CHAPTER-IV

ANALYSIS OF DATA AND RESULTS OF THE STUDY

The collected data on selected criterion variables have been analyzed and presented in this chapter. The purpose of this study was to find out the effect of organized and unorganized physical activities on selected lipid profiles, respiratory values and body composition among sedentary men. To achieve the purpose of the study, forty five (n=45) sedentary men were selected from the various parts of Chennai, Tamil Nadu state, India. The age of subjects ranged from 30 to 45 years.

The selected subjects were divided into three groups of fifteen subjects each namely two experimental groups and a control group. The experimental group-I underwent organised Physical activities and experimental group-II underwent unorganised physical activities for duration of twelve weeks with three days per week and group-III acted as control group.

The criterion variables selected for this study were vital capacity, peak expiratory flow rate, resting heart rate, high density lipoprotein, low density lipoprotein, total cholesterol, body mass index, percent body fat and lean body mass. The selected variables were assessed prior to and immediately after the training period by using the standardized test items.

The experimental design used in this study was pre and post test random group design involving 45 subjects who were divided at

random into three groups of fifteen each. Hence, to make adjustments for difference in the initial means and to test the adjusted post test means for significant differences among the groups, the analysis of covariance (ANCOVA) was used. 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. In all the cases 0.05 level was fixed as significant level to test the hypothesis.

4.1 Analysis of data

The influence of independent variables on each criterion variables were analysed and presented below:

TABLE – 4.1

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANISED PHYSICAL ACTIVITIES

UNORGANISED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON VITAL CAPACITY

	OPA	UOPA	CG	Source of Variance	Sum of Squares	df	Mean Square	'F' ratio
Pre - Test Mean	4.23	4.24	4.49	B	0.67	2	0.33	1.12
				W	12.47	42	0.29	
Post - Test Mean	4.84	4.79	4.50	B	0.99	2	0.49	4.68*
				W	4.45	42	0.10	
Adjusted Post -Test Mean	4.88	4.82	4.42	B	1.78	2	0.89	19.76*
				W	1.84	41	0.04	

B- Between Group Means   * - Significant

W- Within Group Means   (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom   (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.1 indicated that the pre test means of organised physical activities, unorganised physical activities and control groups were 4.23, 4.24 and 4.49 respectively. The obtained F-ratio for the pre-test was 1.12 and the table F-ratio was 3.22. Since the obtained value of 1.12 was lesser than the table value of 3.22, hence it was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups.

The post-test means of the organised physical activities unorganised physical activities and control groups were 4.84, 4.79 and 4.50 respectively. The obtained F-ratio for the post-test was 4.68 and the table F-ratio was 3.22. Since the obtained value 4.68 was higher than the table value of 3.22 it was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant.

The adjusted post-test means of the organised physical activities unorganised physical activities and control groups were 4.88, 4.82 and 4.42 respectively. The obtained F-ratio for the adjusted post-test means was 19.76 and the table F-ratio was 3.23. Since the obtained value 19.76 was higher than the table value of 3.23 hence it was significant at 0.05 level of confidence for the degree of freedom 2 and

41. This proved that there was a significant difference among the means due to the experimental trainings on vital capacity.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table- 4.2

TABLE – 4.2

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON VITAL CAPACITY

| Adjusted Post-test means			Mean Difference	Required CI
Organized physical activities	Unorganized physical activities	Control Group		
4.88	---	4.42	0.46*	0.18
---	4.82	4.42	0.40*	
4.88	4.82	---	0.06	

* Significant at 0.05 level of confidence

The multiple comparisons showed in table 4.2 proved that there existed significant differences between the adjusted means of organized physical activities with control group (0.46), unorganized physical activities with control group (0.40). There was no significant difference between organized physical activities and unorganized physical activities (0.06) at 0.05 level of confidence with the confidence interval value of 0.18.

The pre, post and adjusted means on vital capacity were presented through bar diagram for better understanding of the results of this study in Figure-1.

FIGURE – 1

**PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE
ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED PHYSICAL
ACTIVITIES AND CONTROL GROUPS ON VITAL CAPACITY**
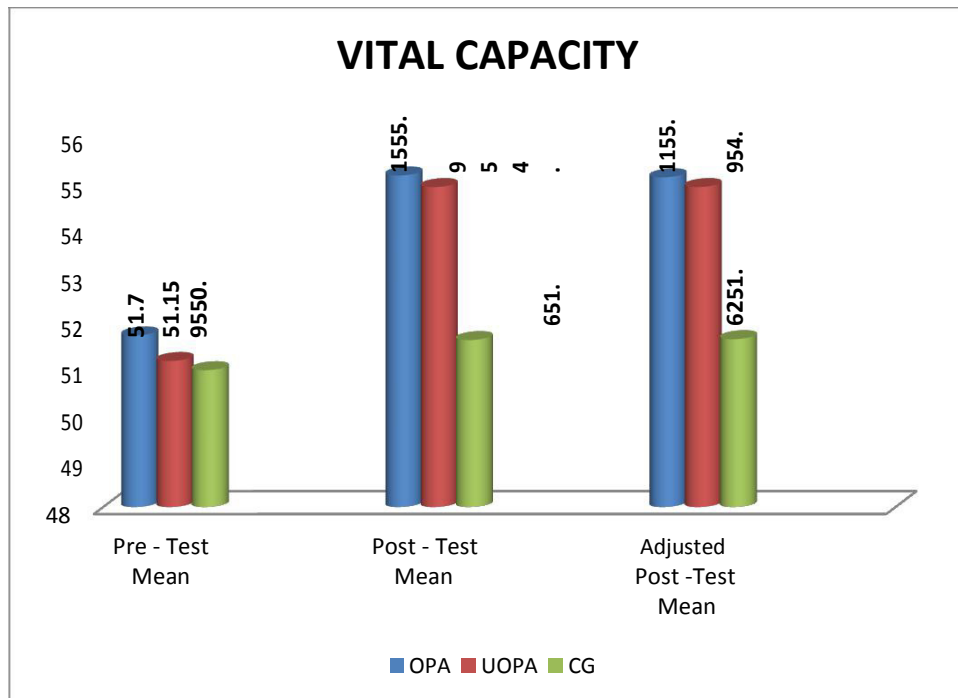
TABLE – 4.3

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED

PHYSICAL ACTIVITIES AND CONTROL GROUPS ON PEAK EXPIRATORY FLOW RATE

	OPA	UOPA	CG	Source of Variance	Sum of Squares	Df	Mean Square	'F' ratio
Pre - Test Mean	284.46	283.20	292.06	B	689.91	2	344.95	1.11
				W	13001.06	42	309.54	
Post - Test Mean	404.66	411.53	296.26	B	125420.57	2	62710.28	54.93*
				W	47942.00	42	1141.47	
Adjusted Post -Test Mean	406.57	414.58	291.30	B	135583.69	2	67791.85	74.45*
				W	37332.67	41	910.55	

B- Between Group Means * - Significant

W- Within Group Means (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.3 indicated that the pre test means of organized physical activities, unorganized physical activities and control groups were 284.46, 283.20 and 292.06 respectively. The obtained F-ratio for the pre-test was 1.11 and the table F-ratio was 3.22. Since the obtained value of 1.11 was lesser than the table value of 3.22, it was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups.

The post-test means of the organized physical, activities unorganized physical activities and control groups were 404.66, 411.53 and 296.26 respectively. The obtained F-ratio for the post-test was 54.93 and the table F-ratio was 3.22. Since the obtained value 54.93 was higher than the table value of 3.22 hence it was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant.

The adjusted post-test means of the organized physical activities, unorganized physical activities and control groups were 406.57, 414.58 and 291.30 respectively. The obtained F-ratio for the adjusted post-test means was 74.45 and the table F-ratio was 3.23. Since the obtained value 74.45 was higher than the table value of 3.23 hence it was significant at 0.05 level of confidence for the degree of

freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on peak expiratory flow rate.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-4.4

TABLE – 4.4

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON PEAK EXPIRATORY FLOW RATE

| Adjusted Post-test means			Mean Difference	Required CI
Organized physical activities	Unorganized physical activities	Control Group		
406.57	---	291.30	115.27*	28.00
---	414.58	291.30	123.28*	
406.57	414.58	---	8.01	

* Significant at 0.05 level of confidence

The multiple comparisons showed in table 4.4 proved that there existed significant differences between the adjusted means of organized physical activities with control group (115.27), unorganized physical activities with control group (123.28). There was no significant difference between organized physical activities and unorganized physical activities (8.01) at 0.05 level of confidence with the confidence interval value of 28.00.

The pre, post and adjusted means on peak expiratory flow rate were presented through bar diagram for better understanding of the results of this study in Figure-2.

FIGURE – 2

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON PEAK EXPIRATORY FLOW RATE
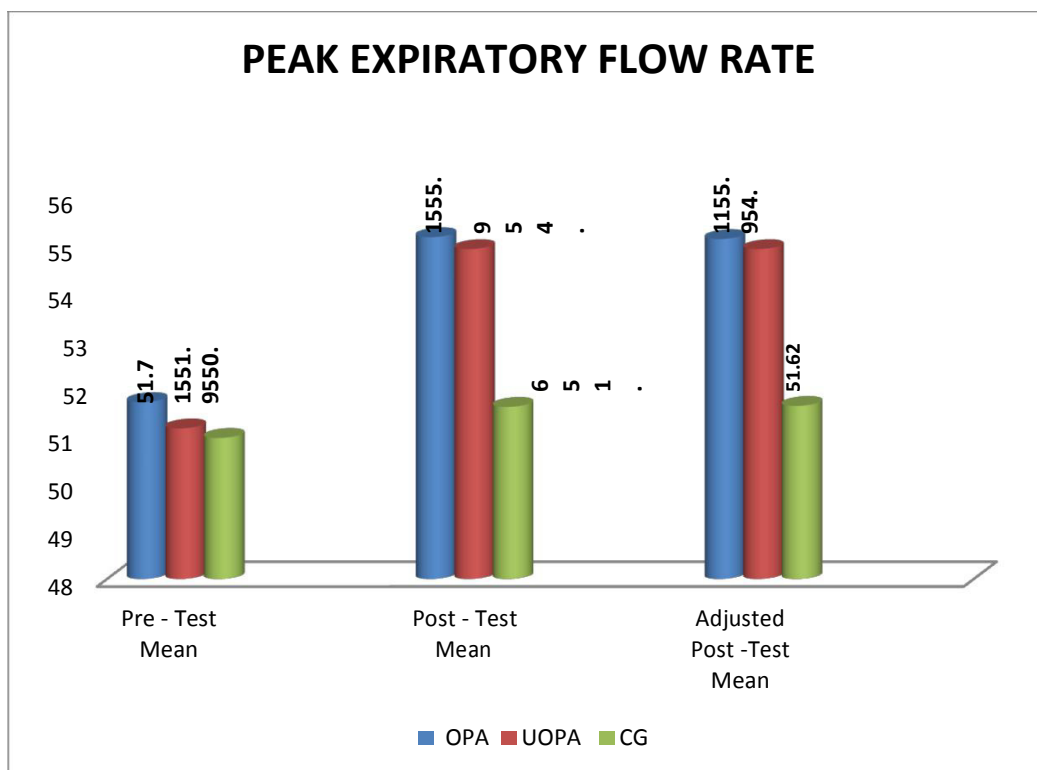
The results presented in table 4.4 showed that obtained adjusted means on peak expiratory flow rate among unorganized physical activities group was 414.58 followed by organized physical activities group with mean value of 406.57, and control group with mean value of 291.30. The differences among pre test scores, post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and the obtained F values were 1.11, 54.93 and 74.45 respectively. It was found that obtained F value on pre test scores were not significant and the obtained F values on post test and adjusted means were significant at 0.05 level of confidence as these were greater than the required table F value of 3.22 and 3.23. The post hoc analysis through Scheffe's Confidence test proved that due to twelve weeks training of organized physical activities and unorganized physical activities has improved peak expiratory flow rate than the control group and the differences were significant at 0.05 level.

This result is supported by the studies conducted by the Pedersen, et al. (1996) and William, et al. (2002) which proved that there were improvement in peak expiratory flow rate.

TABLE – 4.5

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL ACTIVITIES

UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON RESTING HEART RATE

	OPA	UOPA	CG	Source of Variance	Sum of Squares	df	Mean Square	'F' ratio
Pre - Test Mean	72.06	72.66	71.73	B	6.71	2	3.35	1.54
				W	91.20	42	2.17	
Post - Test Mean	69.46	70.13	71.33	B	26.84	2	13.42	7.96*
				W	70.80	42	1.68	
Adjusted Post -Test Mean	69.49	69.94	71.48	B	31.82	2	15.91	11.15*
				W	58.47	41	1.42	

B- Between Group Means   *   - Significant

W- Within Group Means   (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom   (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.5 indicated that the pre test means of organized physical activities, unorganized physical activities and control groups were 72.06, 72.66 and 71.73 respectively. The obtained F-ratio for the pre-test was 1.54 and the table F-ratio was 3.22. Since the obtained value of 1.54 was lesser than the table value of 3.22, it was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups.

The post-test means of the organized physical activities, unorganized physical activities and control groups were 69.46, 70.13 and 71.33 respectively. The obtained F-ratio for the post-test was 7.96 and the table F-ratio was 3.22. Since the obtained value 7.96 was higher than the table value of 3.22 hence it was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant.

The adjusted post-test means of the organized physical activities, unorganized physical activities and control groups were 69.49, 69.94 and 71.48 respectively. The obtained F-ratio for the adjusted post-test means was 11.15 and the table F-ratio was 3.23. Since the obtained value 11.15 was higher than the table value of 3.23

hence it was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on resting heart rate.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-4.6

TABLE – 4.6

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON RESTING HEART RATE

| Adjusted Post-test means			Mean Difference	Required CI
Organized physical activities	Unorganized physical activities	Control Group		
69.49	---	71.48	1.99*	1.10
---	69.94	71.48	1.54*	
69.49	69.94	---	0.45	

* Significant at 0.05 level of confidence

The multiple comparisons showed in table 4.6 proved that there existed significant differences between the adjusted means of organized physical activities with control group (1.99), unorganized physical activities with control group (1.54). There was no significant difference between organized physical activities and unorganized physical activities (0.45) at 0.05 level of confidence with the confidence interval value 1.10.

The pre, post and adjusted means on resting heart rate were presented through bar diagram for better understanding of the results of this study in Figure-3.

FIGURE – 3

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON RESTING HEART RATE
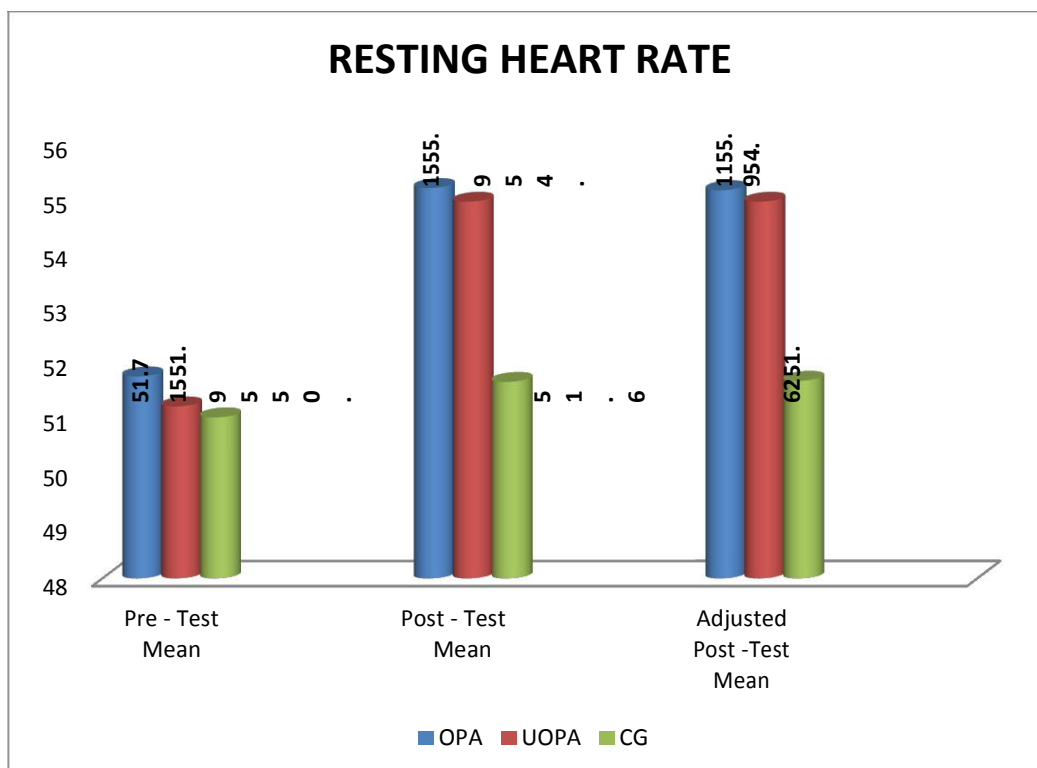
The results presented in table 4.5 showed that obtained adjusted means on resting heart rate among organized physical activities group was 69.49 followed by unorganized physical activities group with mean value of 69.94, and control group with mean value of 71.48. The differences among pre test scores, post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and the obtained F values were 1.54, 7.96 and 11.15 respectively. It was found that obtained F value on pre test scores were not significant and the obtained F values on post test and adjusted means were significant at 0.05 level of confidence as these were greater than the required table F value of 3.22 and 3.23. The post hoc analysis through Scheffe's Confidence test proved that due to twelve weeks training of organized physical activities and unorganized physical activities has decreasing resting heart rate than the control group and the differences were significant at 0.05 level.

This result is supported by the study conducted by Jayaraman, et al. (2011) which proved that there was a decrease in resting heart rate.

TABLE – 4.7

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL ACTIVITIES

UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON HIGH DENSITY LIPOPROTEIN

	OPA	UOPA	Control Group	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	65.88	64.98	64.39	**BG**	16.85	2	8.42	1.50
				WG	235.63	42	5.61	
Post-Test Means	71.30	72.81	64.77	**BG**	547.47	2	273.73	65.74*
				WG	174.88	42	4.16	
Adjusted Post-Test Means	71.31	72.81	64.76	**BG**	532.33	2	266.16	62.42*
				WG	174.82	41	4.26	

B- Between Group Means   *   - Significant

W- Within Group Means   (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom   (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.7 indicated that the pretest means of organized physical activities, unorganized physical activities and control groups were 65.88, 64.98 and 64.39 respectively. The obtained F-ratio for the pre-test was 1.50 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups.

The post-test means of the organized physical activities, unorganized physical activities and control groups were 71.30, 72.81 and 64.77 respectively. The obtained F-ratio for the post-test was 65.74 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant.

The adjusted post-test means of the organized physical activities, unorganized physical activities and control groups were 71.31, 72.81 and 64.76 respectively. The obtained F-ratio for the adjusted post-test means was 62.42 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that

there was a significant difference among the means due to the experimental trainings on high density lipoprotein.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-4.8.

TABLE – 4.8

**THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON HIGH DENSITY LIPOPROTEIN**

Adjusted Post-test means			Mean	Required
Organized physical activities	Unorganized physical activities	Control Group	Difference	CI
71.31	72.81	---	1.05	1.91
71.31	---	64.76	6.55*	
---	72.81	64.76	8.05*	

* Significant at 0.05 level of confidence

The multiple comparisons showed in Table 4.8 proved that there existed significant differences between the adjusted means of organized physical activities with control group (6.55), unorganized physical activities with control group (8.05). There was no significant difference between organized physical activities and unorganized physical activities (1.05) at 0.05 level of confidence with the confidence interval value of 1.91.

The pre, post and adjusted means on high density lipoprotein were presented through bar diagram for better understanding of the results of this study in Figure-4

FIGURE – 4

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON HIGH DENSITY LIPOPROTEIN
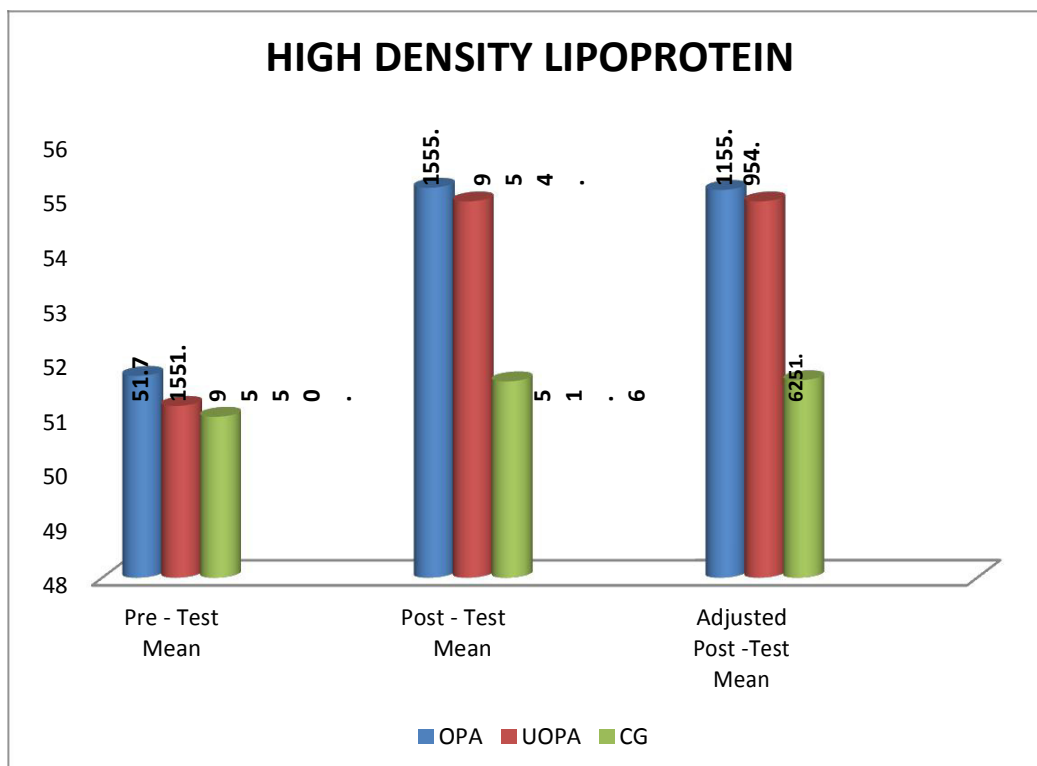
The results presented in table 4.7 showed that obtained adjusted means on HDL among organized physical activities group was 72.81 followed by unorganized physical activities group with mean value of 71.31, and control group with mean value of 64.76. The differences among pre test scores, post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and the obtained F values were 1.50, 65.74 and 62.42 respectively. It was found that obtained F value on pre test scores were not significant and the obtained F values on post test and adjusted means were significant at 0.05 level of confidence as these were greater than the required table F value of 3.22 and 3.23. The post hoc analysis through Scheffe's Confidence test proved that due to twelve weeks training of organized physical activities and unorganized physical activities has increased HDL than the control group and the differences were significant at 0.05 level. Further, the post hoc analysis showed that there was significant differences exist between the experimental groups, clearly indicating that aerobic dance training was significantly better than conventional training in increasing HDL of the sedentary men.

This result is supported by the study conducted by Prasad, et al. (2006) and Uthirapathy (2005) which proved that there were improvement in HDL.

Table - 4.9

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL

ACTIVITIES, UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON LOW

DENSITY LIPOPROTEIN

	OPA	UOPA	Control Group	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	116.61	117.78	117.91	**BG**	15.29	2	7.64	1.71
				WG	187.43	42	4.46	
Post-Test Means	108.40	107.43	116.55	**BG**	752.53	2	376.26	98.11*
				WG	161.07	42	3.83	
Adjusted Post-Test Means	108.39	107.43	116.56	**BG**	740.27	2	370.14	94.24*
				WG	161.03	41	3.92	

B- Between Group Means   df- Degrees of Freedom

W- Within Group Means

* - Significant

(Table Value for 0.05 Level for df 2 & 42 = 3.22)

(Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.9 indicated that the pre test means of organized physical activities, unorganized physical activities and control groups were 116.61, 117.78 and 117.91 respectively. The obtained F-ratio for the pre-test was 1.71 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups.

The post-test means of the organized physical activities, unorganized physical activities and control groups were 108.40, 107.43 and 116.55 respectively. The obtained F-ratio for the post-test was 98.11 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant.

The adjusted post-test means of the organized physical activities, unorganized physical activities and control groups were 108.39, 107.43 and 116.56 respectively. The obtained F-ratio for the adjusted post-test means was 94.24 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that

there was a significant difference among the means due to the experimental trainings on low density lipoprotein.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-4.10

TABLE – 4.10

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON LOW DENSITY LIPOPROTEIN

| Adjusted Post-test means			Mean Difference	Required CI
Organized physical activities,	Unorganized physical activities	Control Group		
108.39	107.43	---	0.96	1.83
108.39	---	116.56	8.17*	
---	107.43	116.56	9.13*	

* Significant at 0.05 level of confidence

The multiple comparisons showed in Table 4.10 proved that there existed significant differences between the adjusted means of organized physical activities with control group (8.17), unorganized physical activities with control group (9.13). There was no significant difference between organized physical activities and unorganized physical activities (0.96) at 0.05 level of confidence with the confidence interval value of 1.83.

The pre, post and adjusted means on low density lipoprotein were presented through bar diagram for better understanding of the results of this study in Figure-5

FIGURE – 5

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, ORGANIZED PHYSICAL ACTIVITIES, UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON LOW DENSITY LIPOPROTEIN
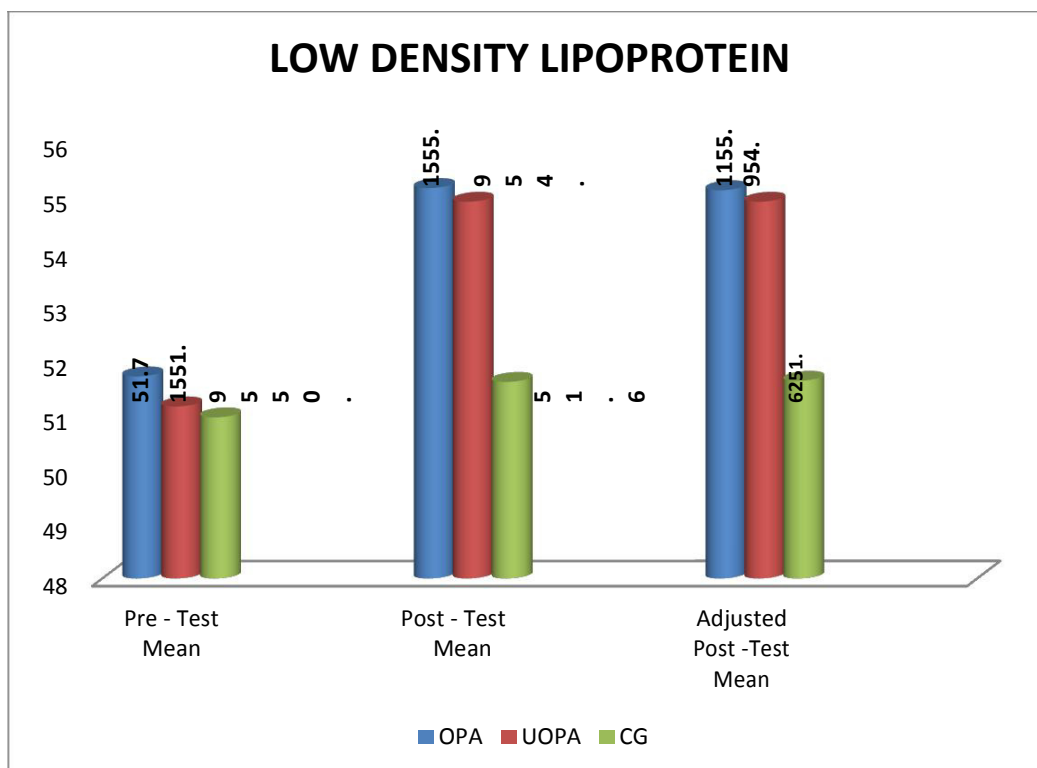
The results presented in table 4.9 showed that obtained adjusted means on LDL organized physical activities group was 107.43 followed by unorganized physical activities group with mean value of 108.39, and control group with mean value of 116.56. The differences among pretest scores, post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and the obtained F values were 1.71, 98.11 and 94.24 respectively. It was found that obtained F value on pre test scores were not significant and the obtained F values on post test and adjusted means were significant at 0.05 level of confidence as these were greater than the required table F value of 3.22 and 3.23. The post hoc analysis through Scheffe's Confidence test proved that due to twelve weeks training of organized physical activities and unorganized physical activities has decreased LDL than the control group and the differences were significant at 0.05 level. Further, the post hoc analysis showed that there was significant differences exist between the experimental groups, clearly indicating that organized physical activities was significantly better than unorganized physical activities in decreasing LDL of the sedentary men.

This result is supported by the study conducted by Ravinder, et al. (2012) and Shantha (2007) which showed a decrease in LDL.

TABLE-4.11

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL ACTIVITIES

UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON TOTAL CHOLESTEROL

	OPA	UOPA	Control Group	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	198.41	201.64	199.04	BG	88.28	2	44.14	1.57
				WG	1178.72	42	28.06	
Post-Test Means	182.97	182.36	201.19	BG	3432.33	2	1716.16	137.83*
				WG	522.93	42	12.45	
Adjusted Post-Test Means	182.91	182.47	201.15	BG	3382.19	2	1691.09	133.42*
				WG	519.64	41	12.67	

B- Between Group Means   * - Significant

W- Within Group Means   (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom   (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.11 indicated that the pre test means of organized physical activities, unorganized physical activities and control groups were 198.41, 201.64 and 199.04 respectively. The obtained F-ratio for the pre-test was 1.57 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of

the groups was perfect while assigning the subjects to groups.

The post-test means of the organized physical activities, unorganized physical activities and control groups were 182.97, 182.36 and 201.19 respectively. The obtained F-ratio for the post-test was 137.83 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant.

The adjusted post-test means of the organized physical activities, unorganized physical activities and control groups were 182.91, 182.47 and 201.15 respectively. The obtained F-ratio for the adjusted post-test means was 133.42 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that

there was a significant difference among the means due to the experimental trainings on total cholesterol.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table 4.12.

TABLE – 4.12

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON TOTAL CHOLESTEROL

| Adjusted Post-test means			Mean Difference	Required CI
Organized physical activities	Unorganized physical activities	Control Group		
182.91	182.47	---	0.44	3.30
182.91	---	201.15	18.24*	
---	182.47	201.15	18.70*	

* Significant at 0.05 level of confidence

The multiple comparisons showed in Table 4.12 proved that there existed significant differences between the adjusted means of organized physical activities with control group (18.24), unorganized physical activities with control group (18.70). There was no significant difference between organized physical activities and unorganized physical activities (0.44) at 0.05 level of confidence with the confidence interval value of 3.30.

The pre, post and adjusted means on total cholesterol were presented through bar diagram for better understanding of the results of this study in Figure-6.

FIGURE – 6

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON TOTAL CHOLESTEROL
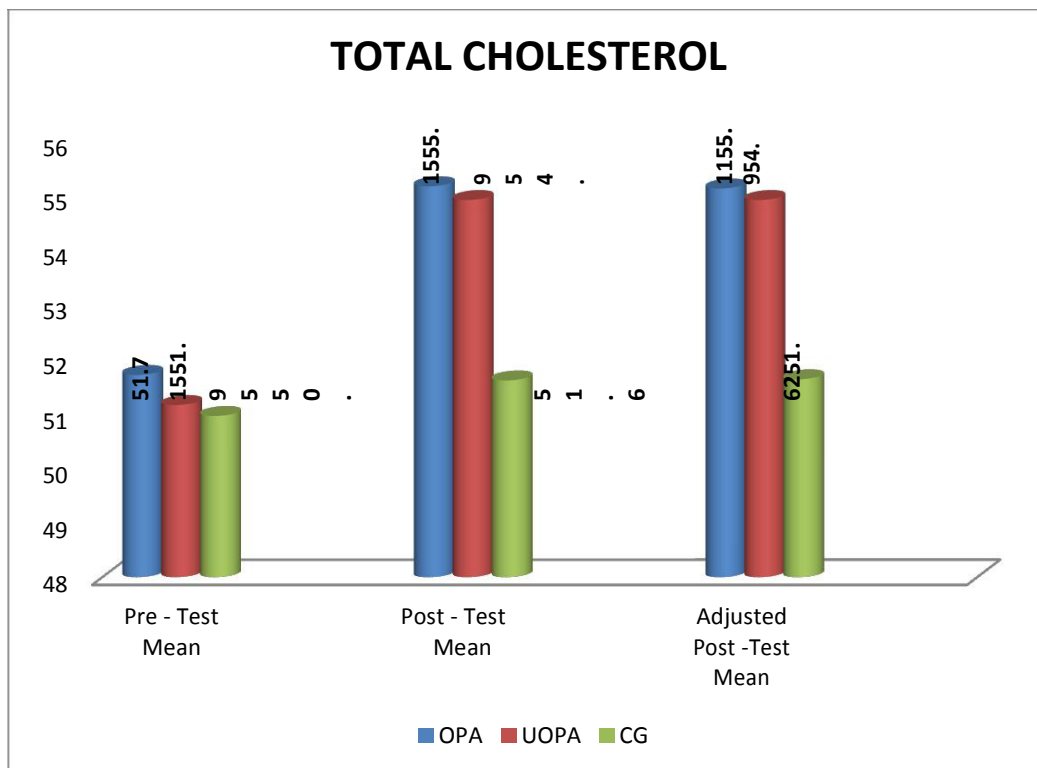
The results presented in table 4.11 showed that obtained adjusted means on total cholesterol among unorganized physical activities group was 182.47 followed by organized physical activities group with mean value of 182.91, and control group with mean value of 201.15. The differences among pre test scores, post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and the obtained F values were 1.57, 137.83 and 133.42 respectively. It was found that obtained F value on pre test scores were not significant and the obtained F values on post test and adjusted means were significant at 0.05 level of confidence as these were greater than the required table F value of 3.22 and 3.23. The post hoc analysis through Scheffe's Confidence test proved that due to twelve weeks training of organized physical activities and unorganized physical activities has decreased total cholesterol than the control group and the differences were significant at 0.05 level. Further, the post hoc analysis showed that there was significant differences exist between the experimental groups, clearly indicating that organized physical activities was significantly better than unorganized physical activities in decreasing total cholesterol of the sedentary men.

This result is conducted by the study conducted by Ravinder, et al. (2012) and Shantha (2007) which proved that there were a decrease in total cholesterol.

Table-4.13

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL ACTIVITIES UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON BMI

	OPA	UOPA	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	24.57	25.04	24.61	**BG**	6.61	2	2.20	1.14
				WG	146.21	42	1.92	
Post-Test Means	22.25	22.22	24.22	**BG**	151.36	2	50.45	34.78*
				WG	110.23	42	1.45	
Adjusted Post-Test Means	22.26	22.15	24.22	**BG**	145.76	2	48.58	34.23*
				WG	106.43	41	1.41	

B- Between Group Means

W- Within Group Means

df- Degrees of Freedom

* - Significant

(Table Value for 0.05 Level for df 2 & 42 = 3.22)

(Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.13 indicated that the pretest means of organized physical activities ,unorganized physical activities and control groups were 24.57, 25.04 and 24.61 respectively. The obtained F-ratio for the pre-test was 1.14 and the table F-ratio was 2.72. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42.

The post-test means of the organized physical activities ,unorganized physical activities and control groups were 22.25, 22.22 and 24.22 respectively. The obtained F-ratio for the post-test was 34.78 and the table F-ratio was 2.72. Hence the pre-test mean 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 organized physical activities ,unorganized physical activities and control groups were 22.26, 22.15 and 24.22 respectively. The obtained F-ratio for the adjusted post-test means was 34.23 and the table F-ratio was 2.72. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table 4.14.

Table – 4.14

The Scheffe's Test for the Differences between the Adjusted Post Test Means on BMI

Adjusted Post-Test Means			Mean Difference	Confidence Interval
organized physical activities	unorganized physical activities	Control group		
22.26	22.15	---	0.11	1.07
22.26	---	24.22	1.96*	
---	22.15	24.22	2.07*	

* Significant at 0.05 level of confidence

The multiple comparisons showed in Table 4.14 proved that there existed significant differences between the adjusted means of organized physical activities with control group (1.96), unorganized physical activities with control group (2.07). There was no significant difference between organized physical activities and unorganized physical activities (0.11) at 0.05 level of confidence with the confidence interval value of 1.07

The pre, post and adjusted means on BMI were presented through bar diagram for better understanding of the results of this study in Figure-7.

Figure – 7

Adjusted Post Test Differences of the organized

physical activities ,unorganized physical activities and
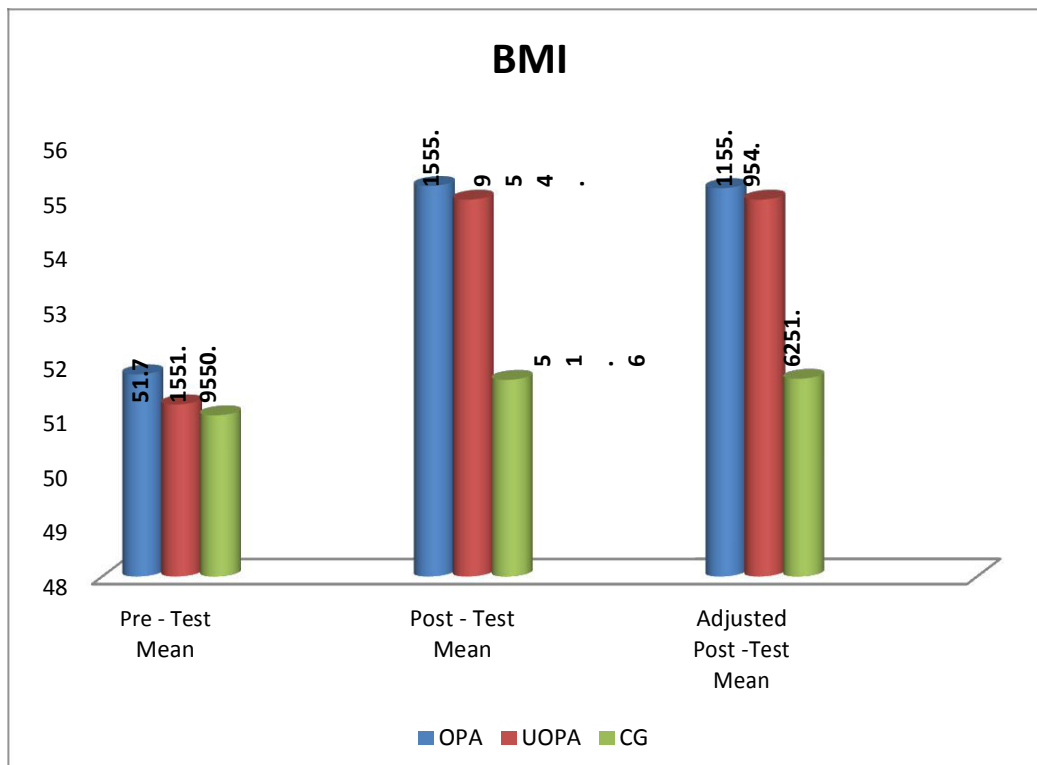
Control Groups on BMI

Table-4.15

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF ORGANIZED PHYSICAL ACTIVITIES

UNORGANIZED PHYSICAL ACTIVITIES AND CONTROL GROUPS ON PERCENT BODY FAT

	OPA	UOPA	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	18.25	18.20	17.50	**BG**	7.13	2	2.37	1.71
				WG	105.75	42	1.39	
Post-Test Means	15.65	15.55	17.90	**BG**	147.70	2	49.23	26.51*
				WG	141.10	42	1.85	
Adjusted Post-Test Means	15.64	15.54	17.91	**BG**	145.33	2	48.44	25.76*
				WG	141.02	41	1.88	

B- Between Group Means   * - Significant

W- Within Group Means   (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom   (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table -4.15 indicated that the pretest means of organized physical activities, unorganized physical activities and control groups were 18.25, 18.20 and 17.50 respectively. The obtained F-ratio for the pre-test was 1.71 and the table F-ratio was 2.72. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42.

The post-test means of the organized physical activities, unorganized physical activities and control groups were 15.65, 15.55 and 17.90 respectively. The obtained F-ratio for the post-test was 26.51 and the table F-ratio was 2.72. Hence the pre-test mean 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 organized physical activities, unorganized physical activities and control groups were 15.64, 15.54 and 17.91 respectively. The obtained F-ratio for the adjusted post-test means was 25.76 and the table F-ratio was 2.72. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table 4.16.

Table – 4.16

The Scheffe's Test for the Differences between the Adjusted Post Test Means on Percent Body Fat

Adjusted Post-Test Means			Mean Difference	Confidence Interval
Organized physical activities,	Uunorganized physical activities	Control group		
15.64	15.54	---	0.10	1.23
15.64	---	17.91	2.27*	
---	15.54	17.91	2.37*	

* Significant at 0.05 level of confidence

The multiple comparisons showed in Table 4.16 proved that there existed significant differences between the adjusted means of organized physical activities with control group (2.27), unorganized physical activities with control group (2.37). There was no significant difference between organized physical activities and unorganized physical activities (0.10) at 0.05 level of confidence with the confidence interval value of 1.23

The pre, post and adjusted means on percent body fat were presented through bar diagram for better understanding of the results of this study in Figure-8

Figure – 8

Adjusted Post Test Differences of the organized physical activities, unorganized physical activities and Control Groups on Percent Body Fat
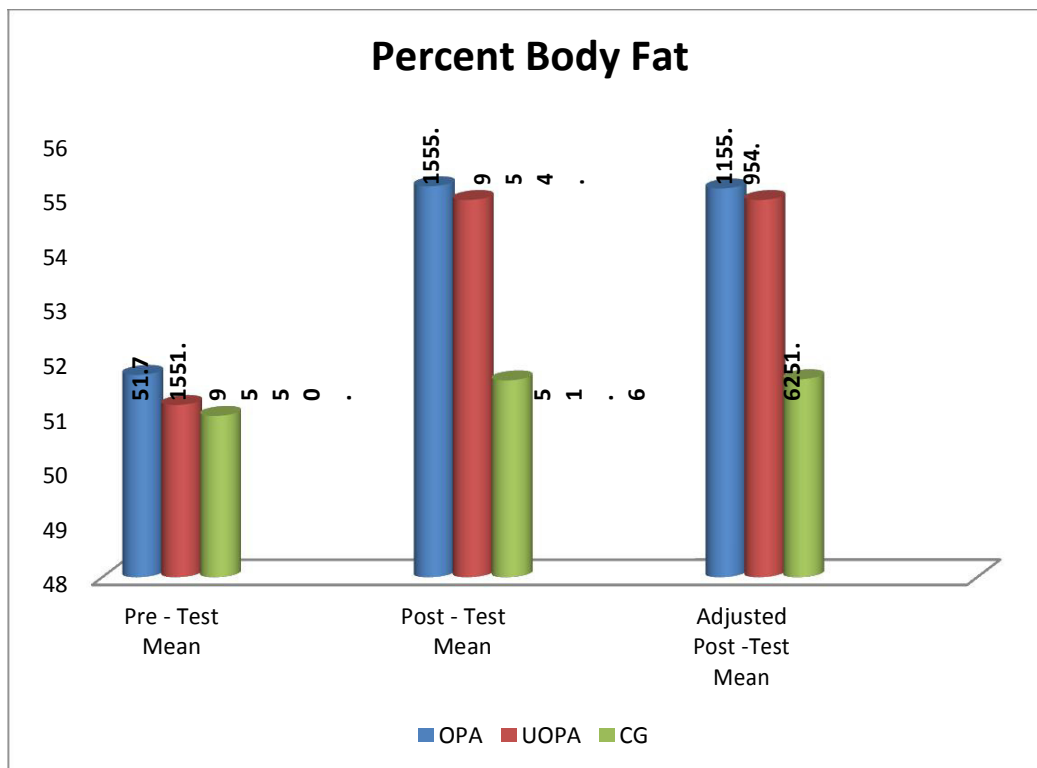

Percent Body Fat

Table- 4.17

Computation of Analysis of Covariance of Mean of organized physical activities, unorganized physical activities and Control Groups on Lean Body Mass

	OPA	UOPA	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	51.70	51.15	50.95	**BG**	6.45	2	2.15	0.34
				WG	479.50	42	6.30	
Post-Test Means	55.15	54.90	51.60	**BG**	317.10	2	105.70	22.71*
				WG	353.70	42	4.65	
Adjusted Post-Test Means	55.11	54.90	51.62	**BG**	314.44	2	104.81	22.40*
				WG	350.92	41	4.67	

B- Between Group Means   *   - Significant

W- Within Group Means   (Table Value for 0.05 Level for df 2 & 42 = 3.22)

df- Degrees of Freedom   (Table Value for 0.05 Level for df 2 & 41 = 3.23)

An examination of table – 4.17 indicated that the pretest means of organized physical activities, unorganized physical activities and control groups were 51.70, 51.15 and 50.95 respectively. The obtained F-ratio for the pre-test was 0.34 and the table F-ratio was 2.72. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42.

The post-test means of the organized physical activities, unorganized physical activities and control groups were 55.15, 54.90 and 51.60 respectively. The obtained F-ratio for the post-test was 22.71 and the table F-ratio was 2.72. Hence the pre-test mean 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 organized physical activities, unorganized physical activities and control groups were 55.11, 54.90 and 51.62 respectively. The obtained F-ratio for the adjusted post-test means was 22.40 and the table F-ratio was 2.72. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table 4.18.

Table – 4.18

The Scheffe's Test for the Differences Between the Adjusted Post

Test Means on Lean Body Mass

| Adjusted Post-Test Means			Mean	Confidence
organized physical activities	unorganized physical activities	Control group	Difference	Interval
55.11	54.90	---	0.21	1.95
55.11	---	51.62	3.49*	
---	54.90	51.62	3.28*	

* Significant at 0.05 level of confidence

The multiple comparisons showed in Table 4.18 proved that there existed significant differences between the adjusted means of organized physical activities with control group (3.49), unorganized physical activities with control group (3.28). There was no significant difference between organized physical activities and unorganized physical activities (0.21) at 0.05 level of confidence with the confidence interval value of 1.95

The pre, post and adjusted means on Lean body mass were presented through bar diagram for better understanding of the results of this study in Figure-9.

Figure – 9

Adjusted Post Test Differences of the organized physical

activities, unorganized physical activities and Control Groups

on Lean Body Mass
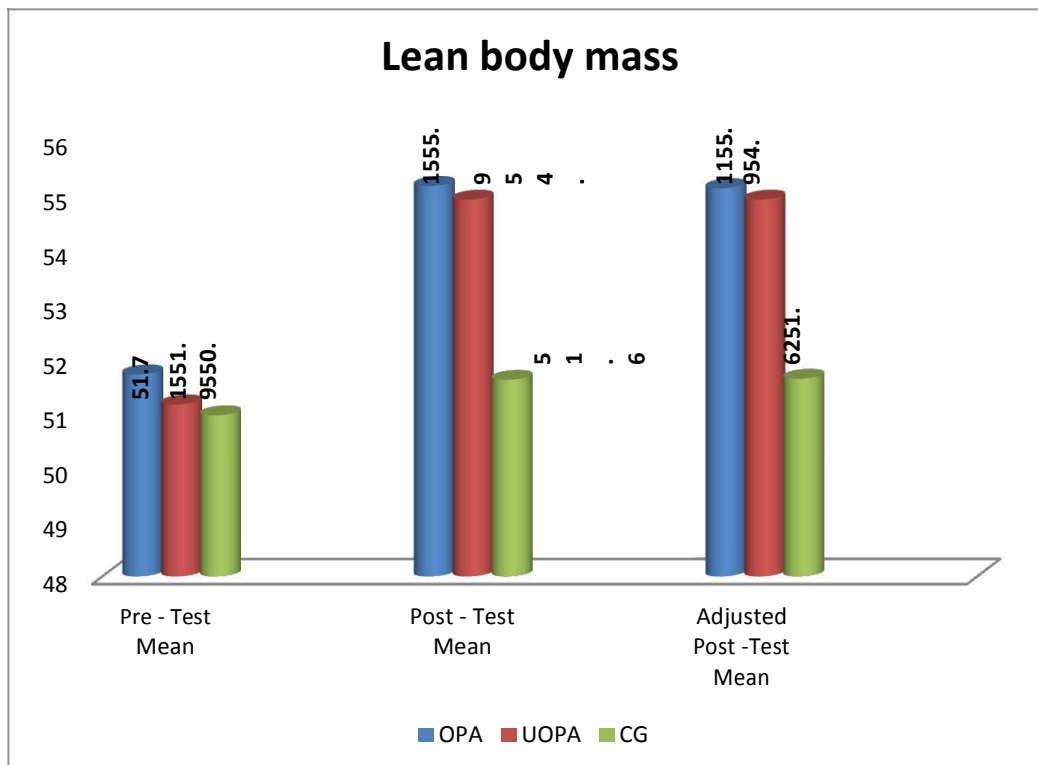
4.2 Discussion on Hypotheses

In the first hypothesis, it was also hypothesized that there would be a significant improvement on selected Lipid Profiles such as High Density Lipoprotein, Low Density Lipoprotein and Very Low Density Lipoprotein due to the effect of organized and unorganized physical activities. The findings of the study were similar to this hypothesis. Hence the research hypothesis was accepted.

In the second hypothesis, it was also hypothesized that there would be significant level difference on selected respiratory Values namely VO2 Max., vital capacity and resting heart rate due to the influences of organized and unorganized physical activities. The findings of the study were similar to this hypothesis. Hence the research hypothesis was accepted.

In the third hypothesis, it was also hypothesized that there would be significant level difference on selected Body Composition namely percent body fat, BMI and lean body mass due to the influences of organized and unorganized physical activities. The findings of the study were similar to this hypothesis. Hence the research hypothesis was accepted.

In the fourth hypothesis, it was also hypothesized that there would be significant differences on selected Lipid Profiles, Respiratory Values and Body Composition among the organized physical activities, unorganized physical activities and control groups. The findings of the

study were similar to this hypothesis. Hence the research hypothesis was partially accepted.