

CHAPTER - IV

RESULTS AND DISCUSSIONS

4.1 OVERVIEW

This chapter deals with the analysis of data collected from the subjects under study. The subjects divided into four equal Groups namely Experimental Group I that underwent Yogic Practices, Experimental Group II underwent Circuit Training and Experimental Group III underwent Combined Training (combination of yoga and circuit training) and Group IV was Control Group. were analyzed with the difference of selected Metabolic Profile such as Glucose, Calcium, Potassium, Albumin, Total Protein, Sodium, Chloride, Creatinine and Lipid Profile such as Total Cholesterol, Triglycerides Low Density Lipoprotein, High Density Lipoprotein and Very Low Density Lipoprotein, responds to Yoga, Circuit Training and Combined Training in relation pre test and adjusted post test score.

The subjects were selected at randomly but the groups were not equated in relation to the factors that have been examined. Hence, the difference among the means of the four groups in pre test had to be taken into account during the analysis of the post test differences among the means. This was achieved by the application of Analysis of Covariance, where the final means were adjusted for difference to the initial and adjusted means were tested for significance. When the adjusted post test means were significant, the Scheffe's Post Hoc test was administered to find out the paired means significant differences.

4.2 TEST OF SIGNIFICANCE

This is the critical portions of the discussion in arriving at the conclusion by examining the hypothesis. This procedure of testing the hypothesis is in accordance with the result obtained in relation to the level of confidence, which was fixed at 0.05 levels, which was considered necessary for this study.

These tests are usually called the test of significance, as we test whether the difference between the pre test and post test score of the sample are significance or not. In the present study, if the obtained 'F' ratio was greater than the table 'F' ratio at 0.05 levels, the hypothesis was accepted to the effect that there existed significant difference between the means of the groups compared. If the obtained 'F' ratio was lesser than the table 'F' ratio at 0.05 levels, the hypothesis was rejected to the effect that there existed no significant difference between means of the groups on this study.

4.3 LEVEL OF SIGNIFICANCE

The probability level below which we reject the hypothesis is termed as the level of significance. The 'F' ratio obtained by the analysis of covariance needed 2.7 significant at 0.05 levels. In addition to that, the significant confidence interval value, utilizing the Scheffe's Post Hoc test, in which the obtained mean difference value needed to be greater than the Scheffe's confidence interval value for significance.

4.4 COMPUTATION OF ANALYSIS OF COVARIANCE OF GLUCOSE

The following tables illustrated the statistical results to the Effects of Yoga, Circuit Training and Combined Training on Glucose of Mild Intellectually Challenged people and ordered adjusted means the groups under study.

TABLE- XII
COMPUTATION OF ANALYSIS OF COVARIANCE OF GLUCOSE
 (Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	117.4	116.06	115.27	116.54	B	35.79	3	11.93	0.03
					W	20765.2	56	370.81	
Post Test Mean	88.07	86	80.14	116	B	11506.19	3	3835.40	32.68*
					W	6572.67	56	117.40	
Adjusted Post Test Mean	87.94	86.03	80.25	115.98	B	11451.24	3	3817.09	33.43*
					W	6279.09	55	114.17	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

TABLE- XII (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED
FINAL MEAN DIFFERENCE OF GLUCOSE(Scores in Mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
115.97	87.94	-	-	28.04	11.15
115.97	-	86.03	-	29.94	11.15
115.97	-	-	80.26	35.72	11.15
-	87.94	86.03	-	1.91	11.15
-	87.94	-	80.26	7.68	11.15
-	-	86.03	80.26	5.77	11.15

4.4.1 RESULTS OF GLUCOSE

Table XII shows analyzed data on Glucose. The Pre Test means of Glucose were 117.4 for Experimental Group I, 116.06 for Experimental Group II, 115.27 for Experimental Group III and 116.54 for Control Group. The obtained 'F' ratio 0.03 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post Test means were 88.07 for Experimental Group I, 86 for Experimental Group II, 80.14 for Experimental Group III and 116 for Control Group. The obtained 'F' ratio 32.68 was higher than the table 'F' ratio 2.7. Hence, Post Test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted Post Test means were 87.94 for Experimental Group I, 86.03 for Experimental Group II, 80.25 for Experimental Group III and 115.98 for Control Group. The obtained 'F' ratio 33.43 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XII (a) shows the Scheffe's Post Hoc Test of ordered adjusted final means difference of Glucose of different Groups. The first comparison between the Control Group and Experimental Group I was 28.04, the second comparison between the Control Group and Experimental Group II was 29.94, the third comparison between the Control Group and Experimental Group III was 35.72, the fourth comparison between the Experimental Group I and Experimental Group II was 1.91, the fifth comparison between the Experimental Group I and Experimental Group III was 7.68, and the sixth comparison between the Experimental Group II and Experimental Group III was 5.77.

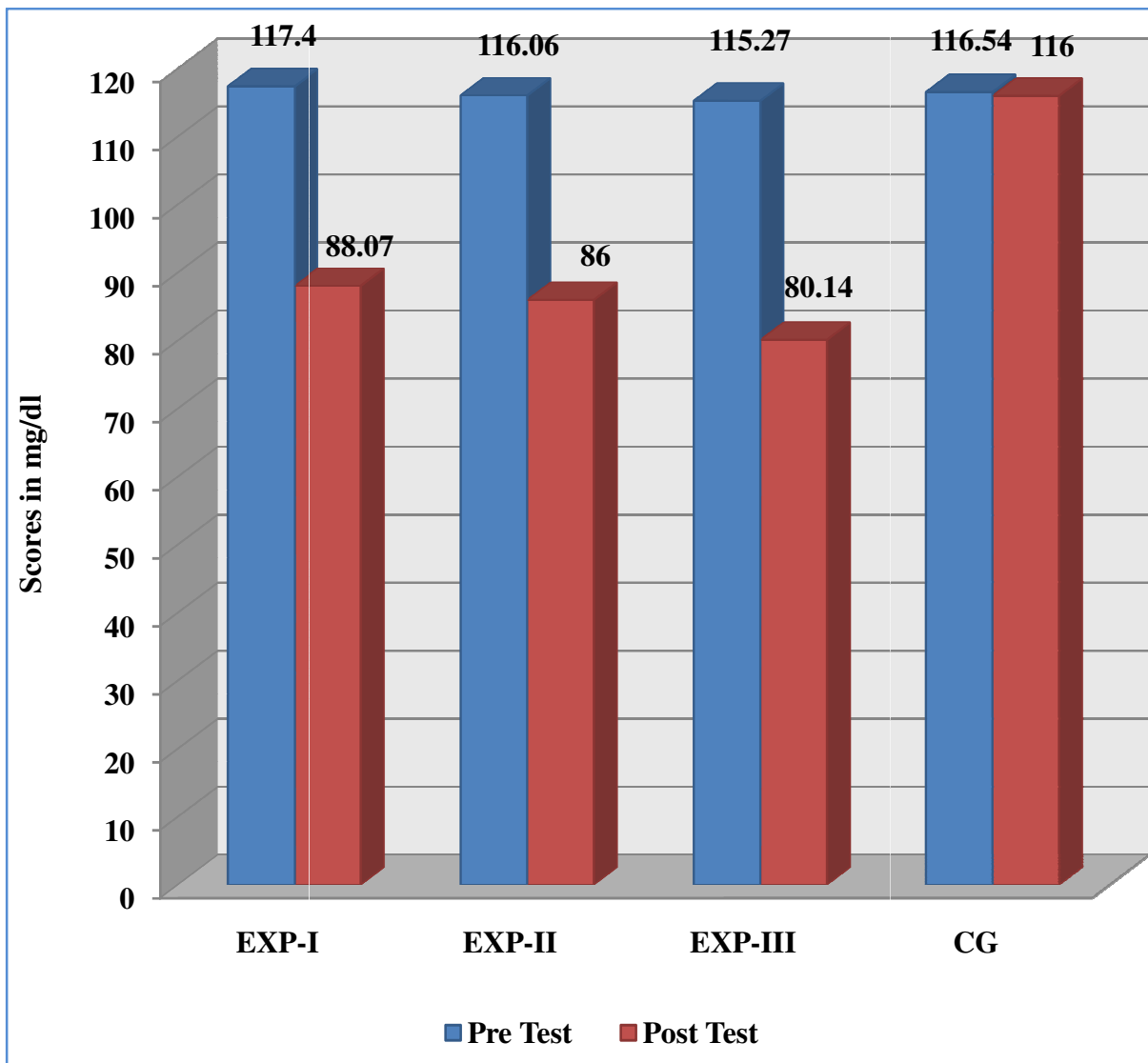
The obtained mean difference of the above comparison was 28.04, 29.94, 35.72, 1.91, 7.68 and 5.77 respectively. The table confidential interval was 11.15 at 0.05 levels. Hence, first, second and third, comparisons were significant and fourth, fifth and sixth comparisons were not significant.

Among all the comparisons, the best influenced Group were Experimental Group III and Control Group were 35.72 and second highest influenced Group were Experimental Group II and Control Group with 29.94 and the third best influenced group were Experimental Group I and Control Group were 28.04.

The ordered adjusted means of Glucose are presented through bar diagram for better understanding of the results of this study in figure-1

FIGURE - 1

**BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON GLUCOSE**



4.4.2 DISCUSSION ON THE FINDINGS OF GLUCOSE

In this work, the Analysis of Covariance of Glucose was carried out in four different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out in another group called the Control Group without inclusion of training. From these analyses, it is found that the results obtained from The Experimental Groups had significant decreases in the Glucose level from it higher level to moderate when compared with one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Glucose. Further, the results obtained from Experimental Group II had significant influenced on Glucose than the Experimental Group I and Control Group.

During twelve weeks of training period, the working muscles are utilized the readily available form of glucose in the body. The Derived Glucose may be circulated through the blood and finally Glucose converted as fuel for the working muscles. So the twelve weeks training period had significantly reduced the excess Glucose in the body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Agte VV, et.al, (2012)** has proves that the SudarshanKriya yoga causes a decreased a blood glucose as an energy source during yoga, **Davis JN, et. al, (2011)** determined the Startup circuittraining program reduces metabolic risk in Latino adolescents. He concluded that glucose level has significantly decreased.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Glucose level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.5 COMPUTATION OF ANALYSIS OF COVARIANCE OF CALCIUM

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Calcium of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XIII COMPUTATION OF ANALYSIS OF COVARIANCE OF CALCIUM
(Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	10.40	10.32	10.32	10.42	B	0.12	3	0.39	0.19
					W	11.11	56	0.20	
Post Test Mean	9.46	9.37	9.12	10.50	B	16.67	3	5.56	53.01*
					W	5.87	56	0.11	
Adjusted Post Test Mean	9.46	9.38	9.13	10.49	B	15.99	3	5.34	56.95*
					W	5.15	55	0.93	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

TABLE- XIII (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED
FINAL MEAN DIFFERENCE OF CALCIUM(Scores in mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
10.48	9.45	-	-	1.03	0.32
10.48	-	9.38	-	1.11	0.32
10.48	-	-	9.13	1.35	0.32
-	9.45	9.38	-	0.07	0.32
-	9.45	-	9.13	0.32	0.32
-	-	9.38	9.13	0.25	0.32

4.5.1 RESULTS OF CALCIUM

Table XIII shows the analyzed data on Calcium. The pre test means of Calcium were 10.40 for Experimental Group I, 10.32 for Experimental Group II, 10.32 for Experimental Group III and 10.42 for Control Group. The obtained 'F' ratio 0.19 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 9.46 for Experimental Group I, 9.37 for Experimental Group II, 9.12 for Experimental Group III and 10.50 for Control Group. The obtained 'F' ratio 53.01 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 9.46 for Experimental Group I, 9.38 for Experimental Group II, 9.13 for Experimental Group III and 10.49 for Control Group. The obtained 'F' ratio 56.95 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XIII (a) shows the Scheffe's PostHoc Test ordered adjusted final means difference of Calcium of different Groups. The first comparison between the Control Group and Experimental Group I was 1.03, the second comparison between the Control Group and Experimental Group II was 1.11, the third comparison between the Control Group and Experimental Group III was 1.35, the fourth comparison between the Experimental Group I and Experimental Group II was 0.07, the fifth comparison between the Experimental Group I and Experimental Group III was 0.32, and the sixth comparison between the Experimental Group II and Experimental Group III was 0.25.

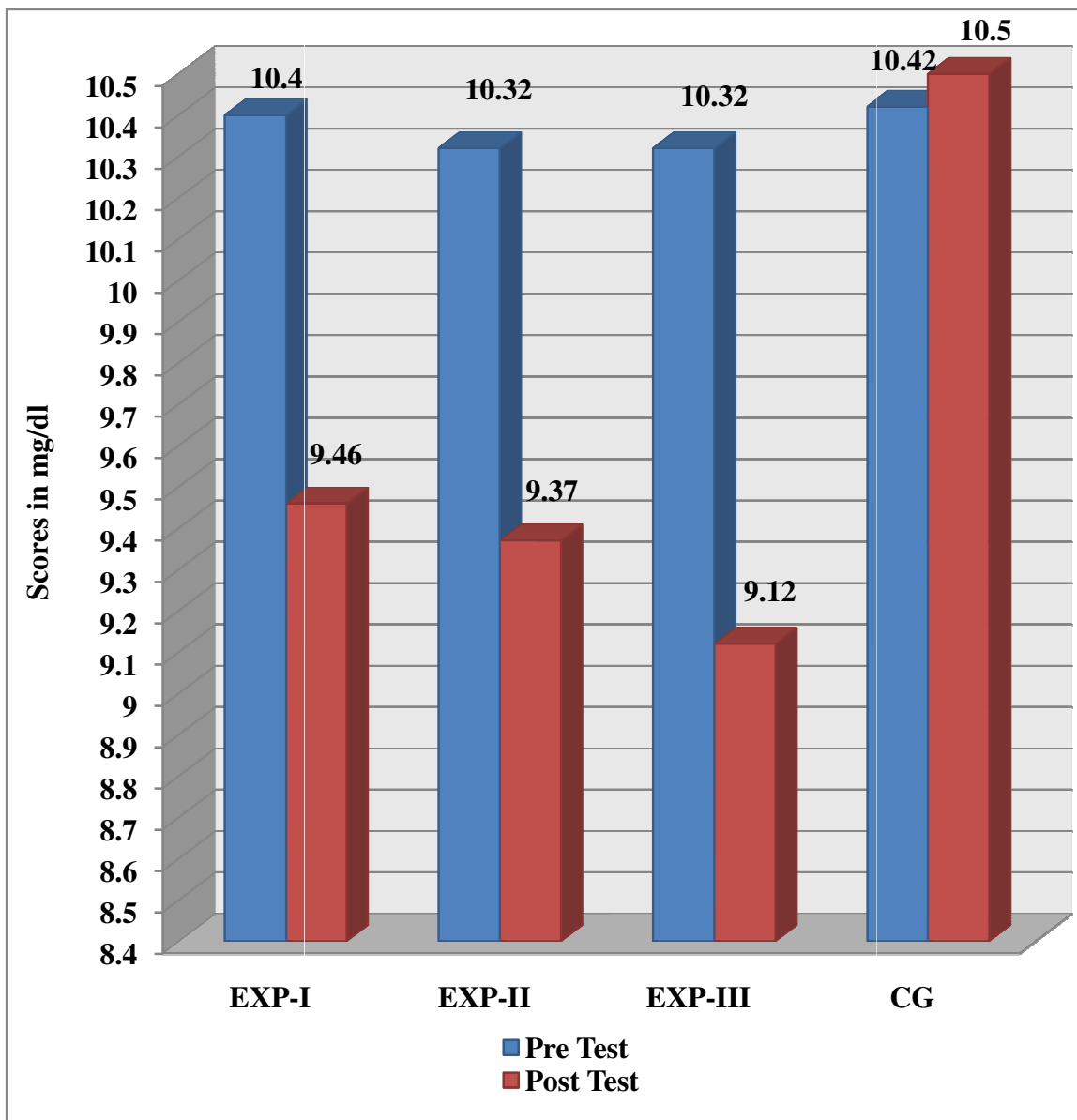
The obtained mean difference of the above comparison was 1.03, 1.11, 1.35, 0.07, 0.32 and 0.25 respectively. The table confidential interval was 0.32 at 0.05 levels. Hence, first, second, third and fifth comparisons were significant but fourth and sixth comparisons were not significant.

Among all the comparisons, best influenced Group were Experimental Group III and Control Group were 1.35 and second highest influenced Group were Experimental Group II and Control Group with 1.11 and the third best influenced group were Experimental Group I and Control Group were 1.03.

The ordered adjusted means of Calcium are presented through bar diagram for better understanding of the results of this study in figure-2

FIGURE- 2

BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON CALCIUM



4.5.2 DISCUSSION ON THE FINDINGS OF CALCIUM

In this work, the analysis of covariance of Calcium was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out in another group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant decrease in the Calcium level from the higher level to moderate with the one from the Control Group. This is due to the inclusion of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Calcium. Further, the results obtained from Experimental Group II were more influence compared to Experimental Group I and Control Group.

So During training period the Calcium is utilized by different physiological function, but when it rise or low normal range it create some physiological disturbance. In order to maintain healthy function of our system the level of calcium in blood should be maintained. Due to this reason the different training methods are used to sustain the normal availability of Calcium in the blood, through proper training methods.

These results are found to be in a good agreement with the earlier works done by different researchers. **Deb S, et. al, (1985)** done a study on the Calcium homeostasis in mentally handicapped epileptic patients. He concluded that calcium level has decreased after the 3 years of training. **Acta Paediatr (2003)** stated Nutritional status of mentally retarded children in northwest Spain: II. Biochemical indicators. He concluded that the calcium level has significantly decreased.

Since the results obtained from the analysis of Covariance are in very good agreement with the earlier results, it is worthwhile to mention that Yoga, Circuit Training and Combined Training is one of the better training methods to sustain the Calcium level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.6 COMPUTATION OF ANALYSIS OF COVARIANCE OF ALBUMIN

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Albumin of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XIV COMPUTATION OF ANALYSIS OF COVARIANCE OF ALBUMIN (Scores in gm/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	5.19	5.18	5.18	5.22	B	0.03	3	0.08	0.06
					W	6.93	56	0.13	
Post Test Mean	4.57	4.56	4.3	5.23	B	7.05	3	2.35	30.57*
					W	4.29	56	0.08	
Adjusted Post Test Mean	4.56	4.57	4.31	5.22	B	6.69	3	2.23	43.37*
					W	2.83	55	0.06	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.
*significant

**TABLE- XIV (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF ALBUMIN (Scores in gm/dl)**

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
5.21	4.56	-	-	0.65	0.24
5.21	-	4.57	-	0.64	0.24
5.21	-	-	4.31	0.91	0.24
-	4.56	4.57	-	0.01	0.24
-	4.56	-	4.31	0.25	0.24
-	-	4.57	4.31	0.27	0.24

4.6.1 RESULTS OF ALBUMIN

Table XIV shows the analyzed data on Albumin. The pre test means of Albumin were 5.19 for Experimental Group I, 5.18 for Experimental Group II, 5.18 for Experimental Group III and 5.22 for Control Group. The obtained 'F' ratio 0.06 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 4.57 for Experimental Group I, 4.56 for Experimental Group II, 4.3 for Experimental Group III and 5.23 for Control Group. The obtained 'F' ratio 30.57 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted Post Test means were 4.56 for Experimental Group I, 4.57 for Experimental Group II, 4.31 for Experimental Group III and 5.22 for Control Group. The obtained 'F' ratio 43.37 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

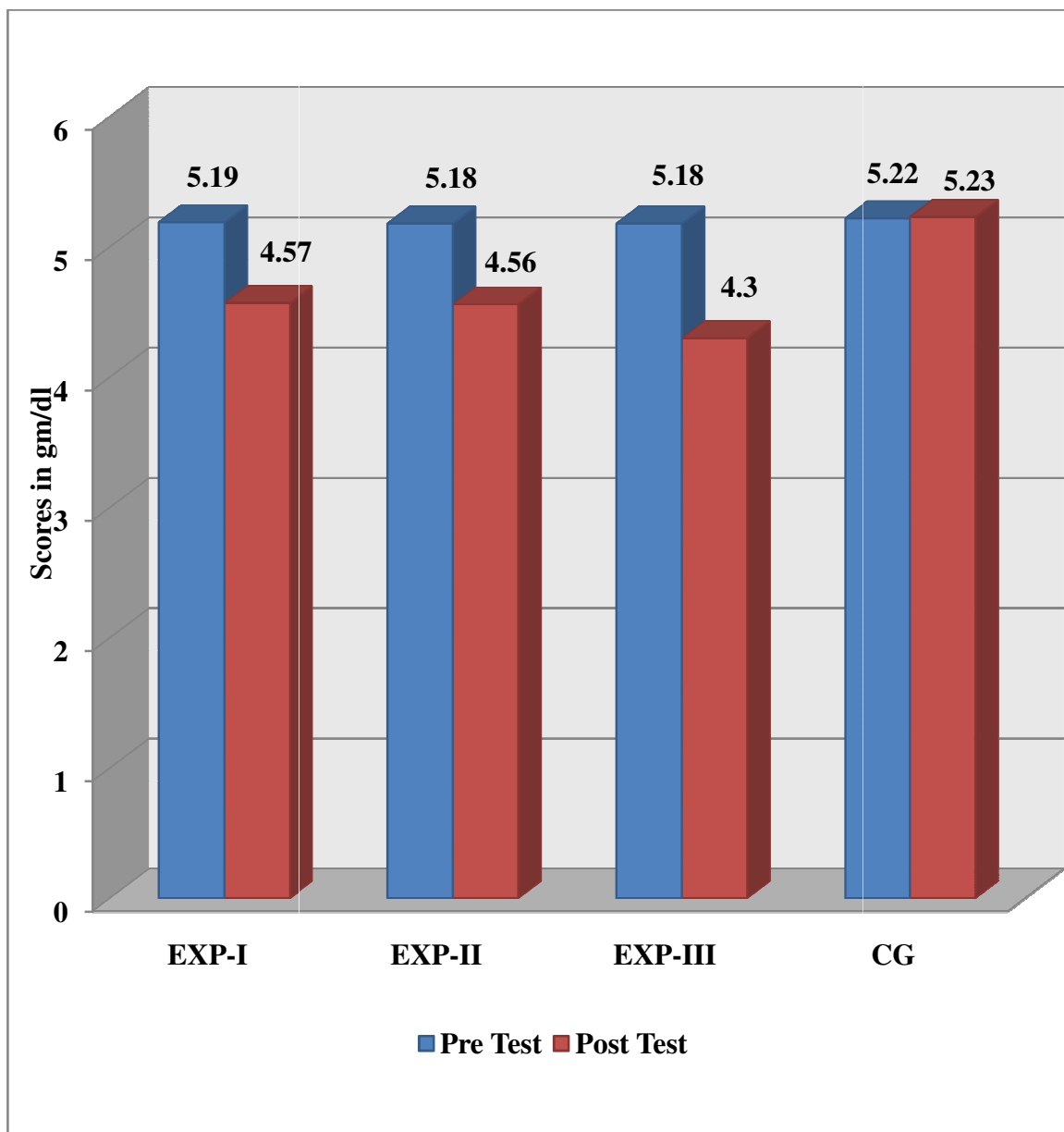
Table XIV (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Albumin of different Groups. The first comparison between the Control Group and Experimental Group I was 0.65, the second comparison between the Control Group and Experimental Group II was 0.64, the third comparison between the Control Group and Experimental Group III was 0.91, the fourth comparison between the Experimental Group I and Experimental Group II was 0.01, the fifth comparison between the Experimental Group I and Experimental Group III was 0.25, the sixth comparison between the Experimental Group II and Experimental Group III was 0.27.

The obtained mean difference of the above comparison was 0.65, 0.64, 0.91, 0.01, 0.25 and 0.27 respectively. The table confidential interval was 0.24 at 0.05 levels. Hence, first, second, third, fifth and sixth comparisons were significant, but fourth comparison was not significant.

Among all the comparisons, the best influenced groups were Experimental Group III and Control Group were 0.91 and second highest influenced Group were Experimental Group I and Control Group with 0.65 and the third best influenced group were Experimental Group II and Control Group 0.64.

The ordered adjusted means of Albumin are presented through bar diagram for better understanding of the results of this study in figure-3

FIGURE-3
BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON ALBUMIN



4.6.2 DISCUSSION ON THE FINDINGS OF ALBUMIN

In this Research, the Analysis of Covariance of Albumin was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and

Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant decrease in the Albumin level from the higher level to moderate or normal level, when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Albumin. Further, the results obtained from Experimental Group II had significant influence on Albumin than the Experimental Group I and Control Group.

Albumin is one of the important compositions of protein. Albumins are highly soluble in water and carry many changes in amino acids to maintain PH value in the human body. Each gram of albumin is capable of having 18 ml water and contributes approximately 80% of plasma COP, so during stressful training and tension the albumin level is raised rapid equilibrium of extra vascular and intera vascular to maintain COP. So due to this reason the albumin, level is released to carry drugs, fatty acids, calcium, hormones and bilirubin. During training period the excess of albumin is utilized by physiological function to carry out the functions and its level of availability is decreased. So the twelve weeks of training period had significantly reduced the excess Albumin in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Clark and Bannon.(2005)** determined that the Serum Albumin in

Down syndrome with and without Alzheimer's disease. He has concluded that serum albumin significantly decreases. **Iwaoka, et. al, (1998)** examined the characteristics of energy metabolism in males with mental retardation. The above authors have concluded that the Serum Albumin level significantly decreases due to physical activities.

Since the results obtained from the Analysis of Covariance are in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to reduce the Albumin level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.7 COMPUTATION OF ANALYSIS OF COVARIANCE OF TOTAL PROTEIN

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Total Protein of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XV COMPUTATION OF ANALYSIS OF COVARIANCE OF TOTAL PROTEIN(Scores in gm/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	8.76	8.73	8.75	8.80	B	0.036	3	0.02	0.04
					W	17.99	56	0.33	
Post Test Mean	7.39	7.48	6.94	8.79	B	28.735	3	9.58	34.61*
					W	15.50	56	0.28	
Adjusted Post Test Mean	7.39	7.49	6.93	8.78	B	27.77	3	9.26	55.59*
					W	9.16	55	0.17	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.
*significant

**TABLE- XV (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF TOTAL PROTEIN (Scores in gm/dl)**

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
8.77	7.39	-	-	1.38	0.43
8.77	-	7.50	-	1.27	0.43
8.77	-	-	6.94	1.83	0.43
-	7.39	7.50	-	0.11	0.43
-	7.39	-	6.94	0.45	0.43
-	-	7.50	6.94	0.56	0.43

4.7.1 RESULTS OF TOTAL PROTEIN

Table XV shows the analyzed data on Total Protein. The pre test means of Total Protein were 8.76 for Experimental Group I, 8.73 for Experimental Group II, 8.75 for Experimental Group III and 8.80 for Control Group. The obtained 'F' ratio 0.04 was

lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 7.39 for Experimental Group I, 7.48 for Experimental Group II, 6.94 for Experimental Group III and 8.79 for Control Group. The obtained 'F' ratio 34.61 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 7.39 for Experimental Group I, 7.49 for Experimental Group II, 6.93 for Experimental Group III and 8.78 for Control Group. The obtained 'F' ratio 55.59 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XV (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Total Protein of different Groups. The first comparison between the Control Group and Experimental Group I was 1.38, the second comparison between the Control Group and Experimental Group II was 1.27 the third comparison between the Control Group and Experimental Group III was 1.83, the fourth comparison between the Experimental Group I and Experimental Group II was 0.11, the fifth comparison between the Experimental Group I and Experimental Group III was 0.45, the sixth comparison between the Experimental Group II and Experimental Group III was 0.56.

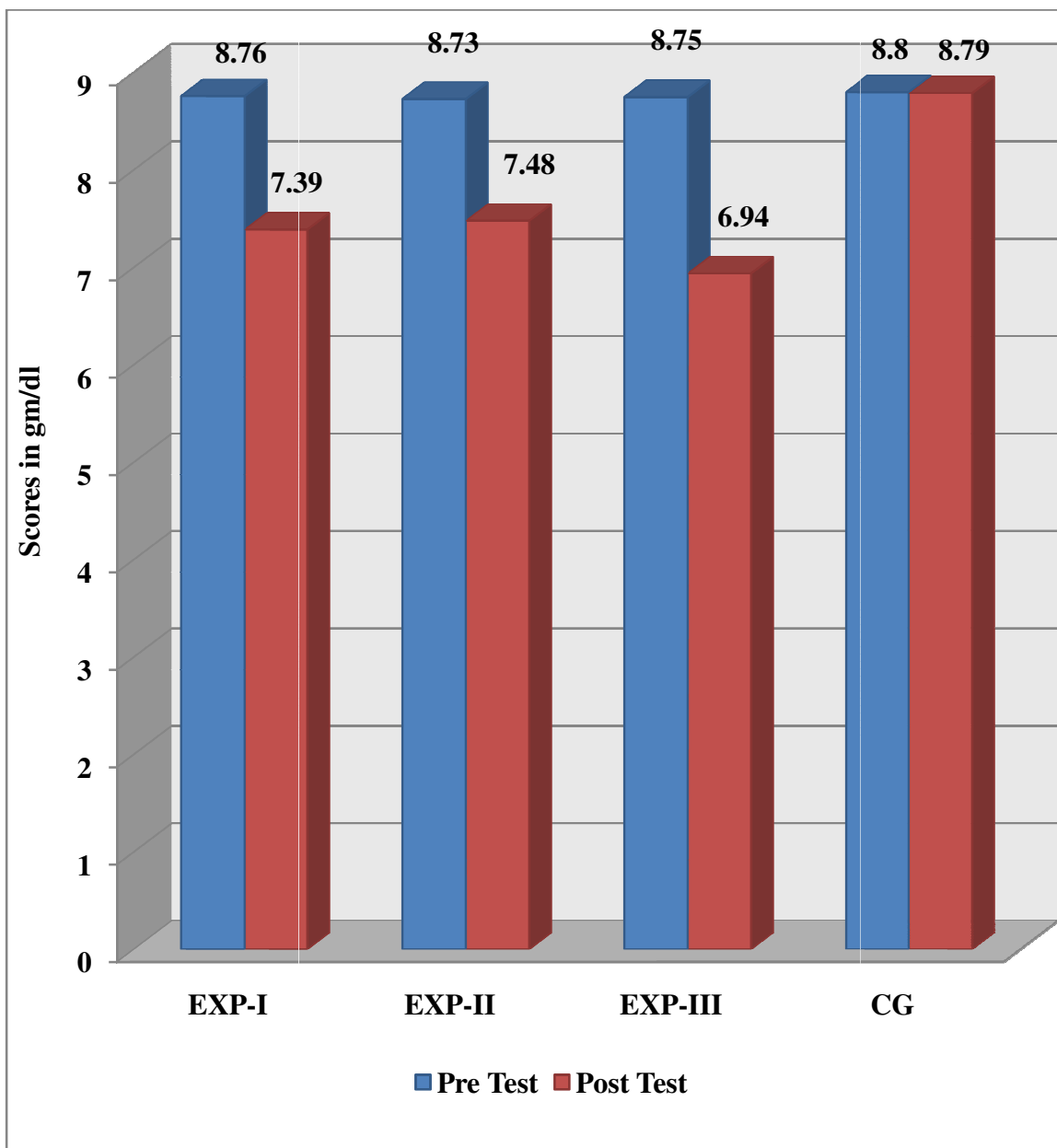
The obtained mean difference of the above comparison was 1.38, 1.27, 1.83, 0.11, 0.45, and 0.56 respectively. The table confidential interval was 0.43 at 0.05 levels. Hence,

first, second, third, fifth and sixth comparisons were significant, but fourth comparison not significant.

Among all the comparisons, the best highest influenced groups were Experimental Group III and Control Group was 1.83 and second influenced Group were Experimental Group I and Control Group with 1.38 and the third best influenced group were Experimental Group II and Control Group 1.27.

The ordered adjusted means of Total Protein are presented through bar diagram for better understanding of the results of this study in figure-4

FIGURE - 4
BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON TOTAL PROTEIN



4.7.2 DISCUSSION ON THE FINDINGS OF TOTAL PROTEIN

In this work, the Analysis of Covariance of Total Protein was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out in another group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant decreases in the Total Protein level from the higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Total Protein. Further, the results obtained from Experimental Group I had significant influenced on Total Protein than the Experimental Group II and Control Group.

Total protein is both the combination of albumin and globulin in the blood. The main function of the total protein is to create contractile, hormonal, storage protein during muscular contraction the total protein are responsible to produce protein supply for actin and myosin to initiate forceful contraction of muscle, so the muscle is mainly utilized the total protein as special protein to conduct muscular concentration. Due to above mentioned functions our system is utilizing total protein. So the twelve weeks training period has significantly reduced the excess Total protein in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Lawless, et. al, (1982)** done a research on the Protein binding of carbamazepine in epileptic patients. He concluded that there was a good correlation

between unbound carbamazepine and total carbamazepine serum concentrations. The results of this study indicate that the total carbamazepine serum concentration must be interpreted with caution, and the unbound fraction could be the more appropriate therapeutic measure. **Ando, et. al, (1989)** determined the Nutritional assessment of severely retarded children and adults. The nutritional status was assessed with physical and biochemical parameters on 39 severely retarded children and adults, 17 males and 22 females, ranging from 6 to 40 years of age. He concluded that total protein level has significantly reduced.

Since the results obtained from the Analysis of Covariance are in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Total Protein level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.8 COMPUTATION OF ANALYSIS OF COVARIANCE OF SODIUM

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Sodium of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XV COMPUTATION OF ANALYSIS OF COVARIANCE OF SODIUM
(Scores in mmol/L)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	140.27	140.6	140.2	140.14	B	1.94	3	0.65	0.09
					W	388.67	56	6.95	
Post Test Mean	145.07	148	150.07	140.8	B	726.72	3	242.24	14.58*
					W	930.27	56	16.62	
Adjusted Post Test Mean	145.09	147.82	150.13	140.91	B	706.90	3	235.63	16.49*
					W	785.82	55	14.20	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

TABLE- XVI (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED
FINAL MEAN DIFFERENCE OF SODIUM(Scores in mmol/L)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
140.90	145.09	-	-	4.19	3.94
140.90	-	147.82	-	6.92	3.94
140.90	-	-	150.13	9.23	3.94
-	145.09	147.82	-	2.73	3.94
-	145.09	-	150.13	5.04	3.94
-	-	147.82	150.13	2.31	3.94

4.8.1 RESULTS OF SODIUM

Table XVI shows the analyzed data on Sodium. The pre test means of Sodium were 140.27 for Experimental Group I, 140.6 for Experimental Group II, 140.2 for Experimental Group III and 140.14 for Control Group. The obtained 'F' ratio 0.09 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 145.07 for Experimental Group I, 148 for Experimental Group II, 150.07 for Experimental Group III and 140.8 for Control Group. The obtained 'F' ratio 14.58 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 145.09 for Experimental Group I, 147.82 for Experimental Group II, 150.13 for Experimental Group III and 140.91 for Control Group. The obtained 'F' ratio 16.49 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

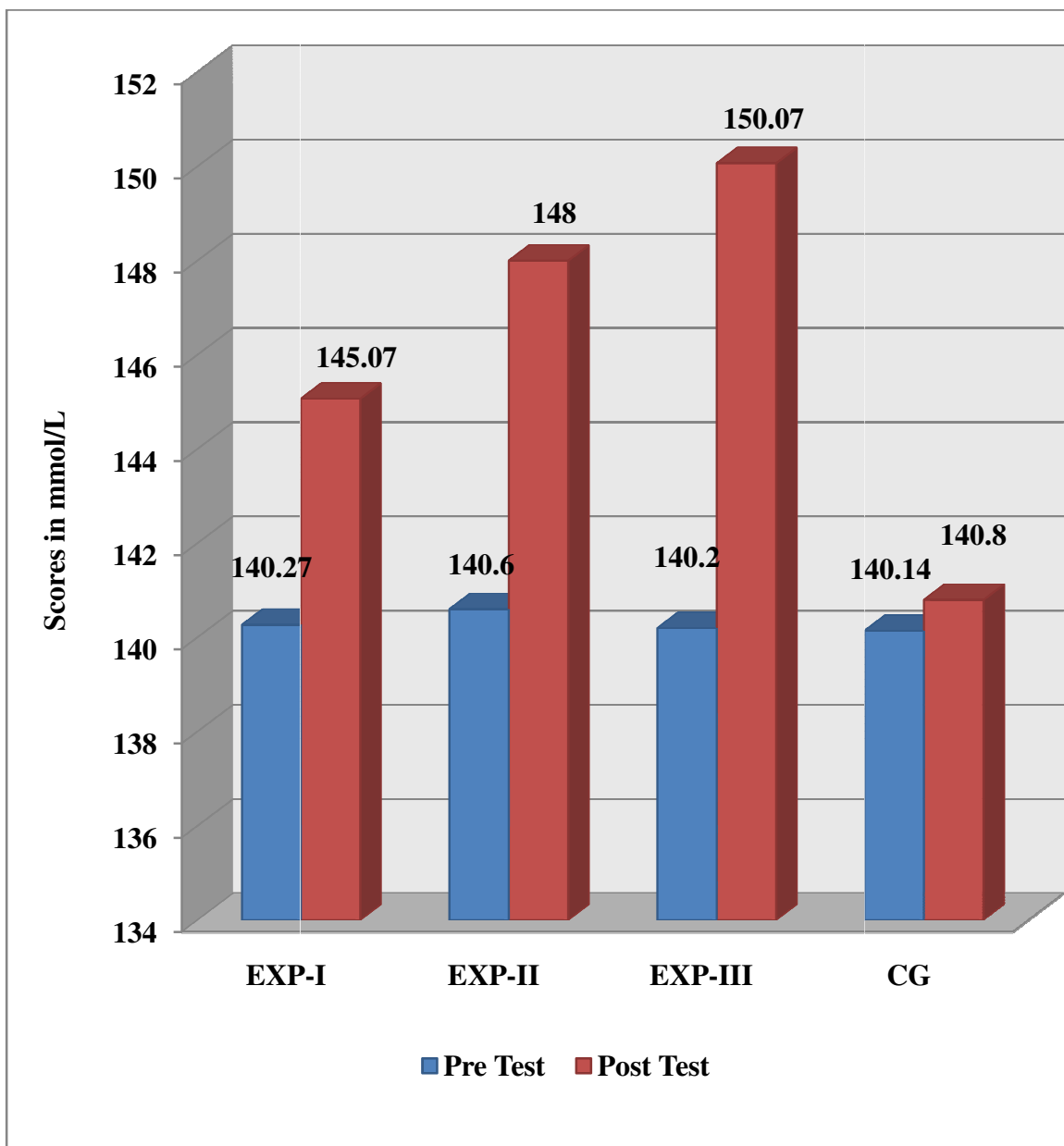
Table XVI (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Sodium of different Groups. The first comparison between the Control Group and Experimental Group I was 4.19, the second comparison between the Control Group and Experimental Group II was 6.29, the third comparison between the Control Group and Experimental Group III was 9.23, the fourth comparison between the Experimental Group I and Experimental Group II was 2.73, the fifth comparison between the Experimental Group I and Experimental Group III was 5.04, the sixth comparison between the Experimental Group II and Experimental Group III was 2.31.

The obtained mean difference of the above comparison was 4.19, 6.92, 9.23, 2.73, 5.04 and 2.31 respectively. The table confidential interval was 3.94 at 0.05 levels. Hence, first, second, third and fifth comparisons were significant but fourth and sixth comparison was not significant.

Among all the comparisons, the best highest influenced groups were Experimental Group III and Control Group were 9.23 and second influenced Group were Experimental Group II and Control Group with 6.92 and the third best influenced group were Experimental Group II and Experimental Group III with 5.04.

The ordered adjusted means of Sodium are presented through bar diagram for better understanding of the results of this study in figure-5

FIGURE - 5
BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON SODIUM



4.8.2 DISCUSSION ON THE FINDINGS OF SODIUM

In this Research, the Analysis of Covariance of Sodium was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another group called the Control Group without inclusion of the training. From these analyses, it is found that the results obtained from the Experimental Groups had significant increases in the Sodium level from the lower level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the increases of level Sodium. Further, the results obtained from Experimental Group II had significant influenced on Glucose than the Experimental Group I and Control Group.

Sodium is one kind of macrominerals to sustain the physical and physiological functions. Sodium maintains the level of fluid, electrolyte balance and support muscular contraction and transmits the nerve impulses. So without sodium it's highly difficult to maintain the body fluid and transmission of nerve impulses. During the training period, the muscle utilized the sodium to produce nerve communication and initiate muscular contraction while shortening and lengthening of the muscle. So the twelve weeks training period had significantly reduced the excess Sodium in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Gass GC and Camp EM(1987)** investigated the Effects of prolonged exercise in the highly trained traumatic paraplegic men and he concluded that during the prolonged exercise there were no significant changes in VO_2 , VCO_2 , VE , R , net efficiency, wheelchair strike rate, and lactate, glucose, and Na^+ concentrations. Significant increases occurred in HR, FFA, K^+ , Cl^- , osmolality, Hb, and Hct throughout the exercise. **Serizawa M, et. al,(2004)** stated that the Case of severe motor and intellectual disabilities presenting with partial central diabetes insipidus triggered by infection. Examined a 42-year-old woman with severe motor and intellectual disabilities (SMID) who showed partial central diabetes insipid in us, during the severe pneumonia. Thus it is concluded that sodium level was significantly increased due to the physical exercises.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to increase the Sodium level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.9 COMPUTATION OF ANALYSIS OF COVARIANCE OF POTASSIUM

The following tables illustrate the statistical results to the Effects of Yoga, Circuit Training and Combined Training on Potassium of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XVII
COMPUTATION OF ANALYSIS OF COVARIANCE OF POTASSIUM(Scores in mmol/L)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	4.56	4.56	4.55	4.45	B	0.13	3	0.05	0.22
					W	10.49	56	0.19	
Post Test Mean	3.96	3.92	3.88	4.4	B	3.013	3	1.05	8.79*
					W	6.39	56	0.12	
Adjusted Post Test Mean	3.95	3.91	3.87	4.48	B	3.68	3	1.23	21.16*
					W	3.19	55	0.06	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

TABLE- XVII (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF POTASSIUM(Scores in mmol/L)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
4.48	3.94	-	-	0.53	0.25
4.48	-	3.90	-	0.57	0.25
4.48	-	-	3.87	0.61	0.25
-	3.94	3.90	-	0.04	0.25
-	3.94	-	3.87	0.08	0.25
-	-	3.90	3.87	0.04	0.25

4.9.1 RESULTS OF POTASSIUM

Table XVII shows the analyzed data on Potassium. The pre test means of Potassium were 4.56 for Experimental Group I, 4.56 for Experimental Group II, 4.55 for Experimental Group III and 4.45 for Control Group. The obtained 'F' ratio 0.22 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 3.96 for Experimental Group I, 3.92 for Experimental Group II, 3.88 for Experimental Group III and 4.4 for Control Group. The obtained 'F' ratio 8.79 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 3.95 for Experimental Group I, 3.91 for Experimental Group II, 3.87 for Experimental Group III and 4.48 for control group. The obtained 'F' ratio 21.16 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XVII (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Potassium of different Groups. The first comparison between the Control Group and Experimental Group I was 0.53, the second comparison between the Control Group and Experimental Group II was 0.57, the third comparison between the Control Group and Experimental Group III was 0.61, the fourth comparison between the Experimental Group I and Experimental Group II was 0.04, the fifth comparison between

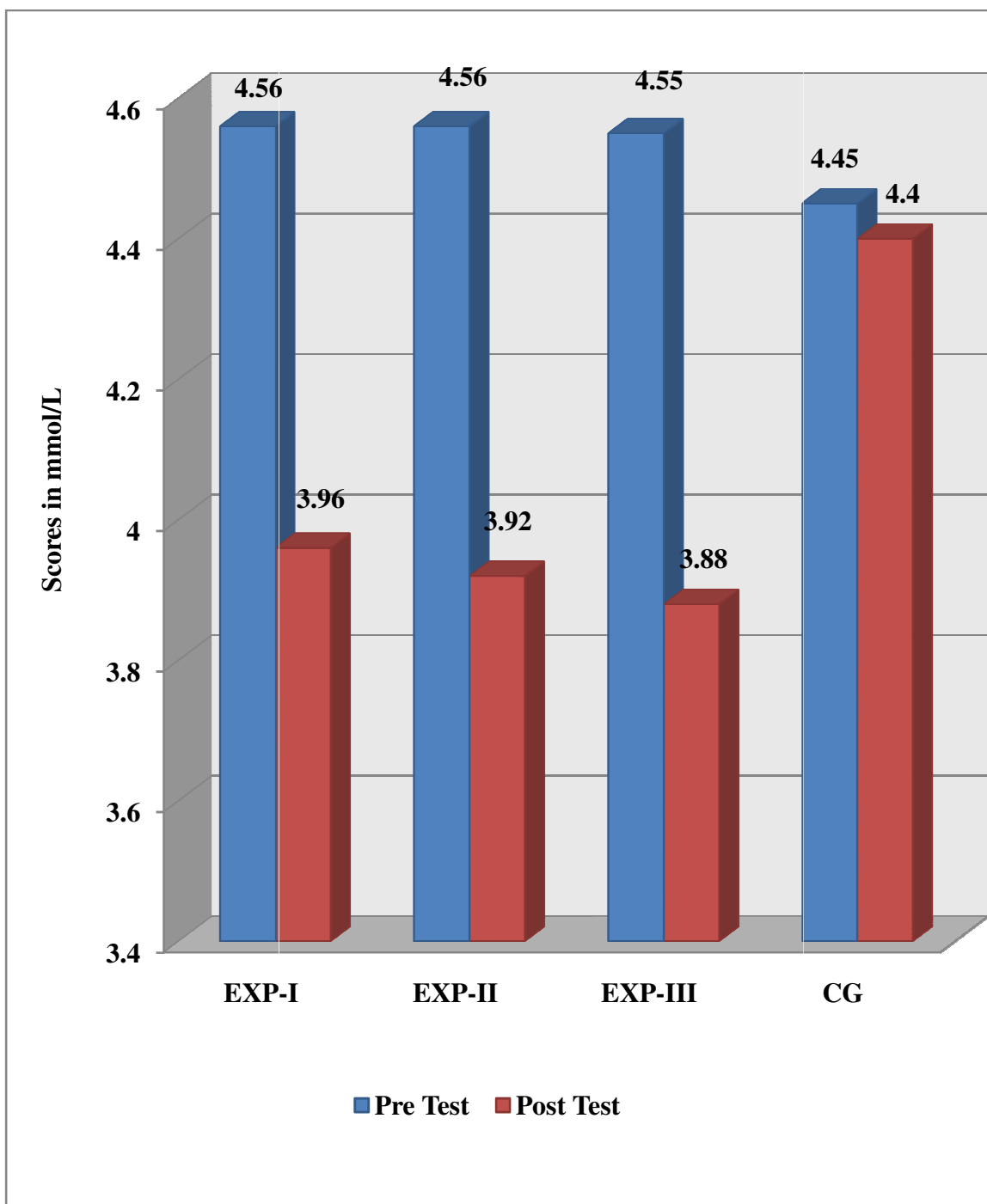
the Experimental Group I and Experimental Group III was 0.08, the sixth comparison between the Experimental Group II and Experimental Group III was 0.04.

The obtained mean difference of the above comparison was 0.53, 0.57, 0.61, 0.04, 0.08 and 0.04 respectively. The table confidential interval was 0.25 at 0.05 levels. Hence, first, second, third comparisons were significant but fourth, fifth and sixth comparison was not significant.

Among all the comparisons, the best influenced groups were Experimental Group III and Control Group were 0.61 and second highest influenced Group were Experimental Group II and Control Group with 0.57 and the third best influenced group were Experimental Group I and Control Group 0.53.

The ordered adjusted means of Potassium are presented through bar diagram for better understanding of the results of this study in figure-6

FIGURE - 6BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON POTASSIUM



4.9.2 DISCUSSION ON THE FINDINGS OF POTASSIUM

In this Research, the analysis of covariance of Potassium was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant decreases in the Potassium level from it higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreases level of Potassium. Further, the results obtained from Experimental Group II had significant influenced on Potassium than the Experimental Group I and Control Group.

Potassium is one of the essential dietary minerals and electrolytes. The main functions of potassium are to maintain body fluid and electrolytes balance. During physical activity, the muscle utilized the potassium as fluid and electrolyte booster in the muscle mass. The influences of different training methods on mild intellectually challenged persons the level of potassium had decreased due to higher level intensity of training and inadequate level of daily intake, sometimes the intensity plays major role to maintain the increased and decreased level of potassium in the blood. So the twelve weeks training period had significantly reduced the excess Potassium in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Medved, et. al, (2004)** evaluated the effects of intravenous N-

acetylcysteine infusion on time to fatigue and potassium regulation during prolonged exercise. He was concluded that the potassium level was decreased. **Marcos E and Ribas J. (1995)** had done a research on the Kinetics of plasma potassium concentrations during exhausting exercise in trained and untrained men. He was concluded that potassium has significantly decreased due to the physical exercises.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Potassium level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.10 COMPUTATION OF ANALYSIS OF COVARIANCE OF CHLORIDE

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Chloride of mild intellectually challenged persons and ordered adjusted means the groups under study.

TABLE- XVIII COMPUTATION OF ANALYSIS OF COVARIANCE OF CHLORIDE(Scores in mmol/L)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	103.87	103.6	103.94	103.94	B	1.14	3	0.38	0.13
					W	159.2	56	2.85	
Post Test Mean	103.54	103.2	103.14	104.14	B	9.4	3	3.14	1.31
					W	133.6	56	2.39	
Adjusted Post Test Mean	103.52	103.32	103.09	104.09	B	8.25	3	2.75	1.56
					W	96.81	55	1.77	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

4.10.1 RESULTS OF CHLORIDE

Table XVIII shows the analyzed data on Chloride. The pre test means of Chloride were 103.87 for Experimental Group I, 103.6 for Experimental Group II, 103.94 for Experimental Group III and 103.94 for Control Group. The obtained 'F' ratio 0.13 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

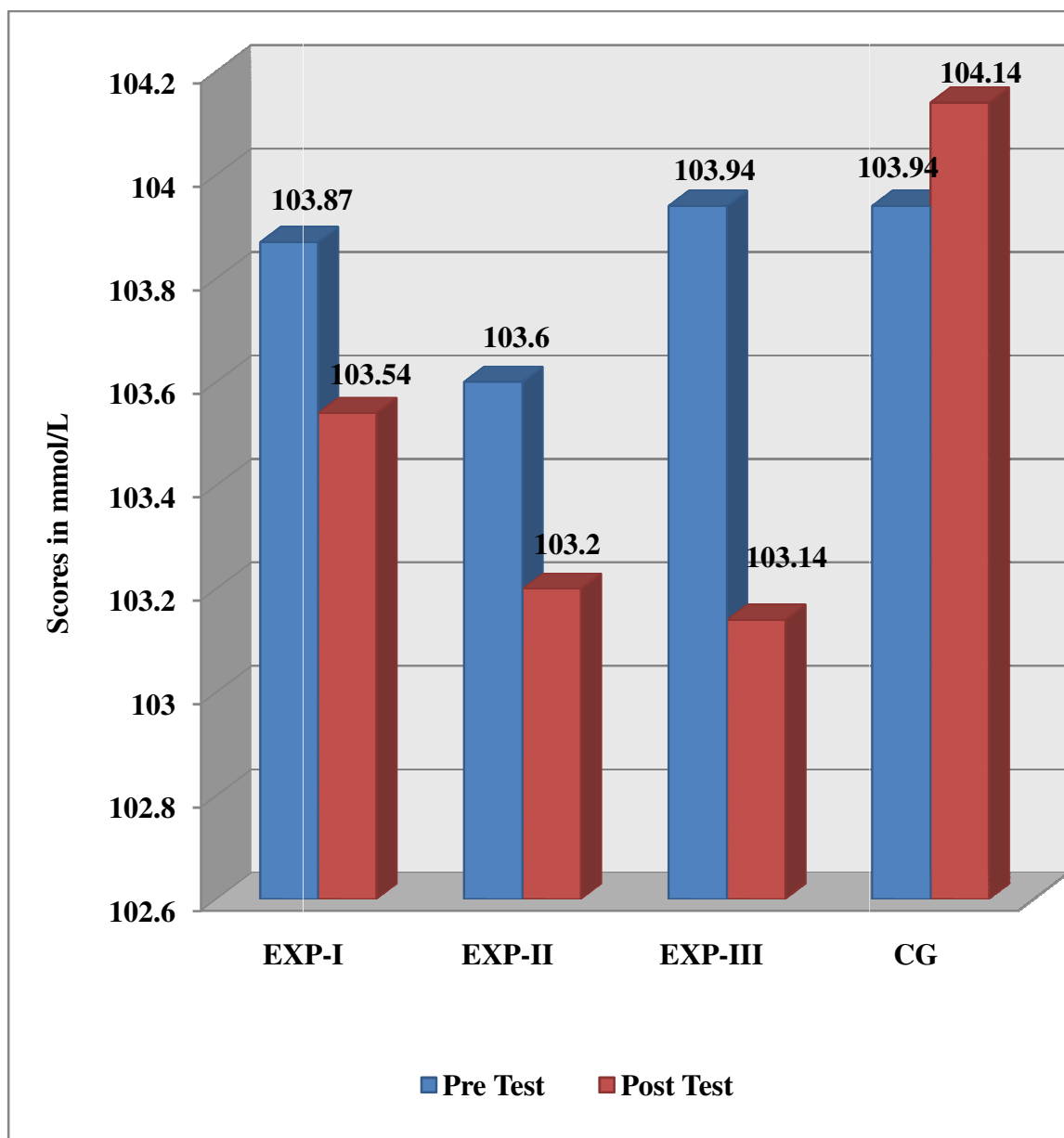
The Post test means were 103.54 for Experimental Group I, 103.2 for Experimental Group II, 103.14 for Experimental Group III and 104.14 for Control Group. The obtained 'F' ratio 1.31 was less than the table 'F' ratio 2.7. Hence, Post test was not significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 103.52 for Experimental Group I, 103.32 for Experimental Group II, 103.09 for Experimental Group III and 104.09 for control group. The obtained 'F' ratio 1.56 was less than the table 'F' ratio 2.72. Hence, adjusted post test was not significant at 0.05 level for the degrees of freedom 3 and 55.

The ordered adjusted means of Chloride are presented through bar diagram for better understanding of the results of this study in figure-7

FIGURE - 7

BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON CHLORIDE



4.10.2 DISCUSSION ON THE FINDINGS OF CHLORIDE

In this Research, the Analysis of Covariance of Chloride was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had not significant.

These results are found to be in a good agreement with the earlier works done by different researchers. **Davidovich, et. al,(2010)** Studied a comparison of the sialochemistry, oral pH, and oral health status of down syndrome children to healthy children. **Contreras, et. al, (2005)** examined on the congenital chloride diarrhea. Congenital chloride diarrhea (CCD) is a rare hereditary disease, with a prenatal onset, secondary to a deficit in the intestinal chloride transport. They have concluded that the chloride has sustained due to the physical exercises.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Chloride level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.11 COMPUTATION OF ANALYSIS OF COVARIANCE OF CREATININE

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Creatinine of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XIX COMPUTATION OF ANALYSIS OF COVARIANCE OF CREATININE (Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	0.82	0.83	0.83	0.85	B	0.06	3	0.02	0.19
					W	0.58	56	0.11	
Post Test Mean	1.06	1.08	1.20	0.87	B	0.83	3	0.28	18.53*
					W	0.83	56	0.05	
Adjusted Post Test Mean	1.07	1.08	1.20	0.86	B	0.91	3	0.31	33.37*
					W	0.50	55	0.09	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.
*significant

TABLE- XIX (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF CREATININE (Scores in Mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
0.85	1.07	-	-	0.21	0.10
0.85	-	1.08	-	0.22	0.10
0.85	-	-	1.20	0.34	0.10
-	1.07	1.08	-	0.01	0.10
-	1.07	-	1.20	0.13	0.10
-	-	1.08	1.20	0.12	0.10

4.11.1 RESULTS OF CREATININE

Table XIX shows the analyzed data on Creatinine. The pre test means of Creatinine were 0.82 for Experimental Group I, 0.83 for Experimental Group II, 0.83 for Experimental Group III and 0.85 for Control Group. The obtained 'F' ratio 0.19 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 1.06 for Experimental Group I, 1.08 for Experimental Group II, 1.20 for Experimental Group III and 0.87 for Control Group. The obtained 'F' ratio 18.53 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 1.07 for Experimental Group I, 1.08 for Experimental Group II, 1.20 for Experimental Group III and 0.86 for Control Group. The obtained 'F' ratio 33.37 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XIX (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Creatinine of different Groups. The first comparison between the Control Group and Experimental Group I was 0.21, the second comparison between the Control Group and Experimental Group II was 0.22, the third comparison between the Control Group and Experimental Group III was 0.34, the fourth comparison between the Experimental Group I and Experimental Group II was 0.01, the fifth comparison between the Experimental Group I and Experimental Group III was 0.13, the sixth comparison between the Experimental Group II and Experimental Group III was 0.12.

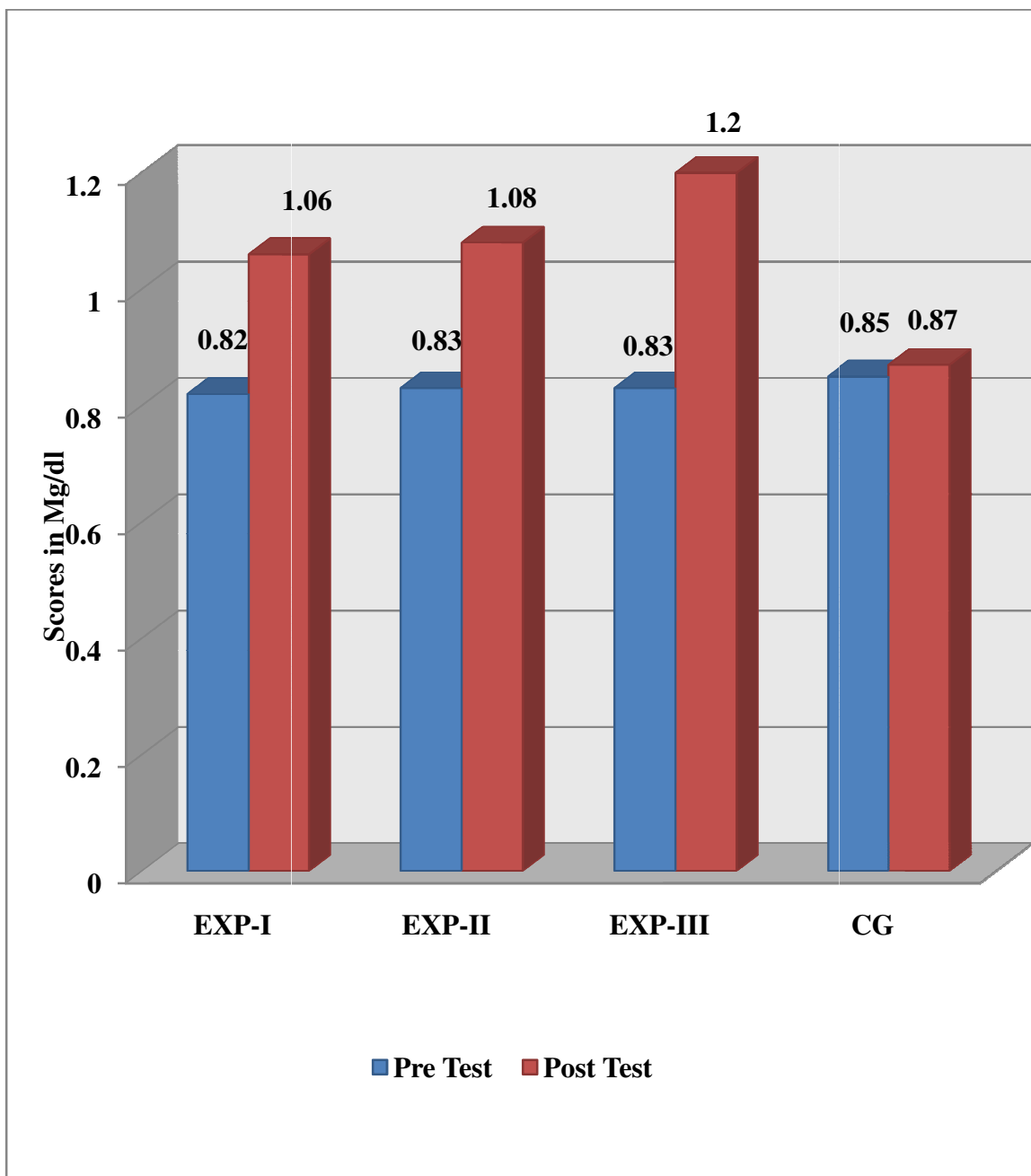
The obtained mean difference of the above comparison was 0.21, 0.22, 0.34, 0.01, 0.13 and 0.12 respectively. The table confidential interval was 0.10 at 0.05 levels. Hence, first, second, third and sixth and comparisons were significant, but fourth comparison was not significant.

Among all the comparisons, the best influenced groups were Experimental Group III and Control Group were 0.34 and second highest influenced Group were Experimental Group II and Control Group with 0.22 and the third best influenced group were Experimental Group I and Control Group were 0.21.

The ordered adjusted means of Creatinine are presented through bar diagram for better understanding of the results of this study in figure-8

FIGURE - 8

**BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON CREATININE**



4.11.2 DISCUSSION ON THE FINDINGS OF CREATININE

In this Research, the Analysis of Covariance of Creatinine was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the experimental groups had significant improvement in the Creatinine level from the lower level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than the Experimental Group I and II on the increase of Creatinine level. Further, the results obtained from Experimental Group II had significant influenced on Creatinine than the Experimental Group I and Control Group.

Creatinine is utilized as energy sources for the working muscle in the form of creatinine phosphate. Creatinine is synthesizing in the liver and kidney, so each day 2% of muscle creatinine is converted to creatinine and each gram of creatinine released some amount of fuel for muscle working ability. During the high intensity workout we need more creatinine phosphate to create cyclic process of ATP to exert continuous supply of energy to the muscle. So the twelve weeks of training period had significantly increased the excess creatinine in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Volek, et. al,(2000)** studied the effect of heavy resistance training and creatinine supplementation on blood lipids. He has concluded that fasting creatinine

significantly increases due to 12 weeks of heavy resistance training and creatinine supplementation, **Agte, et. al,(2011)** stated that the effects of SudarshanKriya Yoga on some physiological and biochemical parameters in mild hypertensive patients was that serum creatinine increased due to SudarshanKriya Yoga two month yogic training.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to increases the Creatinine level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.12 COMPUTATION OF ANALYSIS OF COVARIANCE TOTAL CHOLESTEROL

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Total Cholesterol of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XX
COMPUTATION OF ANALYSIS OF COVARIANCE FOR PRE AND POST
TEST ON THE TOTAL CHOLESTEROL (Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	171.94	172.2	173.2	172.34	B	13.52	3	4.51	0.01
					W	48451.07	56	865.2	
Post Test Mean	161.07	158.74	143.27	172.14	B	6363.07	3	2121.02	3.18*
					W	37396.54	56	667.80	
Adjusted Post Test Mean	161.39	158.88	142.75	172.19	B	6655.92	3	2218.64	7.74*
					W	15764.37	55	286.63	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.
*significant

TABLE- XX (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED
FINAL MEAN DIFFERENCE OF TOTAL CHOLESTEROL (Scores in Mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
172.19	161.39	-	-	10.80	17.66
172.19	-	158.88	-	13.31	17.66
172.19	-	-	142.74	29.45	17.66
-	161.39	158.88	-	2.51	17.66
-	161.39	-	142.74	18.65	17.66
-	-	158.88	142.74	16.13	17.66

4.12.1 RESULTS OF TOTAL CHOLESTEROL

Table XX shows the analyzed data on Total Cholesterol. The pre test means of Total Cholesterol were 171.94 for Experimental Group I, 172.2 for Experimental Group II, 173.2 for Experimental Group III and 172.34 for Control Group. The obtained 'F' ratio 0.01 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 161.07 for Experimental Group I, 158.74 for Experimental Group II, 143.27 for Experimental Group III and 172.14 for Control Group. The obtained 'F' ratio 3.18 was greater than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 161.39 for Experimental Group I, 158.88 for Experimental Group II, 142.75 for Experimental Group III and 172.19 for Control Group. The obtained 'F' ratio 7.74 was greater than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XX (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Total Cholesterol of different Groups. The first comparison between the Control Group and Experimental Group I was 10.80, the second comparison between the Control Group and Experimental Group II was 13.31, the third comparison between the Control Group and Experimental Group III was 29.45, the fourth comparison between the Experimental Group I and Experimental Group II was 2.51, the fifth comparison between

the Experimental Group I and Experimental Group III was 18.65, the sixth comparison between the Experimental Group II and Experimental Group III was 16.13.

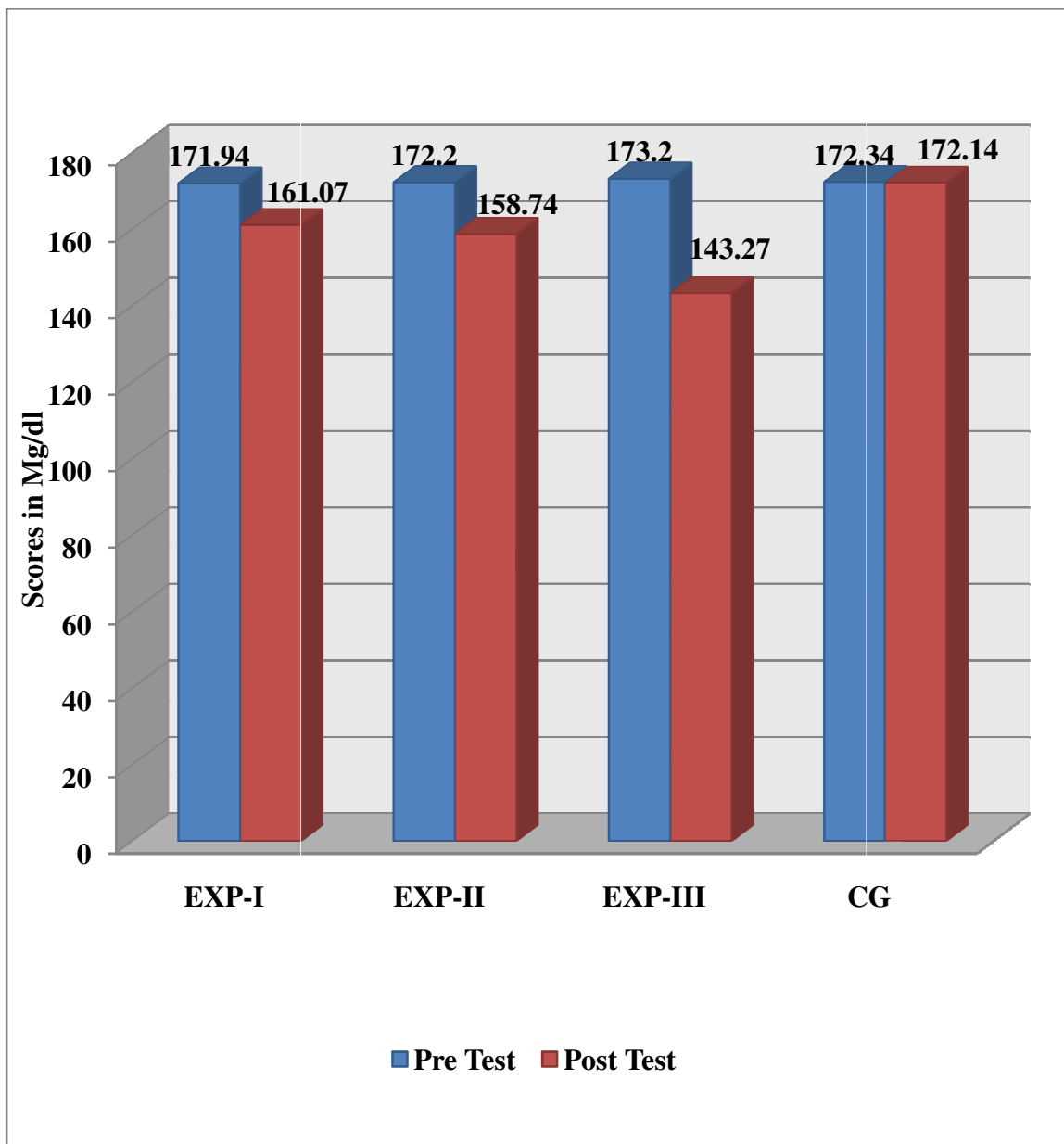
The obtained mean difference of the above comparison was 10.80, 13.31, 29.45, 2.51, 18.65 and 16.13 respectively. The table confidential interval was 17.66 at 0.05 levels. Hence, third and fifth comparisons were significant and first; second, fourth and sixth comparison was not significant.

Among all the comparisons, best highest influenced group were Experimental Group III and Control Group were 29.45 and second influenced Group were Experimental Group I and Experimental Group III with 18.65 and the third best influenced group were Experimental Group II and Experimental Group III with 16.13.

The ordered adjusted means of Total Cholesterol are presented through bar diagram for better understanding of the results of this study in figure-9

FIGURE - 9

BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON TOTAL CHOLESTEROL



4.12.2 DISCUSSION ON THE FINDINGS OF TOTAL CHOLESTEROL

In this Research, the analysis of covariance of Total cholesterol was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant decrease in the Total Cholesterol level from its higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Total cholesterol. Further, the results obtained from Experimental Group II had significant influenced on Total cholesterol than the Experimental Group I and Control Group.

Total cholesterol is very essential for the all humans. Cholesterol is recycled the liver excretes it on esterified from via bile into the digestive system, typically about 50% of the exerts cholesterol is reabsorbed by the small bowel back into the blood stream. During the training period, the cholesterol acted as fuel for muscle in the mild intellectually challenged persons, the level of total cholesterol was decreased due to the influences of training methods. So, due to influence of the intensity plays a vital role to decrease the total cholesterol level in blood stream. So the twelve weeks of training period had significantly reduced the excess Total cholesterol in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Rimmer, et. al, (1995)** done a research on the Health characteristics and behaviors of adults with mental retardation residing in three living arrangements. Due to exercise the total cholesterol has significantly been reduced. **Mizuno and Monterio.(2013)** stated that an assessment of a sequence of yoga exercises to patients with an arterial hypertension. He concluded that total cholesterol has significantly decreased due to yogic exercise.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Total Cholesterol level. This, in turn, helps to be healthy, life style modification of the Mild Intellectually Challenged Persons.

4.13 COMPUTATION OF ANALYSIS OF COVARIANCE OF TRIGLYCERIDE

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Triglyceride of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XXICOMPUTATION OF ANALYSIS OF COVARIANCE OF TRIGLYCERIDE
(Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	156.54	155.87	155.2	159.87	B	193.34	3	64.45	0.05
					W	70471.6	56	1258.43	
Post Test Mean	114.27	110.73	94.27	159.34	B	34913.52	3	11637.84	15.95*
					W	40870.14	56	729.83	
Adjusted Post Test Mean	114.49	111.40	95.37	157.34	B	31489.26	3	10496.42	58.55*
					W	9860.47	55	179.29	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.
*significant

TABLE- XXI (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF TRIGLYCERIDE(Scores in Mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
157.34	114.49	-	-	42.86	13.97
157.34	-	111.40	-	45.95	13.97
157.34	-	-	95.37	61.97	13.97
-	114.49	111.40	-	3.09	13.97
-	114.49	-	95.37	19.12	13.97
-	-	111.40	95.37	16.02	13.97

4.13.1 RESULTS OF TRIGLYCERIDE

Table XXI shows the analyzed data on Triglyceride. The pre test means of Triglyceride were 156.54 for Experimental Group I, 155.87 for Experimental Group II, 155.2 for Experimental Group III and 159.87 for Control Group. The obtained 'F' ratio 0.05 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 114.27 for Experimental Group I, 10.73 for Experimental Group II, 94.27 for Experimental Group III and 159.34 for Control Group. The obtained 'F' ratio 15.95 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 114.49 for Experimental Group I, 111.40 for Experimental Group II, 95.37 for Experimental Group III and 157.37 for Control Group. The obtained 'F' ratio 58.55 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

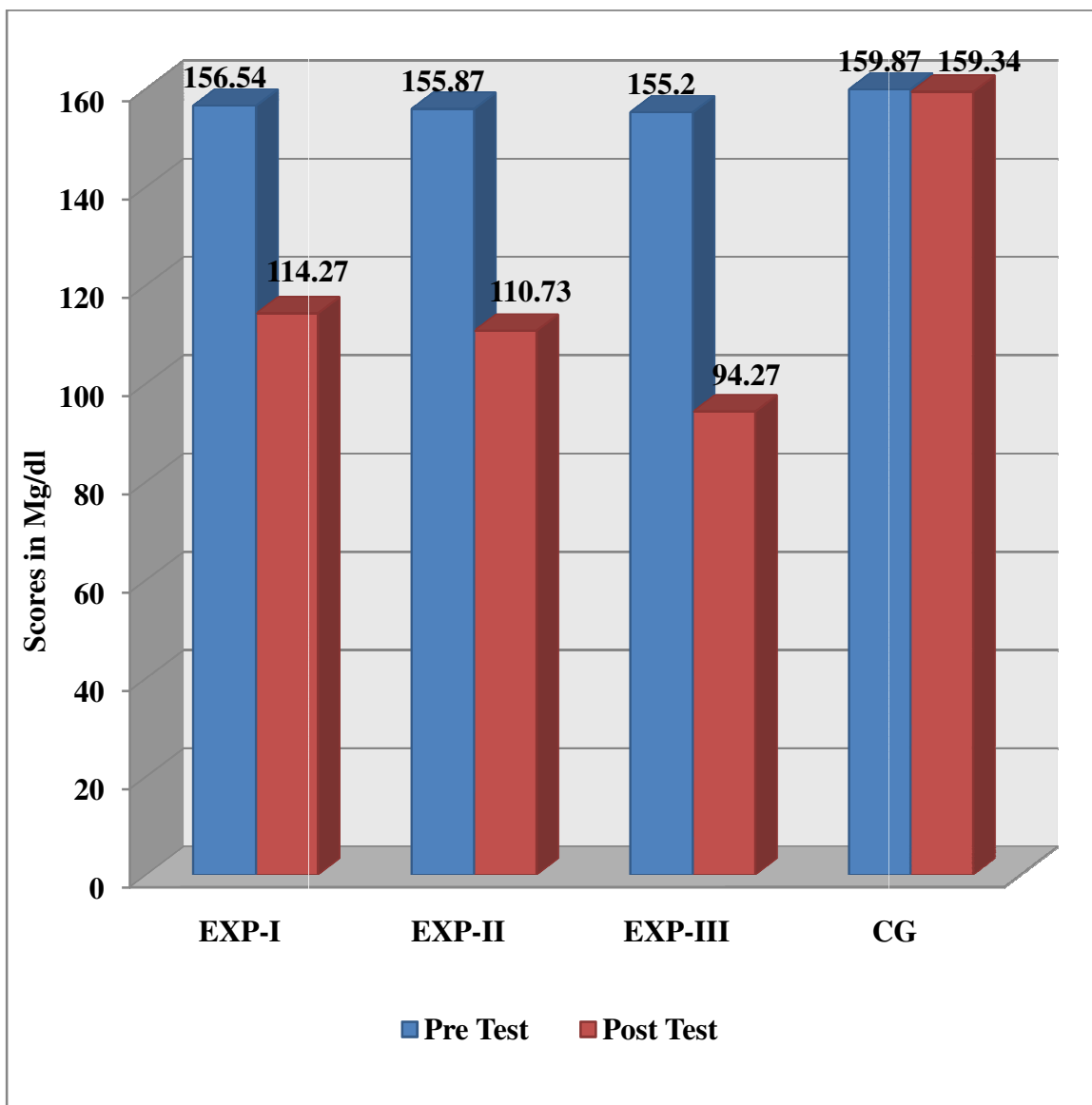
Table XXI (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Triglyceride of different Groups. The first comparison between the Control Group and Experimental Group I was 42.86, the second comparison between the Control Group and Experimental Group II was 45.95, the third comparison between the Control Group and Experimental Group III was 61.97, the fourth comparison between the Experimental Group I and Experimental Group II was 3.09, the fifth comparison between the Experimental Group I and Experimental Group III was 19.12, the sixth comparison between the Experimental Group II and Experimental Group III was 16.02.

The obtained mean difference of the above comparison was 42.86, 45.95, 61.97, 3.09, 19.12, and 16.02 respectively. The table confidential interval was 13.97 at 0.05 levels. Hence, first, second, third, fifth and sixth comparisons were significant. But fourth comparison is not significant.

Among all the comparisons, the best influenced group were Experimental Group III and Control Group were 61.97 and second highest influenced Group were Experimental Group II and Control Group with 45.95 and the third best influenced Group were Experimental Group I and Control Group were 42.86.

The ordered adjusted means of Triglyceride are presented through bar diagram for better understanding of the results of this study in figure-10

FIGURE -10
BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON TRIGLYCERIDE



4.13.2 DISCUSSION ON THE FINDINGS OF TRIGLYCERIDE

In this Research, the analysis of covariance of Triglyceride was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another group called the control group without the inclusion of training. From these analyses, it is found that the results obtained from the experimental Groups had significant decrease in the Triglyceride level from the higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Triglyceride. Further, the results obtained from Experimental Group II had significant influenced on Triglyceride than the Experimental Group I and Control Group.

The Triglycerides are the chemical function of the human fats; it has three fatty acids, however higher levels of this lipoprotein are considered Biochemically unsafe for human. During the training period the triglycerides utilized by different physiological function and acted as fuel in between the muscular cells, it creates some physiological unsafe. So the twelve weeks of training period had significantly reduced the excess Triglycerides in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Lawlor, et. al, (1977)** stated that Serum Cholesterol and Triglycerides in relation to ponderal index and age in two contrasting populations. One hundred and seventy six mentally retarded adult patients had their serum cholesterol,

triglycerides and ponderal index determined during a seven week period and compared with those of a normal group of business executives being routinely screened by the same laboratory. A comparison of cholesterol and triglyceride levels showed those of the former group to be significantly lower, as dealt with in a previous paper by **Lawlor, O'Hara and Birtwistle (1974)**.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Triglyceride level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.14 COMPUTATION OF ANALYSIS OF COVARIANCE OF LOW DENSITY LIPOPROTEIN

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training Low Density Lipoprotein of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XXII COMPUTATION OF ANALYSIS OF COVARIANCE OF LOW DENSITY LIPOPROTEIN(Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	113.47	113.67	114.47	115.14	B	26.45	3	8.82	0.02
					W	31592.54	56	564.16	
Post Test Mean	90.34	87.4	78	115.34	B	11430.47	3	3810.16	20.25*
					W	10536.27	56	188.15	
Adjusted Post Test Mean	90.59	87.58	77.90	115.02	B	11203.30	3	3734.44	30.59*
					W	6713.91	55	122.08	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

**TABLE- XXII (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF LOW DENSITY LIPOPROTEIN(Scores in Mg/dl)**

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
115.00	90.58	-	-	24.42	11.52
115.00	-	87.58	-	27.42	11.52
115.00	-	-	77.90	37.10	11.52
-	90.58	87.58	-	3.00	11.52
-	90.58	-	77.90	12.68	11.52
-	-	87.58	77.90	9.68	11.52

4.14.1 RESULTS OF LOW DENSITY LIPOPROTEIN

Table XXII shows the analyzed data on Low Density Lipoprotein. The pre test means of Low Density Lipoprotein were 113.47 for Experimental Group I, 113.67 for Experimental Group II, 114.47 for Experimental Group III and 115.14 for Control Group. The obtained 'F' ratio 0.2 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 90.34 for Experimental Group I, 87.4 for Experimental Group II, 78 for Experimental Group III and 115.34 for Control Group. The obtained 'F' ratio 20.25 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 90.59 for Experimental Group I, 87.58 for Experimental Group II, 77.90 for Experimental Group III and 115.02 for Control Group. The obtained 'F' ratio 30.59 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

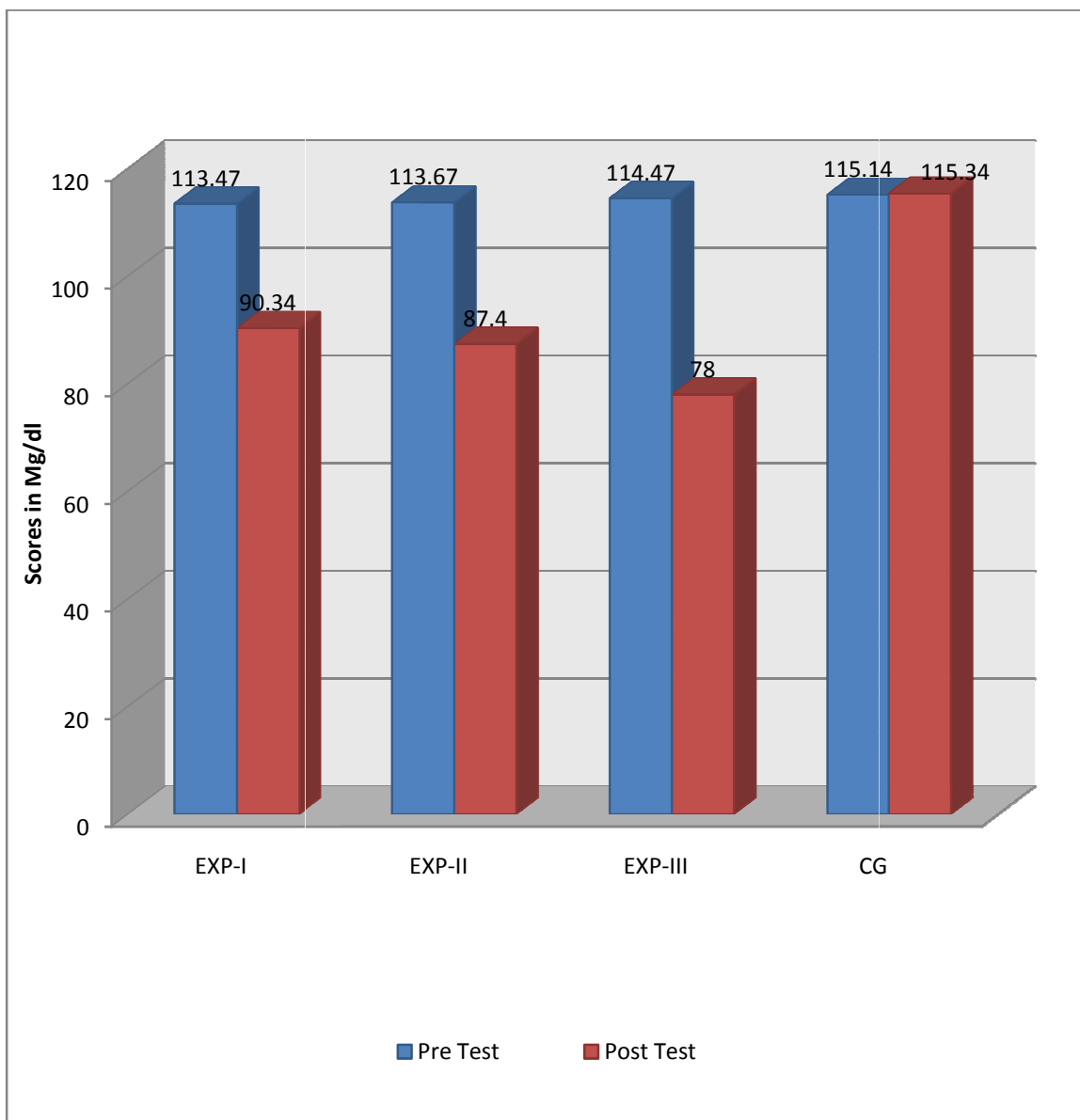
Table XXII (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Low Density Lipoprotein of different Groups. The first comparison between the Control Group and Experimental Group I was 24.42, the second comparison between the Control Group and Experimental Group II was 27.42, the third comparison between the Control Group and Experimental Group III was 37.10, the fourth comparison between the Experimental Group I and Experimental Group II was 3.00, the fifth comparison between the Experimental Group I and Experimental Group III was 12.68, the sixth comparison between the Experimental Group II and Experimental Group III was 9.68.

The obtained mean difference of the above comparison was 24.42, 27.42, 37.10, 3.00, 12.68 and 9.68 respectively. The table confidential interval was 11.52 at 0.05 levels. Hence, first, second, third, and fifth comparisons were significant, but fourth and sixth comparison not significant.

Among all the comparisons, the best influenced groups were Experimental Group III and Control Group were 37.10 and second highest influenced Group were Experimental Group II and Control Group with 27.42 and the third best influenced group were Experimental Group I and Control Group were 24.42.

The ordered adjusted means of Low Density Lipoprotein are presented through bar diagram for better understanding of the results of this study in figure-11

FIGURE - 11
BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON LOW DENSITY LIPOPROTEIN



4.14.2 DISCUSSION ON THE FINDINGS OF LOW DENSITY LIPOPROTEIN

In this Research, the Analysis of Covariance of Low Density Lipoprotein was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant decrease in the Low Density Lipoprotein level from the higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Low Density Lipoprotein. Further, the results obtained from Experimental Group II had significant influenced on Low Density Lipoprotein than the Experimental Group I and Control Group.

Excess cholesterol deposition in the body is highly dangers condition to mild intellectually challenged people it will causes to form plaque, block in arteries and make people more inactive in their lifestyle. So the Good Cholesterol (HDL) act as scavenge to bring the back to the bad cholesterol from different parts of body to the liver. Liver is responsible to digest and convert excess amount as energy. With the help of the twelve weeks of training is creating more chance to remove excess cholesterol on the body and increases the percentage of (High Density Lipoprotein) HDL.

These results are found to be in a good agreement with the earlier works done by different researchers. **Gordon, et. al, (2012)** evaluated that effect of exercise therapy on

lipid parameters in patients with end-stage renal disease on hemodialysis. He was concluded that Hatha yoga exercise group, there was found a significant decrease in Low Density Lipoprotein due to the four month of exercise and hatha yoga practices. **Seo, et. al, (2012)** examined effects on the metabolic parameters and to be uncomplicated therapy for obesity. The findings show that an eight week of Yoga Training decreased LDL, TL levels in obese adolescent boys, suggesting that yoga training may be effective in controlling some metabolic syndrome factors in obese adolescent boys.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Low Density Lipoprotein level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.15 COMPUTATION OF ANALYSIS OF COVARIANCE OF HIGH DENSITY LIPOPROTEIN

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on High Density Lipoprotein of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XXIII
COMPUTATION OF ANALYSIS OF COVARIANCE OF HIGH
DENSITY LIPOPROTEIN
(Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	38.87	38.34	38.07	38.87	B	7.2	3	2.4	0.34
					W	397.74	56	7.11	
Post Test Mean	46.94	48.06	51.27	38.14	B	1420.87	3	473.63	27.22*
					W	974.54	56	17.41	
Adjusted Post Test Mean	46.79	48.15	51.47	37.99	B	1475.12	3	491.71	30.18*
					W	896.18	55	16.30	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

TABLE- XXIII (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED
FINAL MEAN DIFFERENCE OF HIGH DENSITY LIPOPROTEIN
(Scores in Mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
37.99	46.79	-	-	8.80	4.21
37.99	-	48.16	-	10.17	4.21
37.99	-	-	51.47	13.49	4.21
-	46.79	48.16	-	1.37	4.21
-	46.79	-	51.47	4.49	4.21
-	-	48.16	51.47	3.32	4.21

4.15.1 RESULTS OF HIGH DENSITY LIPOPROTEIN

Table XXIII shows the analyzed data on High Density Lipoprotein. The pre test means of High Density Lipoprotein were 38.87 for Experimental Group I, 38.34 for Experimental Group II, 38.07 for Experimental Group III and 38.87 for Control Group. The obtained 'F' ratio 0.34 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 46.94 for Experimental Group I, 48.06 for Experimental Group II, 51.27 for Experimental Group III and 38.14 for Control Group. The obtained 'F' ratio 27.22 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 46.79 for Experimental Group I, 48.15 for Experimental Group II, 51.47 for Experimental Group III and 37.99 for Control Group. The obtained 'F' ratio 30.18 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

Table XXIII (a) shows the Scheffe's Post Hoc Test ordered and final means difference of High Density Lipoprotein of different Groups. The first comparison between the Control Group and Experimental Group I was 8.80, the second comparison between the Control Group and Experimental Group II was 10.17, the third comparison between the Control Group and Experimental Group III was 13.49, the fourth comparison between the Experimental Group I and Experimental Group II was 1.37, the fifth comparison between the Experimental Group I and Experimental Group III was 4.49, the sixth comparison between the Experimental Group II and Experimental Group III was 3.32.

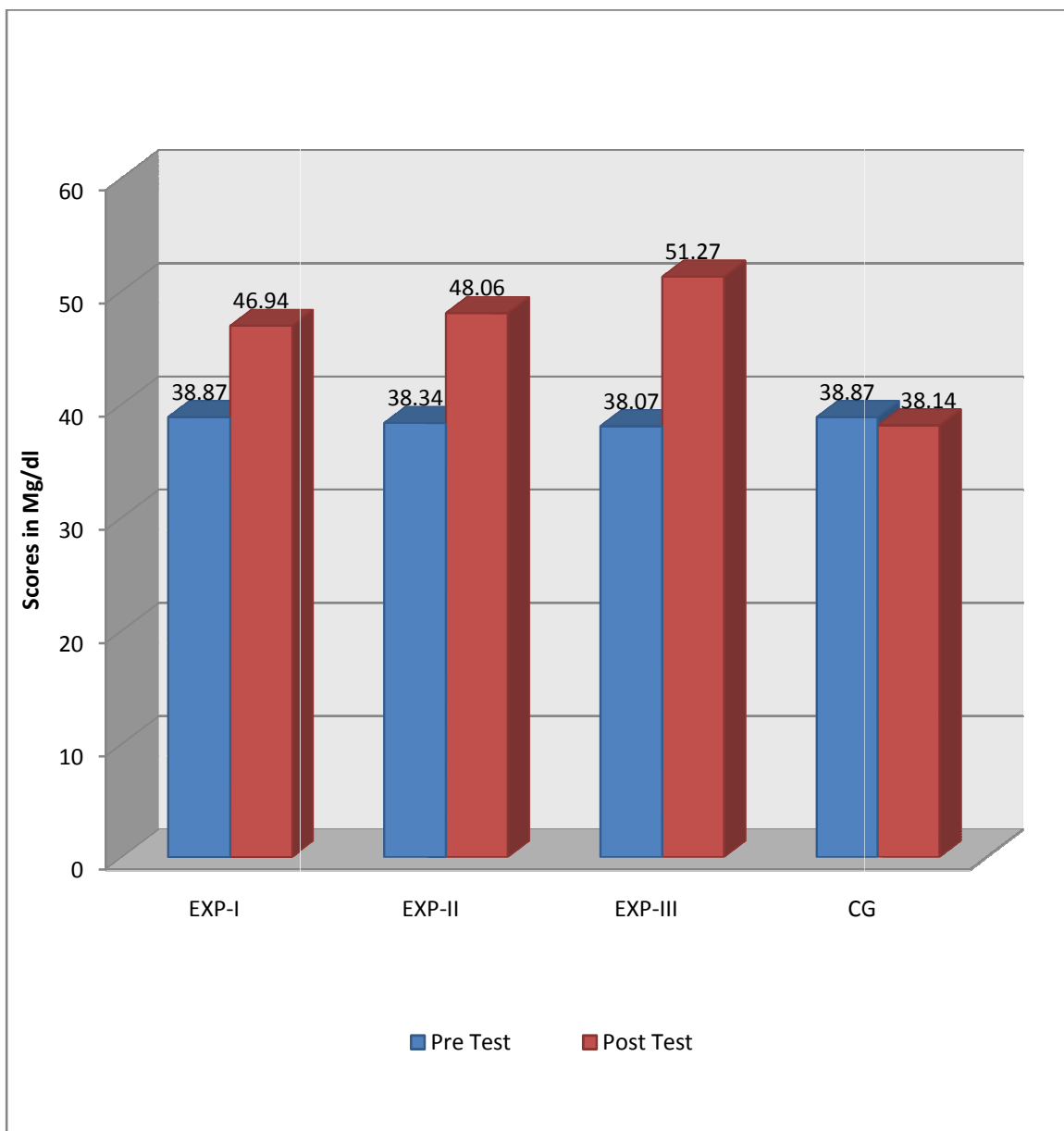
The obtained mean difference of the above comparison was 8.80, 10.17, 13.49, 1.37, 4.49, and 3.32 respectively. The table confidential interval was 4.21 at 0.05 levels. Hence, first, second, third and fifth comparisons were significant, but fourth and sixth comparison not significant.

Among all the comparisons, the best influenced group were Experimental Group III and Control Group were 13.49 and second highest influenced Group were Experimental Group II and Control Group with 10.17 and the third best influenced Group were Experimental Group I and Control Group were 8.80.

The ordered adjusted means of High Density Lipoprotein are presented through bar diagram for better understanding of the results of this study in figure-12

FIGURE - 12

**BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON HIGH DENSITY LIPOPROTEIN**



4.15.2 DISCUSSION ON THE FINDINGS OF HIGH DENSITY LIPOPROTEIN

In this Research, the Analysis of Covariance of High Density Lipoprotein was carried out on three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training. From these analyses, it is found that the results obtained from the Experimental Groups had significant increase in the High Density Lipoprotein level from the lower level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the increased level of High Density Lipoprotein. Further, the results obtained from Experimental Group II had significant influenced on High Density Lipoprotein than the Experimental Group I and Control Group.

It is major lipoprotein (High Density Lipoprotein) is called as good cholesterol. It is transport cholesterol had within the blood stream and try to convert from bad to usable form of energy scores. It will reduce the rate of cardio vascular disease by removing LDL, VLDL, from blood stream. Due to the training it was increased level of HDL. During the training period muscle, heart, liver, kidney absorbed more HDL from the blood stream. So the twelve weeks of training period had significantly increased the High Density Lipoprotein in body.

These results of this study are in a good agreement with the earlier studies done by. **Nash, et. al, (2001)** analyzed on the Circuit resistance training improves the

atherogenic lipid profiles of persons with chronic paraplegia And concluded that high density cholesterol level significantly increases due to the circuit training. **Cohen, et. al,(2003)** also proved in this study that the weight, lipids, glucose, and behavioral measures with ziprasidone treatment in a population with mental retardation and Concluded that HDL cholesterol has increased.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to improve the High Density Lipoprotein level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.16 COMPUTATION OF ANALYSIS OF COVARIANCE OF VERY LOW DENSITY LIPOPROTEIN

The following tables illustrate the statistical results of the Effects of Yoga, Circuit Training and Combined Training on Very Low Density Lipoprotein of Mild Intellectually Challenged Persons and ordered adjusted means the groups under study.

TABLE- XXIV
COMPUTATION OF ANALYSIS OF COVARIANCE OF VERY
LOW DENSITY LIPOPROTEIN(Scores in mg/dl)

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	30.47	31.4	30.27	30.07	B	15.65	3	5.23	0.03
					W	8655.2	56	154.56	
Post Test Mean	20.27	18.4	14.67	30.74	B	2132.19	3	710.73	11.67
					W	3410.8	56	60.91	
Adjusted Post Test Mean	20.31	18.06	14.78	30.92	B	2194.51	3	731.51	19.81
					W	2030.57	55	36.91	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72.

*significant

TABLE- XXIV (a)
COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED
FINAL MEAN DIFFERENCE OF VERY LOW
DENSITY LIPOPROTEIN
(Scores in Mg/dl)

Control Group	Experimental Group -I	Experimental Group -II	Experimental Group -III	Mean Difference	Confidential Interval
30.93	20.30	-	-	10.63	6.34
30.93	-	18.06	-	12.87	6.34
30.93	-	-	14.78	16.15	6.34
-	20.30	18.06	-	2.24	6.34
-	20.30	-	14.78	5.52	6.34
-	-	18.06	14.78	3.38	6.34

4.16.1 RESULTS OF VERY LOW DENSITY LIPOPROTEIN

Table XXIV shows the analyzed data on Very Low Density Lipoprotein. The pre test means of Low Density Lipoprotein were 30.47 for Experimental Group I, 31.4 for Experimental Group II, 30.27 for Experimental Group III and 30.07 for Control Group. The obtained 'F' ratio 0.03 was lesser than the table 'F' ratio 2.7. Hence, the pre test was not significant at 0.05 level of confidence for degrees of freedom 3 and 56.

The Post test means were 20.27 for Experimental Group I, 18.4 for Experimental Group II, 14.67 for Experimental Group III and 30.74 for Control Group. The obtained 'F' ratio 11.67 was higher than the table 'F' ratio 2.7. Hence, Post test was significant at 0.05 level of confidence for the degrees of freedom 3 and 56.

The adjusted post test means were 20.31 for Experimental Group I, 18.06 for Experimental Group II, 14.78 for Experimental Group III and 30.92 for Control Group. The obtained 'F' ratio 19.81 was higher than the table 'F' ratio 2.72. Hence, adjusted post test was significant at 0.05 level for the degrees of freedom 3 and 55.

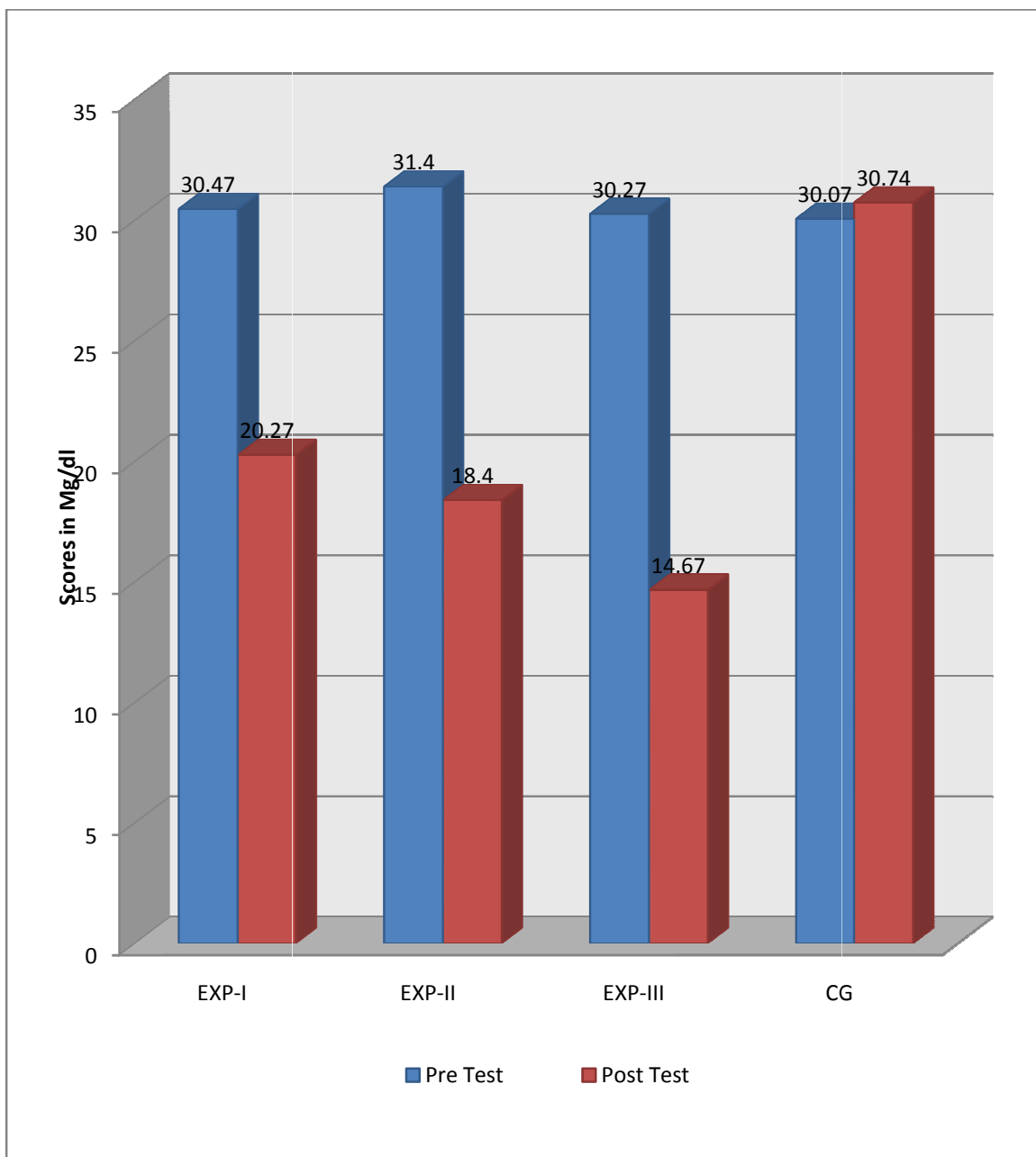
Table XXIV (a) shows the Scheffe's Post Hoc Test ordered and final means difference of Very Low Density Lipoprotein of different Groups. The first comparison between the Control Group and Experimental Group I was 10.63, the second comparison between the Control Group and Experimental Group II was 12.87, the third comparison between the Control Group and Experimental Group III was 16.15, the fourth comparison between the Experimental Group I and Experimental Group II was 2.24, the fifth comparison between the Experimental Group I and Experimental Group III was 5.52, the sixth comparison between the Experimental Group II and Experimental Group III was 3.28.

The obtained mean difference of the above comparison was 10.63, 12.87, 16.15, 2.24, 5.52 and 3.28 respectively. The table confidential interval was 6.34 at 0.05 levels. Hence, first, second and third comparisons were significant, but fourth, fifth and sixth comparison not significant.

Among all the comparisons, the best influenced group were Experimental Group III and Control Group were 16.15 and second highest influenced Group were Experimental Group II and Control Group with 12.87 and the third best influenced Group were Experimental Group I and Control Group were 10.63.

The ordered adjusted means of Very Low Density Lipoprotein are presented through bar diagram for better understanding of the results of this study in figure-13

FIGURE - 13
BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG
THE GROUPS ON VERY LOW DENSITY
LIPOPROTEIN



4.16.2 DISCUSSION ON THE FINDINGS OF VERY LOW DENSITY LIPOPROTEIN

In this Research, the Analysis of Covariance of Very Low Density Lipoprotein was carried out in three different Experimental Groups with the inclusion of Yoga, Circuit Training and Combined Training. The same analysis was carried out on another Group called the Control Group without the inclusion of training from these analyses, it is found that the results obtained from the Experimental Groups had significant decrease in the Very Low Density Lipoprotein level from the higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Very Low Density Lipoprotein. Further, the results obtained from Experimental Group II had significant influenced of Very Low Density Lipoprotein than the Experimental Group I and Control Group.

VLDL particles are released into the blood by the liver and circulate in the bloodstream, ultimately being converted into LDL as they lose triglyceride, having carried it to other parts of the body. As more and more triglycerides are removed from the VLDL because of the action of LPL and CETP enzymes, the composition of the molecule changes and it becomes intermediate density lipoprotein (IDL). There is growing evidence that VLDL plays an important role in atherogenesis, in which plaques form on the interior walls of arteries, narrowing these passageways and restricting blood flow and eventually leading to heart disease. So the twelve weeks of training period had significantly reduced the excess Very Low Density Lipoprotein in body.

These results are found to be in a good agreement with the earlier works done by different researchers. **Batajoo and Hazara.(2013)**Analysis of serum lipid profile in cholelithiasis patients. They concluded that VLDL cholesterol has significantly reduced. **Pinheiro, et. al, (2009)** stated that Exercise prevents cardiometabolic alterations induced by chronic use of glucocorticoids. The exercise training reduced hyperglycemia, improved glucose tolerance, decreased dyslipidemia and prevented liver steatosis, muscular hypotrophy and reduced VLDL ratios. However, He concluded that VLDL has reduced by training.

Since the results obtained from the Analysis of Covariance in very good agreement with the earlier results, it is worthwhile to mention that Combined Training is one of the better training methods to sustain the Very Low Density Lipoprotein level. This, in turn, helps to be healthy, life style changing to the Mild Intellectually Challenged Persons.

4.17 DISCUSSION ON HYPOTHESIS

1. It was hypothesized that there would be a significant differences on selected metabolic profile and lipid profile variables, due to the influence of Yoga, Circuit

Training and Combined Training on Mild Intellectually Challenged Persons than the Control Group.

The findings of the study showed that there were significant reduction on the Glucose, Calcium, Potassium, Albumin, Total Protein, Total Cholesterol, Triglycerides, Low Density Lipoprotein, Very Low Density Lipoprotein and there were significant improvement on the Sodium, Creatinine and High Density Lipoprotein due to the influence of yoga, circuit training and combined training than the control group. Hence, the first hypothesis was accepted on the above said variables at 0.05 level of confidence except Chloride level only.

2. Second hypothesis stated that the Combined Training Group would have grater significant effects on selected metabolic and Lipid Profile variables than the Yoga Training Group and Circuit Training Group.

The findings of the study showed that combined training had significant reduction on the selected metabolic profile such as Albumin, Total Protein and lipid profile such as Triglycerides and there were significant improvement on lipid profile such as High Density Lipoprotein and metabolic profile such as Creatinine, Sodium than the yoga training group and circuit training group of mild intellectually challenged persons. Hence, the second hypothesis was accepted on the above said variables at 0.05 level of confidence. However, there was no significant improvement in metabolic profile such as Glucose, Calcium, Potassium, Chloride, and Lipid profile such as Total Cholesterol, Low

Density Lipoprotein and Very Low Density Lipoprotein. Hence the second hypothesis was partially rejected in this regard.

3. Third hypothesis stated that Circuit Training Group would have significant effects on selected Metabolic and Lipid Profile Variables than the Yoga Training Group.

The findings of the study showed that Circuit Training Group did not improve on the selected metabolic profile such as Glucose, Sodium, Creatinine, Calcium, Potassium, Albumin, Total Protein, Chloride and Lipid profile such as Total Cholesterol, Triglycerides, Low Density Lipoprotein, Very Low Density Lipoprotein, High Density lipoprotein due to the influence of circuit training than the yoga training group of mild intellectually challenged persons. Hence, the third hypothesis was not accepted on the above said variables at 0.05 level of confidence.