CHAPTER IV

RESULTS AND DISCUSSIONS

4.1 OVERVIEW

This chapter deals with the analysis of data collected from the samples under study. This research was to find out the effect of yogic practices and tai-chi training on selected physiological, bio-chemical, psychological variables and playing abilities among college women football players. To facilitate the study 90 subjects were randomly selected from affiliated colleges of Madurai Kamaraj University, Madurai, Tamil Nadu. The players' age ranged between 17 and 25 years. They were assigned into three groups, Group I served as Yogic Practices group, group II served as tai-chi training group and third one as control group.

The study was formulated as a true random group design, consisting of a pretest and post test. The subjects (n=90) were randomly assigned to the equal groups of 30 subjects each. The groups were assigned as experimental group I, experimental group II and control group. Pretests were conducted for all the subjects on selected Physiological Variables such as Vital Capacity, Resting Pulse Rate, and breathe holding time and Biochemical Variables such as Blood Glucose, Total Cholesterol and Triglycerides. Psychological variables such as anxiety, self –esteem and achievement motivation. Playing abilities are dribbling, kicking and shooting. The Experimental groups participated in their respective Yogic Practice group and tai-chi training group for a period of 12 weeks with six days per week.

The post tests were conducted on the above said dependent variables after a period of 12weeks in the respective treatments. The differences between the initial and final scores in selected Physiological, Bio-Chemical, psychological variables and playing abilities were subject to statistical treatment using analysis of covariance (ANCOVA) to find out whether the mean differences were significant or not.

4.2 TEST OF SIGNIFICANCE

As **Clarke and Clarke, (1972)** say, "These data must be analyzed in an appropriate to the research design. Such analysis can only be appropriate to the

research design. Such analysis can only be accomplished through the application of pertinent statistics.

This is the vital portion of thesis achieving the conclusion by examining the hypothesis. The procedure of testing the hypothesis was either by accepting the hypotheses or rejection the same in accordance with the results obtained in relation to the level of confidents.

The test was usually called the test of significance since we test whether the difference between three groups or with in many groups scores were significant or not. In the study, if they obtained F value were greater than the table value, the null hypothesis were rejected to the effect that there existed significant difference among the means of the groups compared and if they obtained F value were lesser than the table value. Then the null hypotheses were accepted to the effect that there existed no significant differences among the means of the groups under study.

4.3. LEVEL OF SIGNIFICANCE

The purpose of this study was to find out the effect of yogic practices and tai-chi training on selected physiological, bio-chemical, psychological variables and playing abilities among college women football players. The collected data were statistically examined for significant improvement by dependent 't' test. Hence, to make adjustments for difference in the initial means and test the adjusted posttest means for significant differences, the one-way univariate analysis of covariance (ANCOVA) was used. In all the cases, 0.05 level of confidence was fixed to test of significance, which was considered as appropriate in this study, if they obtained F value were greater than the table value, the null hypotheses were rejected to the effect that there existed significant difference among the means of the groups compared and if they obtained F value were lesser than the table value at 0.05 level the null hypothesis were accepted to the effect that there existed to significant differences among the means of the groups under study.

4.4 Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Vital capacity

The analysis of dependent 't' test on the data obtained for vital capacity of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table VI.

TABLE VI

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON VITAL CAPACITY OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	2514.66 ± 368.20	2521 ± 475.52	2492.5 ± 532.28
Post-Test (Mean ± SD)	2604.66 ± 367.85	2567.5 ± 471.79	2497.5 ± 505.03
't' test	**12.085***	**13.575***	**0.388**

*** Significant at 0.05 level of confidence. (Table value required for 0.05 level of significance with df 29 is 2.04).**

The table VI shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly improved the vital capacity. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for vital capacity of pre and post-test of YPG, TCG and CG have been presented in table VII.

TABLE VII

ANALYSIS OF COVARIANCE OF DATA ON VITAL CAPACITY AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	2599.55	2556.25	2513.88	B	110054	2	55027.01	25.5*
				W	185575.5	86	2157.855	

*** Significant at .05 level of confidence (Vital capacity in ml).(The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.4.1 Results of Vital capacity

Table VII shows that the adjusted post-test means of YPG, TCG and CG were 2599.55, 2556.25 and 2513.88 respectively. The obtained F-ratio value was 25.5, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of vital capacity of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table VIII.

TABLE VIII

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF VITAL CAPACITY

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
2599.55	2556.25		43.3*	29.87
2599.55		2513.88	85.67*	29.87
	2556.25	2513.88	42.37*	29.87

*** Significant at 0.05 level of confidence.**

4.4.2. Results of Scheffe's Test on Vital capacity

Table VIII showed that the adjusted post-test mean difference in vital capacity between YPG and TCG, YPG and CG and between TCG and CG are 43.3, 85.67 and 42.37 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the vital capacity timing than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on vital capacity are graphically presented in figure I.

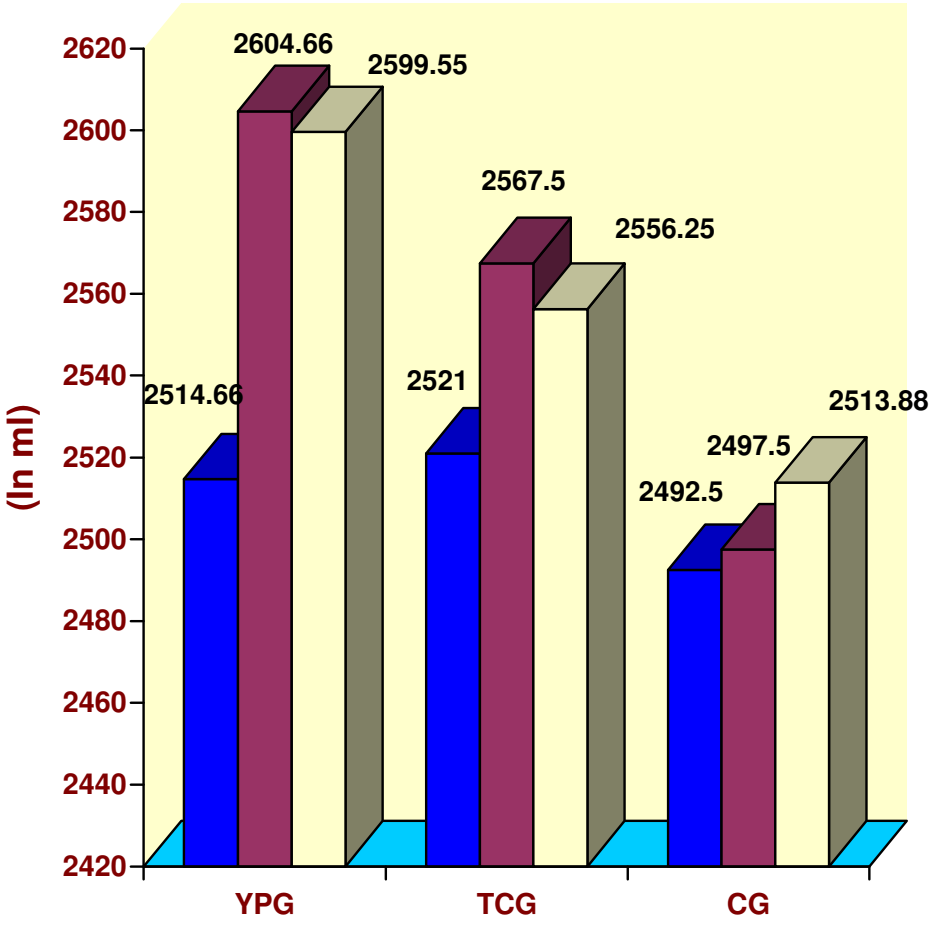

FIGURE I: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON VITAL CAPACITY

4.4.3. Discussion on Findings on Vital capacity

The findings of the study on vital capacity reveal that the experimental group namely YPG and TCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in improving the vital capacity than the TCG.

Systematic tai-chi training increase the vital capacity. Liu Hongguang (1994) shows in his study that Tai Chi can improve insufficient ventilation function, deficient respiratory function vital capacity. Through the results of volunteers practicing Tai chi,the research demonstrated a reduction of respiratory rate and a depth increase of breathing. The present study is very well supported by the renowned experts **Yeh GY, et al., (2010).** Physiological base of health and longevity gained from tai chi exercise. Tai-Chi flow movements are graceful, continuous, relaxed and gentle, like swimming on land. Deep-breathing exercises co-ordinate with limb movements. Diaphragmatic muscles contract and relax in conduction with abdominal muscles. The Chinese description that there is air descending to the pelvic abdomen scientifically is merely part of diaphragmatic breathing with relaxation and strengthening of lower abdominal muscles to accommodate the descending intestines. After prolonged practice the lung's vital capacity will increase which helps to improve lung function. The present study indicates that, 12 weeks of yogic practices improve the vital capacity. The present findings also very well supported by the researcher **Anurodh Singh Sisodia and Satendra Singh Tomar (2009).**

4.5. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Resting pulse rate

The analysis of dependent 't' test on the data obtained for resting pulse rate of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table IX.

TABLE IX

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON RESTING PULSE RATE OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	74.87 ± 3.58	76.47 ± 2.76	76.40 ± 3.87
Post-Test (Mean ± SD)	70.53 ± 2.62	73.13 ± 3.58	76.27 ± 3.74
't' test	**13.574***	**12.836***	**0.229**

*** Significant at 0.05 level of confidence. (Table value required for 0.05 level of significance with df 29 is 2.04).**

The table IX shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the resting pulse rate. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for resting pulse rate of pre and post-test of YPG, TCG and CG have been presented in table X.

TABLE X

ANALYSIS OF COVARIANCE OF DATA ON RESTING PULSE RATE AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	71.33	72.71	75.89	B	321.6561	2	160.8281	36.06*
				W	383.5437	86	4.45981	

*** Significant at .05 level of confidence (Resting pulse rate in beats/minute). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.5.1 Results of Resting pulse rate

Table X shows that the adjusted post-test means of YPG, TCG and CG were 71.33, 72.71 and 75.89 respectively. The obtained F-ratio value was 36.06, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of resting pulse rate timings of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XI.

TABLE XI

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF RESTING PULSE RATE

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
71.33	72.71		1.38*	1.36
71.33		75.89	4.56*	1.36
	72.71	75.89	3.18*	1.36

*** Significant at 0.05 level of confidence**.

4.5.2. Results of Scheffe's Test on Resting pulse rate

Table XI shows that the adjusted post-test mean difference in resting pulse rate between YPG and TCG, YPG and CG and between TCG and CG are 1.38, 4.56 and 3.18 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the resting pulse rate than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on resting pulse rate are graphically presented in figure II.

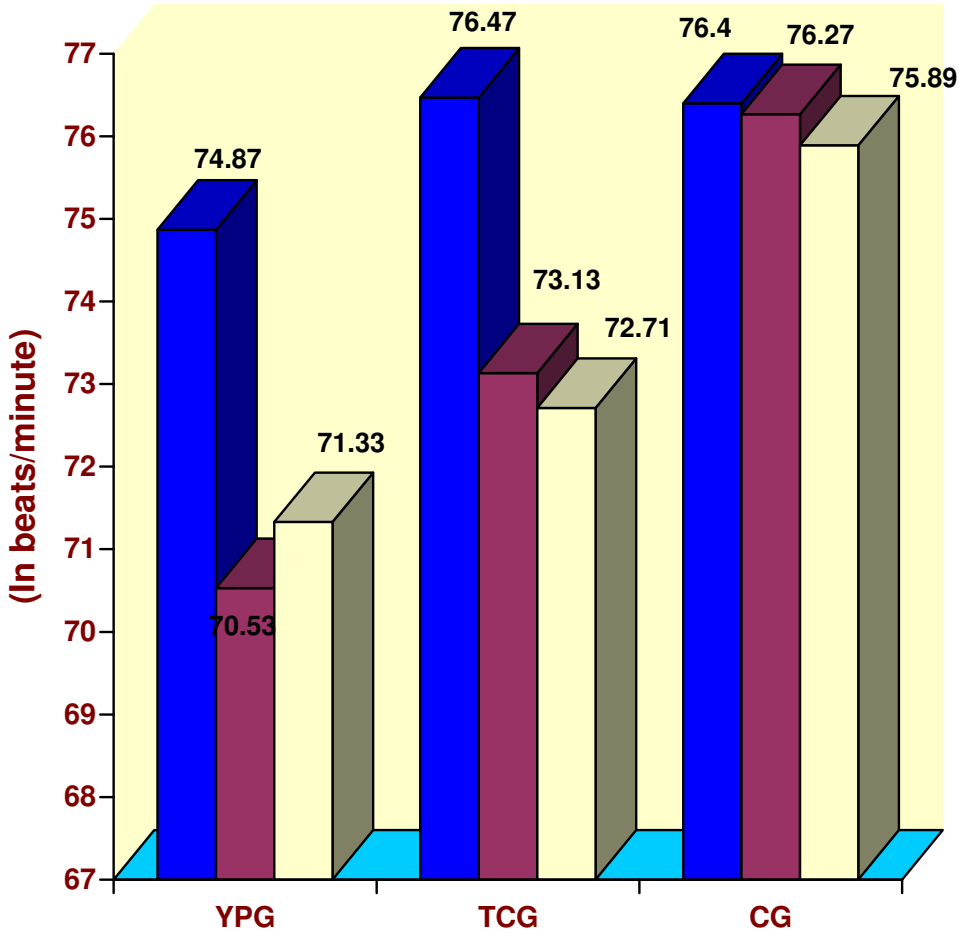

FIGURE II: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON RESTING PULSE RATE

4.5.3. Discussion on Findings on Resting pulse rate

The findings of the study on resting pulse rate reveal that the experimental group namely YPG and TCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in improving the resting pulse rate than the TCG.

Manh, et al., (2011), Sato, et al., (2010) and **Lan, (2004)** stated that regular practice of tai-chi training improve the resting pulse rate. The present study results also in line with the view point of study conducted by **Manh, et al., (2011), Sato, et al., (2010)** and **Lan, (2004).** The analysis of the data indicates that 12 weeks of yogic practices decrease the resting pulse rate among the women football players. The above findings very well be supported by observations made by the following studies conducted by **Telles, et al., (2011)** and **Field, et al., (2011)**. The findings of present study are in agreement with the study conducted by **Pramanik, et al., (2010)** and **Seshien, (1998)**.

4.6. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Breathe holding time

The analysis of dependent 't' test on the data obtained for breathe holding time of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XII.

TABLE XII

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON BREATHE HOLDING TIME OF YPG TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	23.03 ± 5.39	20.9 ± 4.62	20.47 ± 4.01
Post-Test (Mean ± SD)	25.26 ± 4.96	22.53 ± 4.48	20.73 ± 3.13
't' test	**13.627***	**18.252***	**0.597**

*** Significant at 0.05 level of confidence. (Table value required for 0.05 level of significance with df 29 is 2.04).**

The table XII shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly increased the breath holding time. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for breath holding time of pre and post-test of YPG, TCG and CG have been presented in table XIII.

TABLE XIII

ANALYSIS OF COVARIANCE OF DATA ON BREATHE HOLDING TIME AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	23.92	23.02	21.59	B	79.57223	2	39.78612	20.81*
				W	164.4482	86	1.912189	

*** Significant at .05 level of confidence (Breathe holding time in Seconds). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.6.1 Results of Breathe holding time

Table XIII shows that the adjusted post-test means of YPG, TCG and CG were 23.92, 23.02 and 21.59 respectively. The obtained F-ratio value was 20.81, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of breathe holding time timings of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XIV.

TABLE XIV

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF BREATHE HOLDING TIME

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
23.92	23.02		0.9*	0.701
23.92		21.59	2.33*	0.701
	23.02	21.59	1.43*	0.701

*** Significant at 0.05 level of confidence**.

4.6.2. Results of Scheffe's Test on Breathe holding time

Table XIV shows that the adjusted post-test mean difference in breathe holding time between YPG and TCG, YPG and CG and between TCG and CG are 0.9, 2.33 and 1.43 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in increase the breath holding time than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on breathe holding time is graphically presented in figure III.

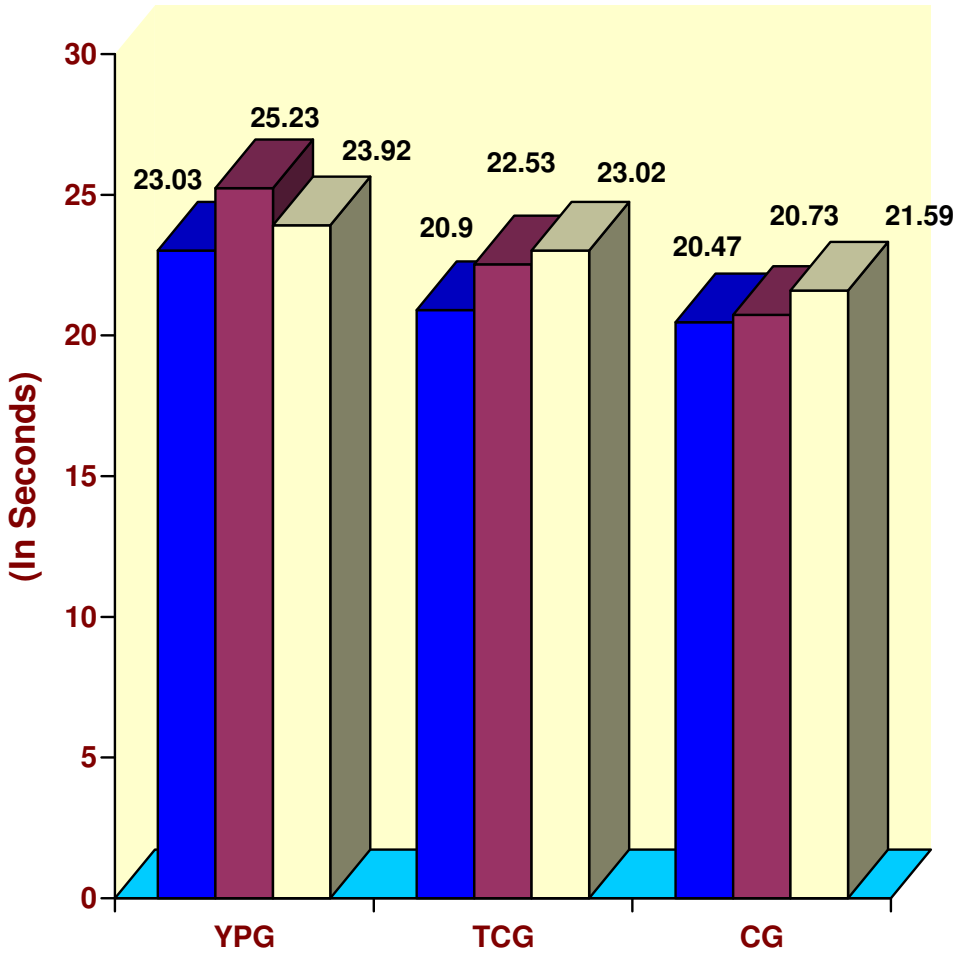

FIGURE III: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON BREATHE HOLDING TIME

4.6.3. Discussion on Findings on Breathe holding time

The findings of the study on breathe holding time reveal that the experimental group namely YPG and TCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in improving the breath holding time than the TCG.

Tai Chi practice may improve and enhance respiratory function in middle aged and older people, pre venting respiratory system diseases **Ni Hongying (2001)** studied a group of middle aged and older practitioners of 42 Form Tai Chi. After five consecutive tests of lung capacity, the results suggest that the subjects in resting period presented good respiratory endurance, the comparison between initial resting values and the resting values after effort cant difference (P>0. 05). Therefore it is suggested physical effort intensity requested in Tai Chi practice is appropriate. Taijiquan exercise movements require close coordination with breathing. Breathing movements the breath becomes deeper, more refined, longer and more relaxed. Therefore, Taijiquan practice also exercises the respiratory muscles.

Regular yogic practice enhances the breath holding time. The present results also produce the same. The present study findings are in consonance with the studies conducted by **Rajakumar, (2010),** and **Kapoor, et al., (2008)**. **Prakash, et al., (2007),** stated that yogis and athletes had similar lung functions. Involvement in daily physical activity or sort preferably yoga can help in achieving better pulmonary function.

4.7. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Blood glucose

The analysis of dependent 't' test on the data obtained for blood glucose of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XV.

TABLE XV

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON BLOOD GLUCOSE OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	80.7 ± 3.61	81.43 ± 2.8	80.26 ± 4.72
Post-Test (Mean ± SD)	77.16 ± 3.86	79.07 ± 2.86	79.73 ± 3.84
't' test	**8.701***	**8.797***	**1.722**

*** Significant at 0.05 level of confidence.(Table value required for 0.05 level of significance with df 29 is 2.04).**

The table XV shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the blood glucose. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for blood glucose of pre and post-test of YPG, TCG and CG have been presented in table XVI.

TABLE XVI

ANALYSIS OF COVARIANCE OF DATA ON BLOOD GLUCOSE AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	77.25	78.55	80.17	B	128.3501	2	64.17505	22.02*
				W	250.6665	86	2.914727	

*** Significant at .05 level of confidence (Blood glucose in mg/dL). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.7.1 Results of Blood glucose

Table XVI shows that the adjusted post-test means of YPG, TCG and CG were 77.25, 78.55 and 80.17 respectively. The obtained F-ratio value was 22.02, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of blood glucose of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XVII.

TABLE XVII

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF BLOOD GLUCOSE

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
77.25	78.55		1.3*	1.09
77.25		80.17	2.92*	1.09
	78.55	80.17	1.62*	1.09

*** Significant at 0.05 level of confidence.**

4.7.2. Results of Scheffe's Test on Blood glucose

Table XVII showed that the adjusted post-test mean difference in blood glucose between YPG and TCG, YPG and CG and between TCG and CG are 1.3, 2.92 and 1.62 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the blood glucose timing than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on blood glucose are graphically presented in figure IV.

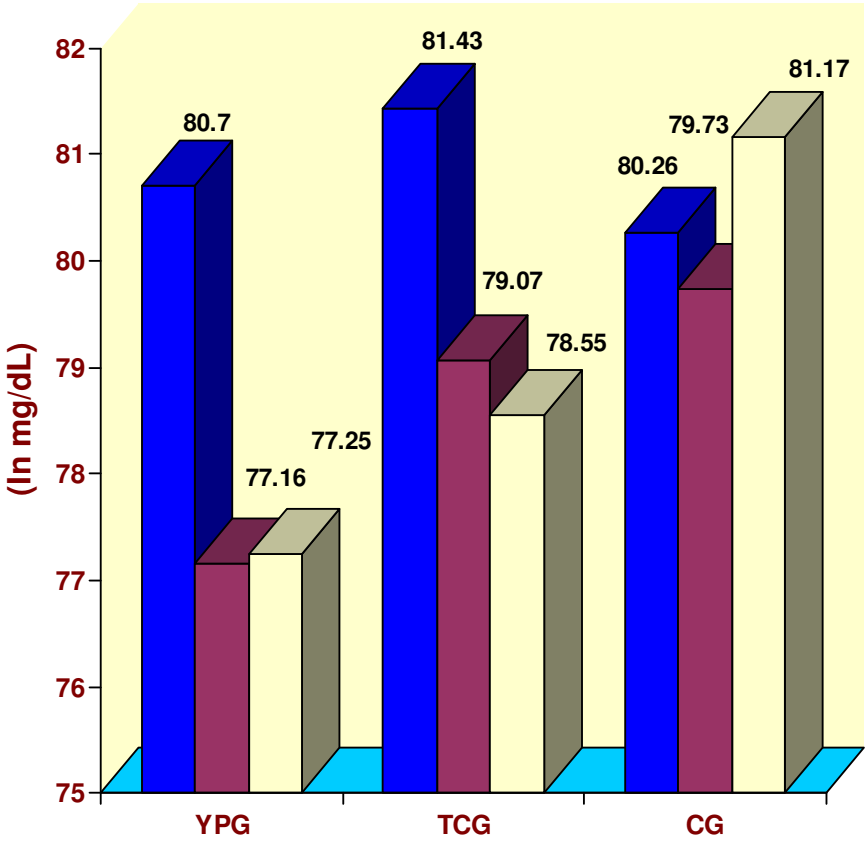

FIGURE IV: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON BLOOD GLUCOSE

4.7.3. Discussion on Findings on Blood glucose

The findings of the study on blood glucose reveal that the experimental group namely YPG and TCG had significantly decreased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in decrease the blood glucose than the TCG.

Regular practice of tai chi training reduces the blood sugar. The above finding can also be substantiated by observations made by the following authors: **Thomas, (2005) and Wan-An Lu, (2012).** Present study findings also confirm the view point of **Hui, et al., (2009).** Regular practice of yogic practice also reduces the blood sugar,. The above finding can also be substantiated by observations made by the following author: **Yang, (2007)**.

4.8. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Total cholesterol

The analysis of dependent 't' test on the data obtained for Total cholesterol of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XVIII.

TABLE XVIII

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON TOTAL CHOLESTEROL OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	178.93 ± 9.16	179.03 ± 11.20	180.87 ± 8.88
Post-Test (Mean ± SD)	175.4 ± 9.3	176.73 ± 10.91	180.4 ± 6.77
't' test	**11.841***	**14.366***	**815**

*** Significant at 0.05 level of confidence. (Table value required for 0.05 level of significance with df 29 is P2.04).**

The table XVIII shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the Total cholesterol. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for total cholesterol of pre and post-test of YPG, TCG and CG have been presented in table XIX.

TABLE XIX

ANALYSIS OF COVARIANCE OF DATA ON TOTAL CHOLESTEROL AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	176.01	177.25	179.27	B	160.9578	2	80.47892	22.96*
				W	301.3946	86	3.504588	

*** Significant at .05 level of confidence (Total cholesterol in mg/dL). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.8.1 Results of Total cholesterol

Table XIX shows that the adjusted post-test means of YPG, TCG and CG were 176.01, 177.25 and 179.27 respectively. The obtained F-ratio value was 22.96, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of total cholesterol of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XX.

TABLE XX

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF TOTAL CHOLESTEROL

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
176.01	177.25		1.24*	1.2
176.01		179.27	3.26*	1.2
	177.25	179.27	2.02*	1.2

*** Significant at 0.05 level of confidence.**

4.8.2. Results of Scheffe's Test on Total cholesterol

Table XX showed that the adjusted post-test mean difference in total cholesterol between YPG and TCG, YPG and CG and between TCG and CG are 1.24, 3.26 and 2.02 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the total cholesterol than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on total cholesterol are graphically presented in figure V.

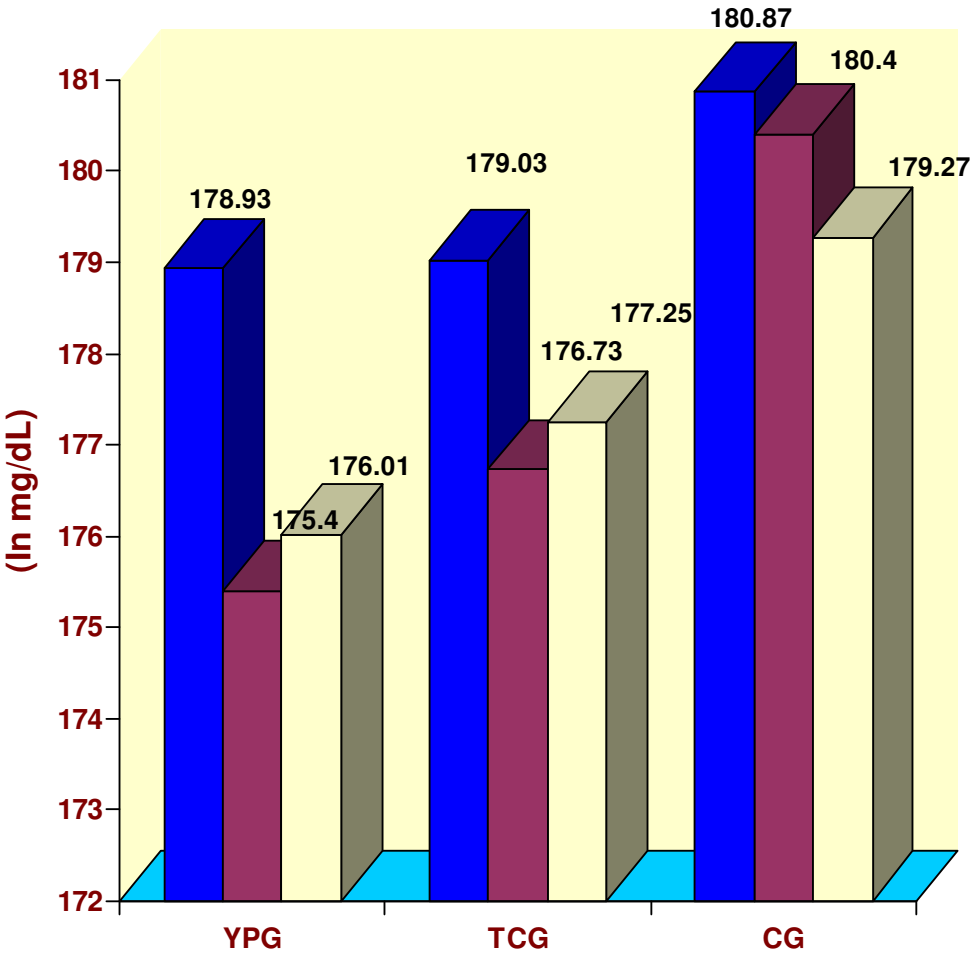

FIGURE V: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON TOTAL CHOLESTEROL

4.8.3. Discussion on Findings on Total cholesterol

The findings of the study on total cholesterol reveal that the experimental group namely YPG and TCG had significantly decreased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in decrease the total cholesterol than the TCG.

Systematic tai-chi training reduces the total cholesterol level. The above findings can also be substantiated by observations made by renowned experts **Jen-Chen, et al., (2003), Dalusung-Angosta, (2011), KoGt, (2006)** and **Thomas, (2005).** The present findings also in line with the view of **Wan-An Lu, (2012)**. **Sukhee, Lee and Kim, (2006), Dhananjai, et al., (2010)**, **Acharya., et al., (2010), Sayyed *et al*., (2010),** Systematic physical exercise training and yogic practice reduces the TC level. The above findings can also be substantiated by observations made by renowned expert **Benounis, et al., (2008),** and **Telles, et al., (2010)**. The research conducted by **Dhananjai, et al., (2010)**, stated that the 12 weeks of yoga practice decrease the TC of 56 obese subjects. The present research findings also suggested that tai-chi training and yogic practice reduces the TC level in women football players. Meta-analysis of 70 studies (**Datillo and Kris-Etherton, 1992**) showed that weight loss is associated with decreases in all lipid level, except high density lipoprotein cholesterol, which increases with weight loss.

4.9. Computation of Dependent 't' test Analysis of Covariance and Scheffe's Post Hoc Test on Triglycerides

The analysis of dependent 't' test on the data obtained for Triglycerides of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table .

TABLE XXI

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON TRIGLYCERIDES OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	170.37 ± 4.34	170.23 ± 4.69	171.13 ± 3.319
Post-Test (Mean ± SD)	165.96 ± 4.35	168.21 ± 4.77	170.9 ± 2.73
't' test	**48.367***	**38.755***	**0.664**

*** Significant at 0.05 level of confidence.(Table value required for 0.05 level of significance with df 29 is 2.04).**

The table XXI shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the Triglycerides . However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for triglycerides of pre and post-test of YPG, TCG and CG have been presented in table XXII.

TABLE XXII

ANALYSIS OF COVARIANCE OF DATA ON TRIGLYCERIDES AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	166.16	168.53	170.38	B	266.6949	2	133.3474	103.73*
				W	110.5511	86	1.285478	

*** Significant at .05 level of confidence (Triglycerides in mg/dL). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.9.1 Results of Triglycerides

Table XXII shows that the adjusted post-test means of YPG, TCG and CG were 166.16, 168.53 and 170.38 respectively. The obtained F-ratio value was 103.73, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of triglycerides of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XXIII.

TABLE XXIII

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF TRIGLYCERIDES

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
166.16	168.53		2.37*	0.729
166.16		170.38	4.22*	0.729
	168.53	170.38	1.85*	0.729

*** Significant at 0.05 level of confidence.**

4.9.2. Results of Scheffe's Test on Triglycerides

Table XXIII showed that the adjusted post-test mean difference in triglycerides between YPG and TCG, YPG and CG and between TCG and CG are 2.37, 4.22 and 1.85 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the triglycerides than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on triglycerides are graphically presented in figure VI.

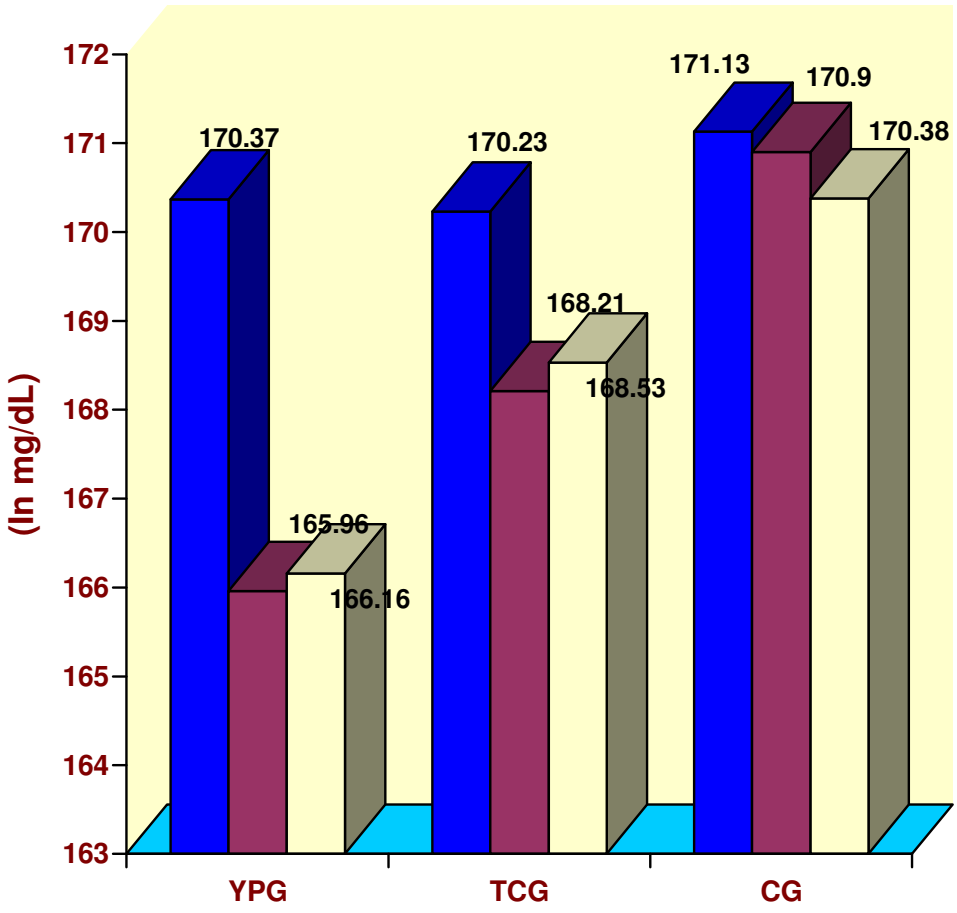

FIGURE VI: ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON TRIGLYCERIDES

4.9.3. Discussion on Findings on Triglycerides

The findings of the study on triglycerides reveal that the experimental group namely YPG and TCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in reducing the triglycerides level in blood than the TCG.

Systematic asana and pranayama training reduces the TG level. The above findings can also be substantiated by observations made by renowned expert **Acharya., et al., (2010)**. In a study (**Prasad, *et al*., 2006**) on normal, healthy volunteers, after 30 days of practicing pranayama, a significant reduction in triglycerides, free fatty acids and VLDL cholesterol along with significant elevation of HDL cholesterol was observed in the men. After adding asana exercises to the pranayama for another 60 days, free fatty acids increased in both men and women, and women demonstrated a significant fall in serum cholesterol, triglycerides, LDL and VLDL cholesterol. The present research findings also suggested that yogic and tai chi training reduces the TG level in college women football players.

4.10. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Anxiety

The analysis of dependent 't' test on the data obtained for Anxiety of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XXIV.

TABLE XXIV

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON ANXIETY OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	28 ± 2.17	28.8 ± 1.42	27.1 ± 2.74
Post-Test (Mean ± SD)	24.96 ± 2.46	27.03 ± 1.61	26.67 ± 2.99
't' test	**12.53***	**14.25***	**1.78**

***** Significant at 0.05 level.
(Table value required for 0.05 level of significance with df 29 is 2.04).

The table XXIV shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the Anxiety . However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for anxiety of pre and post-test of YPG, TCG and CG have been presented in table XXV.

TABLE XXV

ANALYSIS OF COVARIANCE OF DATA ON ANXIETY AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	24.93	26.22	27.51	B	97.153	2	48.577	36.17*
				W	115.491	86	1.343	

* Significant at .05 level of confidence (Anxiety in points)
(The table value required for 0.05 level of significance with df 2, 86 was 3.10)

4.10.1 Results of Anxiety

Table XXV shows that the adjusted post-test means of YPG, TCG and CG were 24.93, 26.22 and 27.51 respectively. The obtained F-ratio value was 36.17, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of anxiety of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XXVI.

TABLE XXVI

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF ANXIETY

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
24.93	26.22		1.29*	0.745
24.93		27.51	2.58*	0.745
	26.22	27.51	1.29*	0.745

* Significant at 0.05 level.

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4.10.2. Results of Scheffe's Test on Anxiety

Table shows XXVI that the adjusted post-test mean difference in anxiety between YPG and TCG, YPG and CG and between TCG and CG are 1.29, 2.58 and 1.29 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the anxiety than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on anxiety are graphically presented in figure VII.

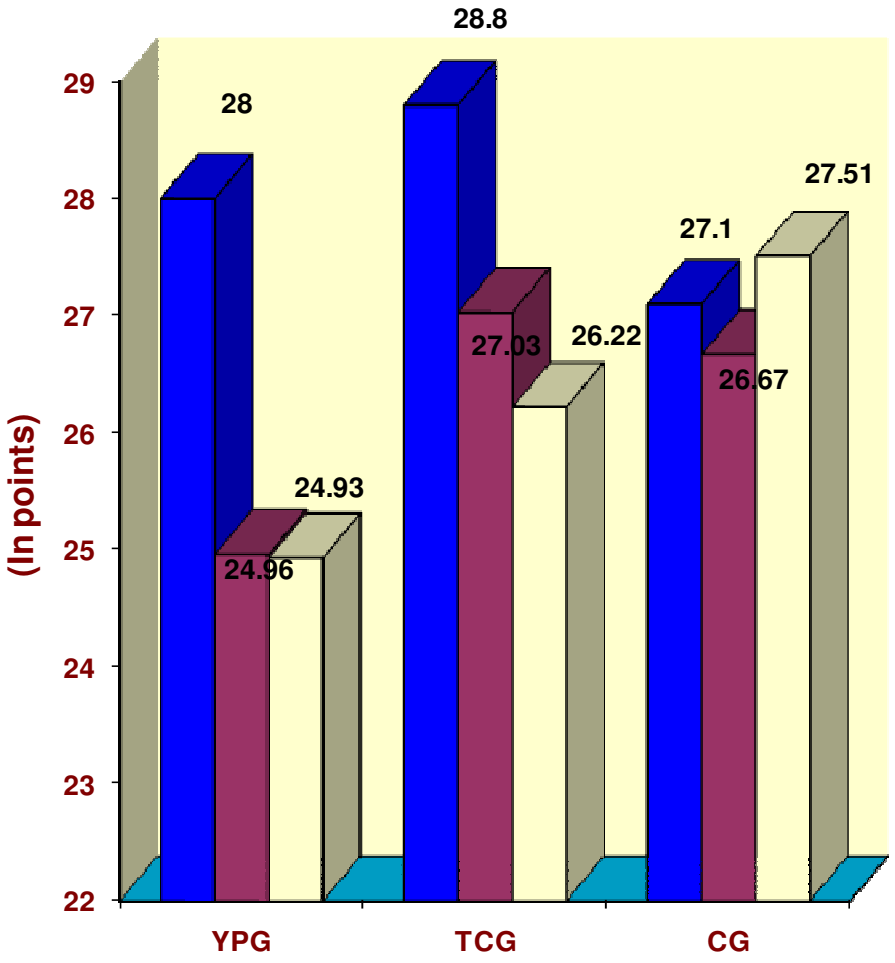

FIGURE VII: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON ANXIETY

4.10.3. Discussion on Findings on Anxiety

The findings of the study on anxiety reveal that the experimental group namely YPG and TCG had significantly decreased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in decrease the anxiety level than the TCG.

12 weeks of tai-chi activities decrease the level of anxiety among the women football players. The above findings can also be substantiated by observations made by renowned experts **Jen-Chen Tsai, et al., (2003)** and **Wang, et al., (2010)**. Similarly, **Chen et al., (2001),** stated that low intensity type of tai-chi exercises significantly reduce the level of anxiety. More over yogic practice also reduce the level of anxiety in women football players. The above findings can also be substantiated by observations made by renowned experts **Subramanya and Telles, (2009)** and **Smith, et al., (2007).** The research conducted by **Telles, et al., (2009),** stated that regular practice of yoga asanas has significantly reduced the anxiety level. Similarly, **Kiellgren, et al., (2007**), practice of SK&P can lead to decrease the anxiety level in healthy volunteers. The present research findings also suggested that yoga asanas training has significantly reduce the stress and anxiety level. Methodology protocols were almost similar in both the studies. The present research findings can also be substantiated by observations made by renowned experts **Brown and Gerbarg, (2005).**

4.11. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Self esteem

The analysis of dependent 't' test on the data obtained for Self esteem of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XXVII.

TABLE XXVII

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON SELF ESTEEM OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	11.46 ± 2.59	10.46 ± 1.79	11 ± 2.19
Post-Test (Mean ± SD)	13.9 ± 2.65	12.3 ± 1.78	11.46 ± 2.24
't' test	**15.527***	**26.492***	**1.785**

*** Significant at 0.05 level of confidence. (Table value required for 0.05 level of significance with df 29 is 2.04).**

The table XXVII shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the Self esteem . However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for self esteem of pre and post-test of YPG, TCG and CG have been presented in table XXVIII.

TABLE XXVIII

ANALYSIS OF COVARIANCE OF DATA ON SELF ESTEEM AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	13.45	12.77	11.45	B	62.18603	2	31.09302	32.6*
				W	82.02315	86	0.953758	

*** Significant at .05 level of confidence (Self esteem in points). (The table value required for 0.05 level of significance with df 2,86 was 3.10)**

4.11.1 Results of Self esteem

Table XXVIII shows that the adjusted post-test means of YPG, TCG and CG were 13.45, 12.77 and 11.45 respectively. The obtained F-ratio value was 32.6, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of self esteem of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XXIX.

TABLE XXIX

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF SELF ESTEEM

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
13.45	12.77		0.68*	0.628
13.45		11.45	2*	0.628
	12.77	11.45	1.32*	0.628

*** Significant at 0.05 level of confidence.**

4.11.2. Results of Scheffe's Test on Self esteem

Table XXIX showed that the adjusted post-test mean difference in self esteem between YPG and TCG, YPG and CG and between TCG and CG are 0.68, 2 and 1.32 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the self esteem than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on self esteem are graphically presented in figure VIII.

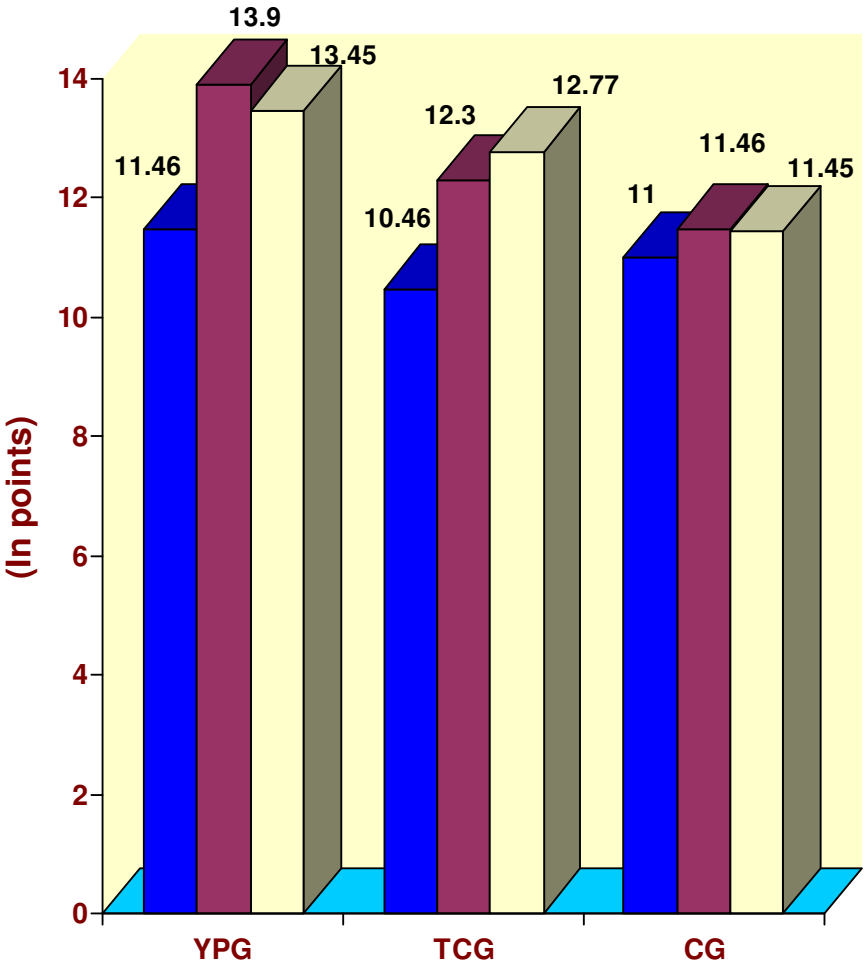

FIGURE VIII: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON SELF-ESTEEM

4.11.3. Discussion on Findings on Self esteem

The findings of the study on self esteem reveal that the experimental group namely YPG and TCG had significantly decreased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in increase the self esteem than the TCG.

The present research 12 weeks of yogic training and Tai-chi training improve the level of self-esteem significantly. **Wang, et al., (2010)**, Tai Chi appears to be associated with improvements in psychological well-being including reduced stress, anxiety, depression and mood disturbance, and increased self-esteem. Definitive conclusions were limited due to variation in designs, comparisons, heterogeneous outcomes and inadequate controls. High-quality, well-controlled, longer randomized trials are needed to better inform clinical decisions.

The present findings of the study concluded that yogic practices and tai0chi training increased the level of self-esteem among the women football players.

4.12. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Achievement motivation

The analysis of dependent 't' test on the data obtained for Achievement motivation of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XXX.

TABLE XXX

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON ACHIEVEMENT MOTIVATION OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	21.26 ± 2.31	21.46 ± 2.52	21.86 ± 2.73
Post-Test (Mean ± SD)	24.46 ± 1.45	23.66 ± 2.46	21.63 ± 2.57
't' test	**10.25***	**14.97***	**0.469**

***** Significant at 0.05 level.
(Table value required for 0.05 level of significance with df 29 is 2.04).

The table XXX shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the Achievement motivation . However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for achievement motivation of pre and post-test of YPG, TCG and CG have been presented in tableXXXI.

TABLE XXXI

ANALYSIS OF COVARIANCE OF DATA ON ACHIEVEMENT MOTIVATION AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	24.63	23.56	21.36	B	165.516	2	82.758	32.62*
				W	218.161	86	2.537	

* Significant at .05 level of confidence (Achievement motivation in points)
(The table value required for 0.05 level of significance with df 2, 86 was 3.10)

4.12.1 Results of Achievement motivation

Table XXXI shows that the adjusted post-test means of YPG, TCG and CG were 24.63, 23.56 and 21.36 respectively. The obtained F-ratio value was 32.62, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of achievement motivation of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XXXII.

TABLE XXXII

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF ACHIEVEMENT MOTIVATION

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
24.63	23.56		1.07*	1.02
24.63		21.36	3.27*	1.02
	23.56	21.36	2.2*	1.02

* Significant at 0.05 level.

4.12.2. Results of Scheffe's Test on Achievement motivation

Table XXXII shows that the adjusted post-test mean difference in achievement motivation between YPG and TCG, YPG and CG and between TCG and CG are 1.07, 3.27 and 2.2 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the achievement motivation than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on achievement motivation are graphically presented in figure IX.

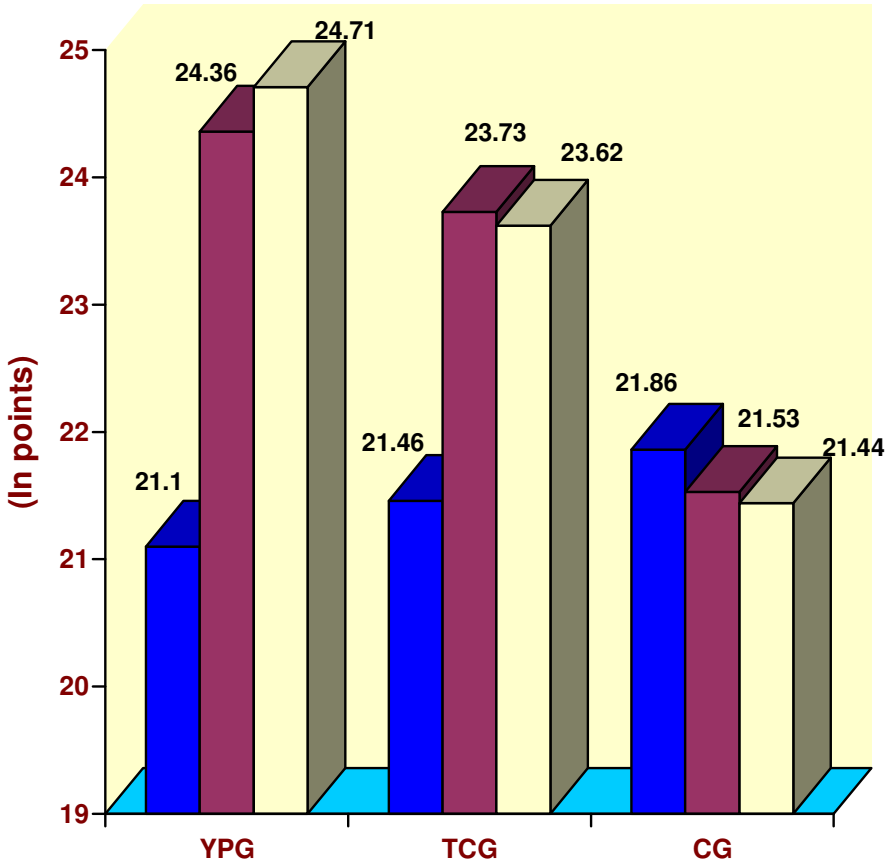

FIGURE IX: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON ACHIEVEMENT MOTIVATION

4.12.3. Discussion on Findings on Achievement motivation

The findings of the study on achievement motivation reveal that the experimental group namely YPG and TCG had significantly decreased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in increase the achievement motivation than the TCG.

12 weeks of yogic training improve the achievement motivation significantly. At the same time tai-chi exercise also improve the level of achievement motivation among the women football players. The above findings may be depending upon the following factors. Logical fashion to their personal goals, belief that success requires high ability, the goal of gaining knowledge and success requires interest. Function of goal expectancy (positive or negative) and perceived input into goal production (input or no input). The above factors can also be substantiated by observations made by the following authors: **Unierzyski, (2003)**, **Thomassen and Halvari, (1996)** and **O'Brien, et al., (2005). Tzetzis, George (2002)** and **Ingledew, and Markland, (2009)**, concluded that regular physical activity and exercise participation increases the goal orientation and motivation levels. Present study also produces the same results found by **Tzetzis, George (2002)** and **Ingledew, and Markland, (2009)**.

4.13. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Dribbling

The analysis of dependent 't' test on the data obtained for Dribbling of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XXXIII.

TABLE XXXIII

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON DRIBBLING OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	40.5 ± 5.03	42.96 ± 6.02	43 ± 5.47
Post-Test (Mean ± SD)	37.66 ± 4.87	40.56 ± 5.79	42.83 ± 4.49
't' test	**40.941***	**19.484***	**0.579**

***** Significant at 0.05 level.

(Table value required for 0.05 level of significance with df 29 is 2.04).

The table XXXIII shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly decreased the Dribbling. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for dribbling of pre and post-test of YPG, TCG and CG have been presented in table XXXIV.

TABLE XXXIV

ANALYSIS OF COVARIANCE OF DATA ON DRIBBLING AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	39.17	39.83	42.07	B	135.6386	2	67.81931	87.86*
				W	66.38201	86	0.771884	

*** Significant at .05 level of confidence (Dribbling in Seconds). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.13.1 Results of Dribbling

Table XXXIV shows that the adjusted post-test means of YPG, TCG and CG were 39.17, 39.83 and 72.07 respectively. The obtained F-ratio value was 87.86, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of dribbling timings of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XXXV.

TABLE XXXV

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF DRIBBLING

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
39.17	39.83		0.66*	0.57
39.17		42.07	2.9*	0. 57
	39.83	42.07	2.24*	0. 57

*** Significant at 0.05 level of confidence.**

4.13.2. Results of Scheffe's Test on Dribbling

Table XXXV showed that the adjusted post-test mean difference in dribbling between YPG and TCG, YPG and CG and between TCG and CG are 0.66, 2.9 and 2.24 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the dribbling timing than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on dribbling performance are graphically presented in figure X.

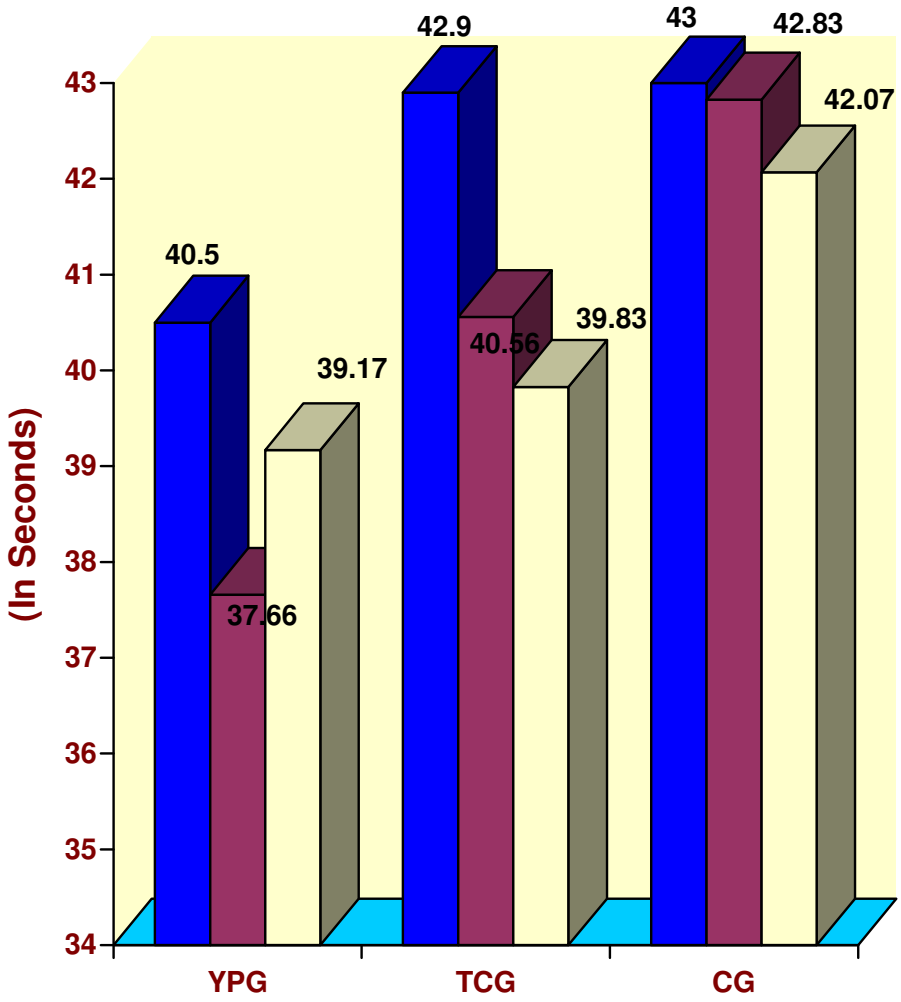

FIGURE X: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON DRIBBLING

4.13.3. Discussion on Findings on Dribbling

The findings of the study on dribbling ability reveal that the experimental group namely YPG and TCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in improve the dribbling ability than the TCG.

The present findings are depending upon the following factors: If one want to boost performance at one's soccer game, it may be time to pull out one's yoga mat. Although it may seem counterproductive to slow down and stretch to increase endurance and ability on the field, yoga (Seated forward bend, Lunge twist, Triangle pose, Pigeon pose, Lying spinal twist, Plank pose with wrist support, Seated cross leg twist and Frog pose)can work wonders to support one's athletic ability (**Deeds, Nov,2012**). **Yanda, (Aug, 2010),** stated that yogic practices improve the speed, agility and strength of the legs.

4.14. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on kicking

The analysis of dependent 't' test on the data obtained for kicking of the pre-test and post-test means of the of pre and post-test of YPG, TCG and CG have been presented in table XXXVI.

TABLE XXXVI

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON KICKING OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	24.21 ± 2.08	23.98 ± 2.24	23.78 ± 1.86
Post-Test (Mean ± SD)	24.78 ± 2.09	24.33 ± 2.22	23.90 ± 1.69
't' test	**16.106***	**20.841***	**1.199**

*** Significant at 0.05 level of confidence. (Table value required for 0.05 level of significance with df 29 is 2.04).**

The table XXXVI shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly improved the kicking performance. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for passing of pre and post-test of YPG, TCG and CG have been presented in table XXXVII.

TABLE XXXVII

ANALYSIS OF COVARIANCE OF DATA ON KICKING AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	24.57	24.35	24.11	B	3.156616	2	1.578308	13.96*
				W	9.720516	86	0.113029	

*** Significant at .05 level of confidence (Passing in meters). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.14.1 Results of Kicking

Table XXXVII shows that the adjusted post-test means of YPG, TCG and CG were 24.57, 24.35 and 24.11 respectively. The obtained F-ratio value was 13.96, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of kicking timings of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XXXVIII.

TABLE XXXVIII

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF KICKING

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
24.57	24.35		0.22*	0.22
24.57		24.11	0.46*	0. 22
	24.35	24.11	0.24*	0. 22

*** Significant at 0.05 level of confidence.**

4.14.2. Results of Scheffe's Test on kicking

Table XXXVIII showed that the adjusted post-test mean difference in kicking between YPG and TCG, YPG and CG and between TCG and CG are 0.22, 0.46 and 0.24 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the passing timing than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on kicking performance are graphically presented in figure XI.

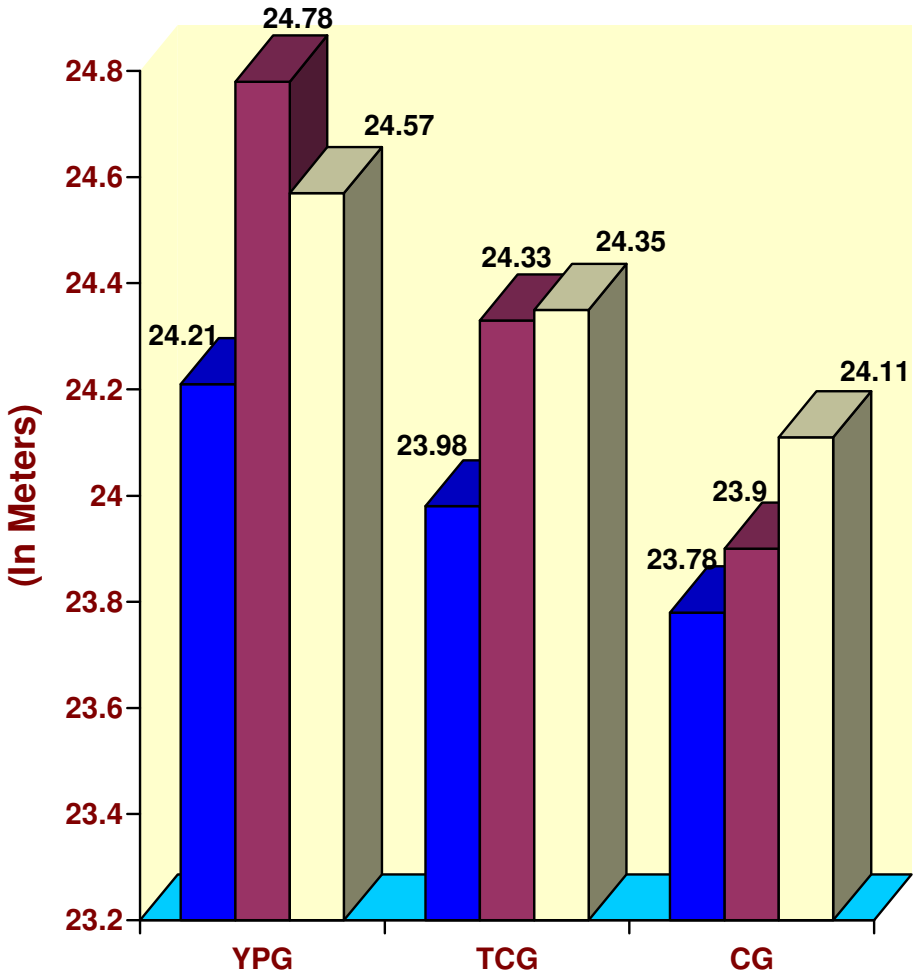

FIGURE XI: PRE, POST AND ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON KICKING ABILITY

4.14.3. Discussion on Findings on Kicking

The findings of the study on kicking distance reveal that the experimental group namely YPG and TCG had significantly increased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in increase the passing distance than the TCG.

In a 2006 study published in Alternative Therapies in Health and Medicine, Stanford University researchers reported benefits of tai chi in 39 women and men, average age 66, with below average fitness and at least one cardiovascular risk factor. After taking 36 tai chi classes in 12 weeks, they showed improvement in both lower-body strength (measured by the number of times they could rise from a chair in 30 seconds) and upper-body strength (measured by their ability to do arm curls). In a Japanese study using the same strength measures, 113 older adults were assigned to different 12-weekexercise programs, including tai chi, brisk walking, and resistance training. People who did tai chi improved more than 30% in lower-body strength and 25% in arm strength almost as much as those who participated in resistance training, and more than those assigned to brisk walking. The present findings are depending upon the following factors: **Lawrence, (Nov, 2012),** stated that Power yoga improves the leg muscles (hamstring, quadriceps, strengthen the ankle and knee joints. Present findings also confirm the findings of the **Lawrence, (Nov, 2012).**

4.15. Computation of Dependent 't' test, Analysis of Covariance and Scheffe's Post Hoc Test on Shooting

The analysis of dependent 't' test on the data obtained for shooting of the pre-test and post-test means of the of pre and post-test of YPG, TC G and CG have been presented in tableXXXIX.

TABLE XXXIX

THE SUMMARY OF MEAN AND DEPENDENT 't'-TEST FOR THE PRE AND POST TESTS ON SHOOTING OF YPG, TCG AND CG

Tests	YPG	TCG	CG
Pre-Test (Mean ± SD)	19.27 ± 5.03	18.33 ± 5.59	17.56 ± 6.19
Post-Test (Mean ± SD)	22.73 ± 4.11	20.3 ± 5.41	17.8 ± 5.08
't' test	**10.577***	**14.994***	**0.641**

***** Significant at 0.05 level.

(Table value required for 0.05 level of significance with df 29 is 2.04).

The table XXXIX shows that the obtained t-ratio values between the pre and post-test means of the YPG, TCG and control group were greater than the table value. It was understood that the yogic practices and Tai-Chi training had significantly improved the shooting performance. However, the control group had not improved significantly. The obtained 't' value was less than the table value, as they were not subjected to any specific training.

The Analysis of Covariance on the data obtained for shooting of pre and post-test of YPG, TCG and CG have been presented in table XL.

TABLE XL

ANALYSIS OF COVARIANCE OF DATA ON SHOOTING AMONG YPG, TCG AND CG

Tests/ Groups	YPG	TCG	CG	SOV	SS	df	MS	"F" Ratio
Adjusted post test	21.99	20.35	18.49	B	181.9443	2	90.97213	51.51*
				W	151.8788	86	1.766033	

*** Significant at .05 level of confidence (Shooting in Points). (The table value required for 0.05 level of significance with df 2, 86 was 3.10)**

4.15.1 Results of Shooting

Table XL shows that the adjusted post-test means of YPG, TCG and CG were 21.99, 20.35 and 18.49 respectively. The obtained F-ratio value was 51.51, which was higher than the table value of 3.10 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted post test means of shooting timings of the YPG, TCG and CG.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table XLI.

TABLE XLI

SCHEFFE'S TEST FOR DIFFERENCES OF THE ADJUSTED POST-TEST PAIRED MEANS OF SHOOTING

Adjusted Post-test means			Mean Differences	Confidence Interval
YPG	TCG	CG		
21.99	20.35		1.64*	0.86
21.99		18.49	3.5*	0. 86
	20.35	18.49	1.86*	0. 86

*** Significant at 0.05 level of confidence.**

4.15.2. Results of Scheffe's Test on Shooting

Table XLI showed that the adjusted post-test mean difference in shooting between YPG and TCG, YPG and CG and between TCG and CG are 1.64, 3.5 and 1.86 respectively, which were statistically significant at 0.05 level of confidence. However, YPG was to be found better in reduce the shooting timing than the TCG.

The pre test, post test and adjusted post-test mean values of YPG, TCG and CG on shooting performance are graphically presented in figure XII.

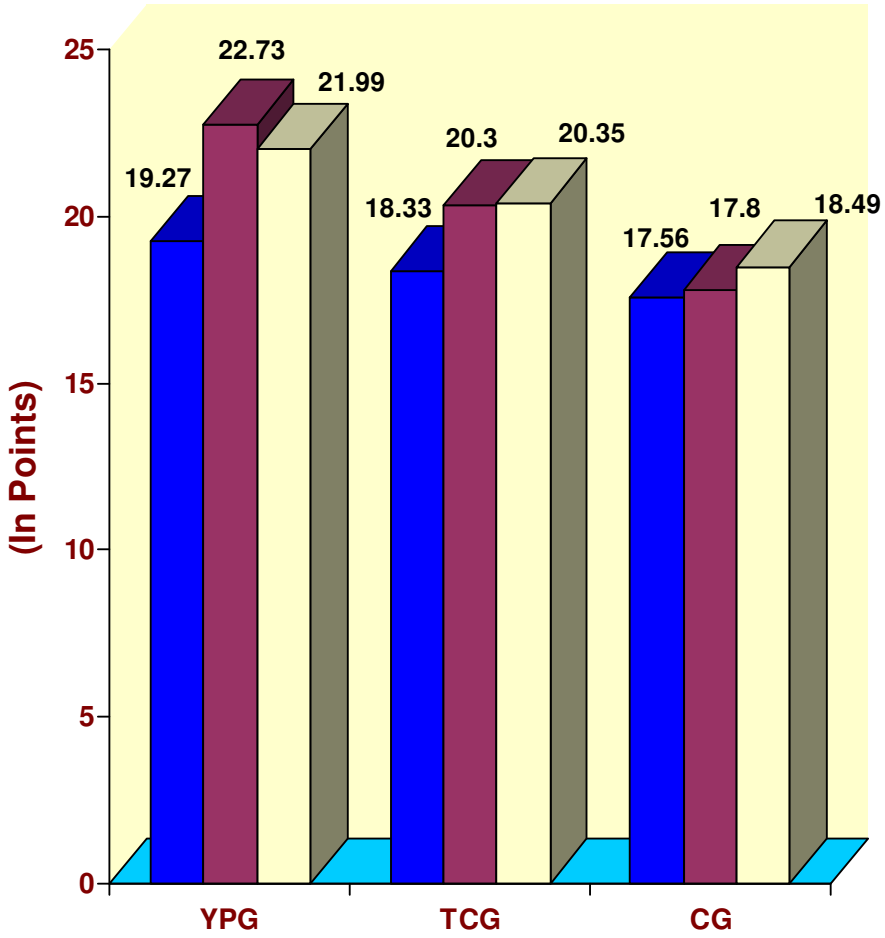

FIGURE XII: ADJUSTED MEAN VALUE OF THE YPG, TCG AND THE CONTROL GROUPS (CG) ON SHOOTING ABILITY

4.15.3. Discussion on Findings on Shooting

The findings of the study on shooting accuracy reveal that the experimental group namely YPG and TCG had significantly increased after the training. Besides, the results of the study indicated that there was a significant difference between the YPG and TCG. YPG training showed better results in enhancing the shooting accuracy than the TCG. The above finding may depend upon the following factors; The most outstanding benefit of adding yoga to a training program, in addition to preventing and /or rehabilitating injury, is the effect it has on performance. It enables an athlete to train harder and at a higher level because range of motion is greater and the fear of injury has lessened. The practice also develops sinewy strength, as opposed to bulky strength, and while that might not be an advantage for all athletes, it certainly is a plus for endurance athletes. **Lawrence, (Nov, 2012),** stated that Power yoga improves the leg muscles (hamstring, quadriceps, strengthen the ankle and knee joints. **Yanda, (Aug, 2010)**, stated that yogic practices improve the speed, agility and strength of the legs.

4.16. DISCUSSION ON HYPOTHESES

1. It was hypothesized that there would be significant improvement difference in the selected physiological, bio-chemical, psychological variables and playing abilities due to the influence of yogic practices and tai-chi training than the control group among college women football players. The results of the study indicated that there was a significant difference in all the selected dependent variables due to the effect of yogic practices and tai-chi training than the control group. Hence the first hypothesis was completely accepted at 0.05 level of confidence with respect to all the physiological, bio-chemical, psychological variables and playing abilities.

2. It was hypothesized that there would be significant improvement difference between the yogic practices and tai-chi training group on selected physiological, bio-chemical, psychological variables and playing abilities among college women football players. The second hypothesis was also completely accepted at 0.05 level of confidence as there was a significant difference between the yogic practices and tai-chi training group, with respect to all the selected dependent variables such as resting pulse rate, breathe holding time, blood glucose, total cholesterol, triglycerides, anxiety, self-esteem, achievement motivation, dribbling, kicking and shooting among college women football players.

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