greater than the critical value of 2.09 it was found to be statistically significant at 0.05 level of confidence for degrees of freedom 1 and 29. It was observed that the mean gains and losses statistically significant resulting that six weeks practice of resistance training preceded with PNF Stretching showed positive sign as having the significant improvement in Speed (0.91%;  $p<0.05$ ), Muscular strength endurance (19.14%;  $p<0.05$ ), Explosive power(3.08%;

$p<0.05$ ), Flexibility(10.07%;  $p<0.05$ ), Cardio-respiratory endurance(2.16%;  $p<0.05$ ) and Cant ability(11.01%;  $p<0.05$ ) from the base line. The resistance training proceeded with PNF Stretching Programme had produced a significant improvement on selected variables namely Speed, Muscular strength and endurance, Explosive power, Flexibility, Cardio respiratory endurance and Can’t ability. Hence the investigator’s hypothesis to this study was accepted.

**Table II:** Pre Test and Post Test Mean Values of Control Group on Selected Variables of College Women Kabaddi Players

Variables	Pre- Test	Post Test	MD	SD	SEM	t-ratio
Speed (Seconds)	7.65	7.61	0.040	0.94	0.172	0.23
Muscular strength endurance (Numbers)	23.77	26.70	2.93	2.15	0.392	1.48
Flexibility (Centimeter)	21.93	22.70	0.767	0.72	0.133	0.77
Cardio-respiratory endurance (Meters)	1279.6	1287.8	8.167	13.1	2.40	2.40
Cant ability (Seconds)	12.16	12.81	0.643	1.26	0.229	2.80

The obtained ‘t’ – ratios on selected variables were greater than the critical value of 2.09 it was found to be insignificant at 0.05 level of confidence for degrees of freedom 1 and 29. It showed negative sign as having the insignificant improvement on Speed (0.52%;  $p<0.05$ ),

Muscular strength endurance (12.33%;  $p<0.05$ ), Explosive power (3.51%;  $p<0.05$ ), Flexibility (3.51%;  $p<0.05$ ), Cardio-respiratory endurance (5.26%;  $p<0.05$ ) and Cant ability (17.22%;  $p<0.05$ ) from the base line. Hence the investigator’s hypothesis to this study was rejected.

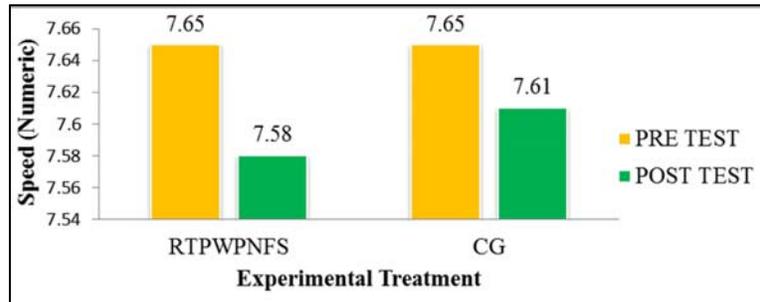


Fig 1: Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Speed

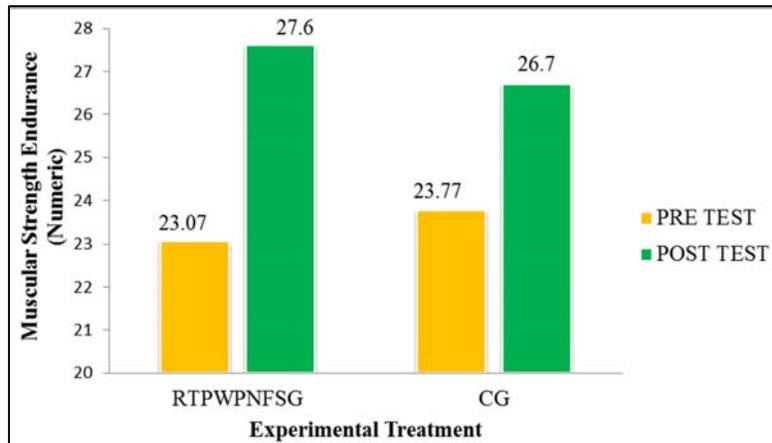


Fig 2: Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Muscular Strength Endurance

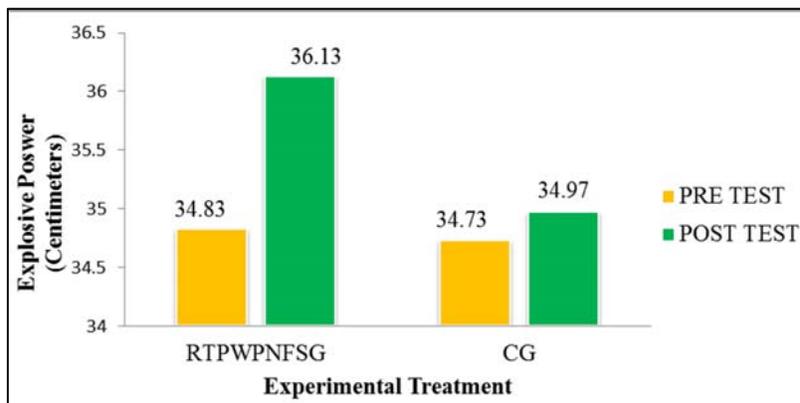


Fig 3: Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Explosive Power

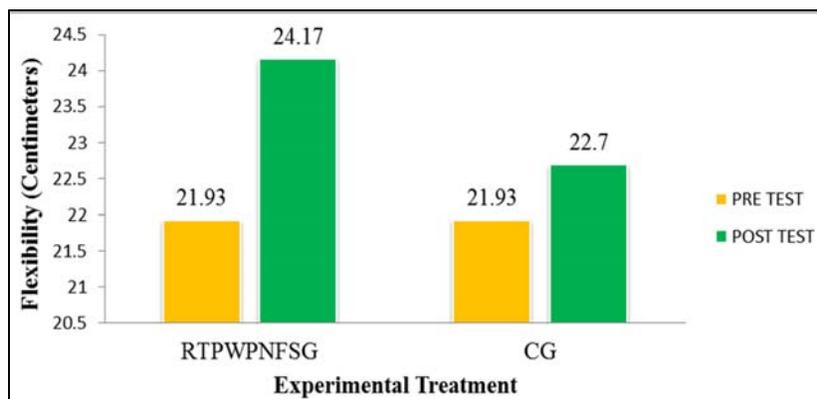
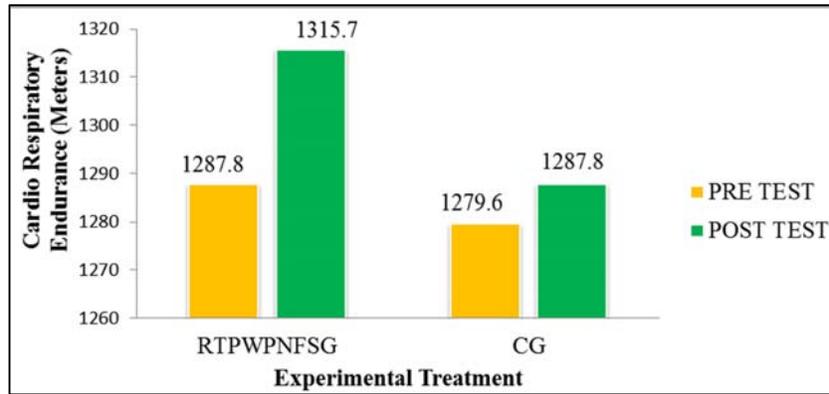
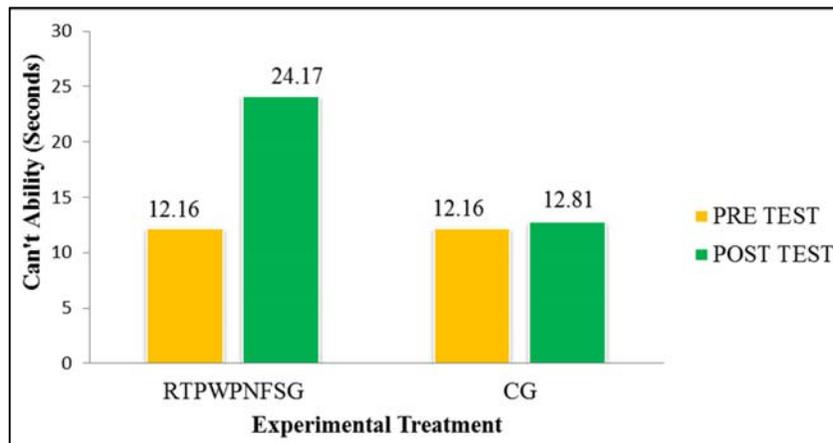


Fig 4: Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Flexibility



**Fig 5:** Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Cardio Respiratory Endurance



**Fig 6:** Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Can't Ability

**Discussions**

❖ The result of the study showed that the Resistance Training Proceeded with PNF Stretching (RTPWPNFSG) had produced a significant improvement on selected variables of College Women Kabaddi Players.

**Conclusions**

In light of the above findings of the present study the following conclusion have been made

❖ It was concluded that the Resistance Training Proceeded with PNF Stretching (RTPWPNFSG) had produced a significant improvement on selected variables of College Women Kabaddi Players.

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