



## **Effect of Specific Yoga and Pranayama and Combined Training Programme on Selected Physical Fitness Physiological Variables among College Level Women Kabaddi Players**

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### **ABSTRACT**

Research suggests that yoga may help improve general wellness. In studies, yoga has helped some people manage stress, improve mental health, lose weight, or quit smoking. There's also evidence that yoga may be helpful for some medical conditions. Yoga may help lessen pain and menopause symptoms. Yoga improves strength, balance and flexibility. Slow movements and deep breathing increase blood flow and warm up muscles, while holding a pose can build strength. Balance on one foot, while holding the other foot to your calf or above the knee (but never on the knee) at a right angle. A strong core leads to better posture, which can help prevent back and neck problems. Ease stress and anxiety levels. Yoga involves breathing exercises that force you to pay attention to your breath. Deep breathing can help you relax almost instantly, which can help relieve stress and anxiety. Pranayama is the practice of breath regulation. It's a main component of yoga, an exercise for physical and mental wellness. In Sanskrit, "prana" means life energy and "yama" means control. The practice of pranayama involves breathing exercises and patterns. Pranayama awakes the internal energy and promotes healthy and active life. This Yoga technique should be performed for minimum 45 minutes and can be elongated up to 2 hours for better results. Morning is the best time to practice it.

The purpose of the study was to find out the effect of specific yoga and pranayama and combined training programme on selected physical fitness and physiological variables among college level women kabaddi players. For this study sixty (N=60) college women kabaddi players studying in Tirupur District were selected randomly as subjects. Their age ranged from 18 to 25 years. The subjects were assigned at random into four groups of fifteen each (n=15). Group-I underwent specific yogic training (n=15), Group-II underwent specific pranama training (n=15) and Group-III underwent Combined training (n=15) and Group IV Control group (15). The data were analyzed statistically by using analysis of covariance (ANCOVA). Whenever the 'F'ratio for adjusted post test means was found to be significant, Scheffe's test was followed as a post hoc test to determine which of the paired means difference was significant.

**Keywords:** Yoga ,pranayama training Flexibility and heart rate

### **Introduction**

Research suggests that yoga may help improve general wellness. In studies, yoga has helped some people manage stress, improve mental health, lose weight, or quit smoking. There's also evidence that yoga may be helpful for some medical conditions. Yoga may help lessen pain and menopause symptoms. Yoga improves strength, balance and flexibility. Slow movements and deep breathing increase blood flow and warm up muscles, while holding a pose can build strength. Balance on one foot, while holding the other foot to your calf or above the knee (but never on the knee) at a right angle. A strong core leads to better posture, which can help prevent back and neck problems. Ease stress and anxiety levels. Yoga involves breathing exercises that force you to pay attention to your breath. Deep breathing can help and relax almost instantly, which can help relieve stress and anxiety.

### **Methodology**

The study was to find out the effect of specific yogic training specific pranayama and combined training programme on selected physical physiological and skill performance variables among women kabaddi players. For this study sixty (N=60) college women kabaddi players studying in tirupur district were selected randomly as subjects. Their age ranged from 18 to 25 years. The subjects were assigned at random into four groups of fifteen each (n=15). Group-I underwent specific yogic training (n=15), Group-II underwent specific pranama training (n=15) and Group-III underwent Combined training (n=15) and Group IV Control group (15). The data were analyzed statistically by using analysis of covariance (ANCOVA). Whenever the 'F'ratio for adjusted post test means was found to be significant, Scheffe's test was followed as a post hoc test to determine which of the paired means difference was significant.

### Experimental design

The study mainly aimed to find out the effect of specific yogic training and specific skill pranayama training on selected physiological, variables of college male handball players. For this study sixty (N=60) college women kabaddi players studying in Tirupur District were selected randomly as subjects. Their age ranged from 18 to 25 years. The subjects were assigned at random into four groups of fifteen each (n=15). Group-I underwent specific yogic training (n=15), Group-II underwent specific pranama training (n=15) and Group-III underwent Combined training (n=15) and Group IV Control group (15). The data were analyzed statistically by using analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's test was followed as a post hoc test to determine which of the paired means difference was significant. The age ranged from 18 to 25 years. The group underwent twelve weeks of specific training. The training was conducted five days in a week and the training session was from 4:30 pm to 5:30 pm for twelve weeks. All the subjects were tested in the selected motor fitness variables namely heart rate and body mass index. The pre- test was taken before the start of specific training and post-test was taken after the training was completed.

### Training Procedure

For this study sixty (N=60) college women kabaddi players studying in Tirupur District were selected randomly as subjects. Their age ranged from 18 to 25 years. The subjects were assigned at random into four groups of fifteen each (n=15). Group-I underwent specific yogic training (n=15), Group-II underwent specific pranama training (n=15) and Group-III underwent Combined training (n=15) and Group IV Control group (15). The data were analyzed statistically by using analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's test was followed as a post hoc test to determine which of the paired means difference was significant. They were divided into four groups, three groups were experimental groups and the other one was control group. Specific yogic training, specific pranama training and combined training was given for 12 weeks, 3 alternative days in a week, one session one hour per a day.

### Statistical technique

To find out the difference between pre – test of each group, paired 't' test was used. Analysis of covariance (ANCOVA) was computed because the subjects were selected random, but the groups were not equated in relation to the factors be examined. Hence the difference between means of the four groups in pre test had to be taken into account during the analysis of the post test difference between the means. This study was applied by the application of the analysis of covariance, where the post means were adjusted for difference in the initial means, and the adjusted means were tested for significance.

**TABLE -I**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF MEANS OF YOGA TRAINING PRANAYAMA TRAINING COMBINED TRAINING AND CONTROL GROUP ON FLEXIBILITY**

Test	Yoga Training Group (YTG)	Pranama Training Group (PTG)	Combined Training Group (CTG)	Control Group(CG)	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	10.55	10.69	10.61	10.23	BG	1.37	2	0.46	0.11
					WG	225.60	42	4.02	
Post-Test Means	15.42	13.37	16.72	11.19	BG	271.00	2	9.03	15.11*
					WG	333.20	42	5.95	
Adjusted Post-Test Means	15.43	13.52	16.67	11.39	BG	268.45	2	89.48	14.91*
					WG	332.17	41	6.03	

### RESULTS OF FLEXIBILITY

An examination of table - I indicated that the pre test means of yoga training, pranayama training combined of yoga and pranayama training and control groups were 10.53, 10.66, 10.60 and 10.26 respectively. The obtained F-ratio for the pre-test was 0.11 and the table F-ratio was 3.22. Hence the pre-test mean flexibility F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. The post-test means of yoga training, pranayama training, combined of yoga and pranayama training and control group were 15.40, 13.33, 16.66 and 11.06 respectively. The obtained F-ratio for the post-test was 15.18 and the table F-ratio was 3.22. Hence the post-test mean flexibility F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42.

The adjusted post-test means of the yoga training (YTG), resistance training (RTG), combined of yoga and resistance training (CYRTG) and control group (CG) were 15.39, 13.32, 16.66 and 11.08 respectively. The obtained F-ratio for the adjusted post-test means was 14.81 and the table F-

ratio was 3.23. Hence the adjusted post-test mean flexibility F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41.

**TABLE -II**  
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON FLEXIBILITY

Adjusted Post-test means				Mean Difference	Confidence Interval
Yoga Training Group (YTG)	Pranayama Training Group (RTG)	Combined yoga and Pranayama training Group (CYRTG)	Control Group(CG)		
15.39	13.32	---	---	2.07*	1.86
15.39	---	16.66	---	1.27	
15.39	---	---	11.08	4.31*	
---	13.32	16.66	---	3.34*	
---	13.32	---	11.08	2.24*	
---	---	16.66	11.08	5.58*	

Table -II shows that the mean difference between yoga training group , pranayama training group , combined of yoga and pranayama training group and control group and between yoga training, pranayama training, control group were 2.07 and 4.31 respectively on flexibility are greater than the confidence interval value 1.86, which shows significant difference at 0.05 level of confidence. The mean difference between yoga training group and combinations of yoga and pranayama training group were 1.27, on flexibility is lesser than the confidence interval value 1.86, which shows insignificant difference at 0.05 level of confidence.

The mean difference between pranayama training group and combined of yoga and pranayama training group were 3.34, on flexibility is greater than the confidence interval value 1.86, which shows significant difference at 0.05 level of confidence. The mean difference between pranayama training group and control group and between yoga training, pranayama training group and control group were 2.24 and 5.58 respectively on flexibility are greater than the confidence interval value 1.86, which shows significant difference at 0.05 level of confidence.

**TABLE -III**

**COMPUTATION OF ANALYSIS OF COVARIANCE OF MEANS OF YOGIC TRAINING PRANAYAMA TRAINING COMBINED YOGA AND PRANAYAMA TRAINING AND CONTROL GROUPS ON HEART RATE**

	Yogic Training Group(YTG)	Pranayama Training Group(PTG)	Combined yoga and Pranayama training Group (CYRTG)	Control Group	Source of Variance	Sum of square	Df	Mean square	F-value
Pre test mean	74.80	75.67	74.60	74.60	Between	14.98	3	4.99	0.95
					Within	294.67	56	5.26	
Post test mean	72.93	73.67	73.33	74.53	Between	20.85	3	6.95	2.96*
					Within	273.33	56	4.88	
Adjusted post mean	73.03	73.02	73.60	74.80	Between	31.278	3	10.426	17.14*
					Within	33.440	55	0.608	

## RESULTS OF HEART RATE

An examination of table - III on pre test, post test and adjusted post test means on heart rate of yoga training, pranayama training, combined yoga nad pranyama training and control group

The pre test means on heart rate were 74.80, 75.67, 74.60, and 74.60 respectively. The 'F' value observed for the pre test on heart rate was 0.95. It fails to reach the table value of 2.77 for degree of freedom 3, 56 at 0.05 level of confidence. Based on the results it was confirmed that the mean differences among the group yoga training, pranayama training, combined yoga and pranayama training and control group on heart rate before the start of the respective treatments were found to be not significant.

The post test means on heart rate of yoga training, pranayama training, combined yoga and pranayama training and control group were 72.93, 73.67, 73.33 and 74.53 respectively. The 'F' value observed for the post test on heart rate was 2.96. It was greater than the table value of 2.77 for degree of freedom 3, 56 at 0.05 level of confidence. Since the observed F- value on post test means among the groups namely yoga training, pranayama training, combined yoga and pranayama training and control group on heart rate was significant as the F value was greater than required table value of 2.77.Thus the results obtained proved that the respective experimental training produced significant improvements on heart rate among the experimental groups.

The adjusted post test means on heart rate of yoga training, pranayama training, combined yoga and pranayama training and control group were 73.03, 73.02, 73.60 and 74.80 respectively. The 'F' value observed for the adjusted post test means on heart rate was 17.14. It was greater than the

table value of 2.77 for degree of freedom 3, 55 at 0.05 level of confidence. Since the observed F- value on adjusted posttest means among the groups on heart rate was highly significant as the F value was higher than required table value of 2.77. Thus the results obtained proved that the training on heart rate produced significant improvements among the experimental group.

**TABLE –IV**  
**SCHEFFÉ'S POST HOC TEST VALUES OF ADJUSTED POST TEST MEANS ON HEART RATE**

Yogic Training Group (YTG)	Pranayama Training Group (PTG)	Combined yoga and Pranayama training Group (CYRTG)	Control Group	M.D	C.I
73.03	73.02	-	-	0.014	0.80
73.03	-	73.60	-	0.572	
73.03	-	-	74.80	1.772*	
-	73.02	73.60	-	0.586	
-	73.02	-	74.80	1.786*	
-	-	73.60	74.80	1.200*	

\*significant at 0.05 level of confidence

Table IV shows the adjusted post test means of yoga training, pranayama training, combined yoga and pranayama training and control group on heart rate. The obtained mean difference between the yoga training, pranayama training, combined yoga and pranayama training and control group were 0.014, 0.572, 1.772, 0.586, 1.786 and 1.200 respectively. The required confidence interval value was 0.80.

The above table clearly indicates that the paired mean significant difference on heart rate were found to be significant difference between the yoga training group and control group, pranayama group and control group, combined yoga and pranayama training group and control group.

However there were no significant difference between the paired means of yoga training and pranayama group, yoga training and combined yoga and pranayama training group, pranayama group and combined yoga and pranayama training group of heart rate.

## Conclusions

Based on the finding the following conclusions were made

1. From the finding of the study it was concluded that Yogasana training group and pranayama training group had better improvement than the control group in physical fitness namely flexibility and Physiological variables namely heart rate.
2. Yogasana training group had better improvement than the pranayama training group in flexibility .
3. Pranayama training group had better improvement than the yoga training group in heart rate .
4. From the findings of the study it was concluded that combined yoga and pranayama training group had better improvement than the yoga training group and pranayama in physical fitness namely flexibility and Physiological variables namely heart rate.

## Recommendations

On the basis of results obtained, the following recommendations were made.

1. The results found in this study may be utilized by fitness trainer and coaches for the training program me to enhance the youth boys and girls programme.
2. The study may be conducted with more number of subjects on the selected dependent variables.
3. Similar study may be conducted on different age and sex category.
4. Similar study can be carried out by using more number of subjects with other variables.
5. A similar study may be able to be conducted on large population.
6. Studies may be conducted on other variables and also with different training programme.

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