

CHAPTER IV

RESULTS AND DISCUSSIONS

4.1 OVERVIEW

This chapter deals with the analysis of data collected from the samples under study. The purpose of this research is to find out the combined and isolated effect of yogic practices and yogic diet on selected physiological and psychological variables among obese engineering college women students. To achieve the purpose of this study, eighty obese engineering college women students were selected. Obesity of the subjects were determined through a person's BMI by the formula, Metric: $BMI = \text{Weight (kilograms)} / \text{height (meters)}^2$. For the purpose of this study, women with 30kg/m^2 and above of Body Mass Index is considered as obese women. The selected subjects were in the age group of 20 to 25 years. The requirement of the experiment procedures, testing as well as exercise schedule were explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. The investigator got individual consent from each subject.

The study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=80) were randomly assigned to four equal groups of twenty in each. The groups were assigned as Experimental Groups I, II, III and control group respectively. Pre tests were conducted for all

the subjects on selected physiological and psychological variables such as VO₂ max, Breath Holding Time, Resting Pulse Rate, Vital Capacity, Mean Arterial Blood Pressure, Self Confidence, Stress Management, Inter Personal Relationship, Achievement Motivation and Self Concept. The experimental groups participated in combined and isolated treatments such as, yogic practices, yogic diet and combination of yogic practices and yogic diet; for a period of twelve weeks. The post tests were conducted on the above said dependent variables after a period of twelve weeks in the respective treatments. The training programme was scheduled on week days excluding Sundays. The difference between the means on each variable was considered as the effect of respective treatments.

4.2 TEST OF SIGNIFICANCE

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

The test was usually called the test of significance since we test whether the differences among the four groups or within many groups scores were significant or not. In this study, if the obtained F-value were greater than the table value, the hypotheses were accepted to the effect that there existed significant difference among the means of the groups compared and if the obtained values were lesser than the required values, then the null hypotheses

were accepted to the effect that there existed no significant differences among the means of the groups under study.

4.2.1 LEVEL OF SIGNIFICANCE

The subjects were compared on the effects combined and isolated yogic practices and yogic diet on selected physiological and psychological variables, such as, VO₂ max, Breath Holding Time, Resting Pulse Rate, Vital Capacity, Mean Arterial Blood Pressure, Self Confidence, Stress Management, Inter Personal Relationship, Achievement Motivation and Self Concept. of obese engineering college women students. Pre and post test scores were obtained. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on selected criterion variables separately, due to experimental treatments. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as appropriate.

4.3.1.1 RESULTS ON VO₂ MAX

The statistical analysis comparing the initial and final means of VO₂ Max due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table VII

Table VII

COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON VO₂ Max

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtai- ned F
Pre Test Mean	45.34	45.12	45.64	46.19	B	12.90	3	4.30	0.62
Std Dev	1.61	1.94	2.44	3.95	W	530.10	76	6.98	
Post Test Mean	47.98	47.89	49.24	46.19	B	60.52	3	20.17	2.55
Std Dev	1.82	2.35	2.44	3.95	W	602.24	76	7.92	
Adjusted Post Test Mean	48.19	48.31	49.18	46.22	B	92.68	3	30.89	15.45*
					W	150.00	75	2.00	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table VII, the pre test mean on VO₂ Max of yogic practices group was 45.34 with standard deviation ± 1.61 pre test mean of yogic diet group was 45.12 with standard deviation ± 1.94 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 45.64 with standard deviation ± 2.44 , the pre test mean of control group was 46.19 with standard deviation ± 3.95 . The obtained F ratio of 0.62 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table VII, the post test mean on VO₂ Max of yogic practices group was 47.98 with standard deviation \pm 1.82 post test mean of yogic diet group was 47.89 with standard deviation \pm 2.35, the post test mean of combined group consisting of yogic practices and yogic diet group was 49.24 with standard deviation \pm 2.35, the post test mean of control group was 46.79 with standard deviation \pm 3.54. The obtained F ratio of 2.55 on post test means of the groups was not significant at 0.05 level as the obtained F value was lesser than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups among post test means.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on VO₂ Max on yogic practices group was 48.19, yogic diet group was 48.31, combined training group was 49.18 and control group was 46.22. The obtained F value on adjusted means was 15.45. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the VO₂ Max of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table VIII

Table VIII
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on VO₂ Max

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
48.19	48.31			0.12	1.28
48.19		49.18		0.99	1.28
48.19			46.22	1.97*	1.28
	48.31	49.18		0.87	1.28
	48.31		46.22	2.09*	1.28
		49.18	46.22	2.96*	1.28

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 1.28. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: 1.97)

Yogic diet Group Vs Control Group (MD: 2.09)

Combined Group Vs Control Group (MD: 2.96)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: 0.12)

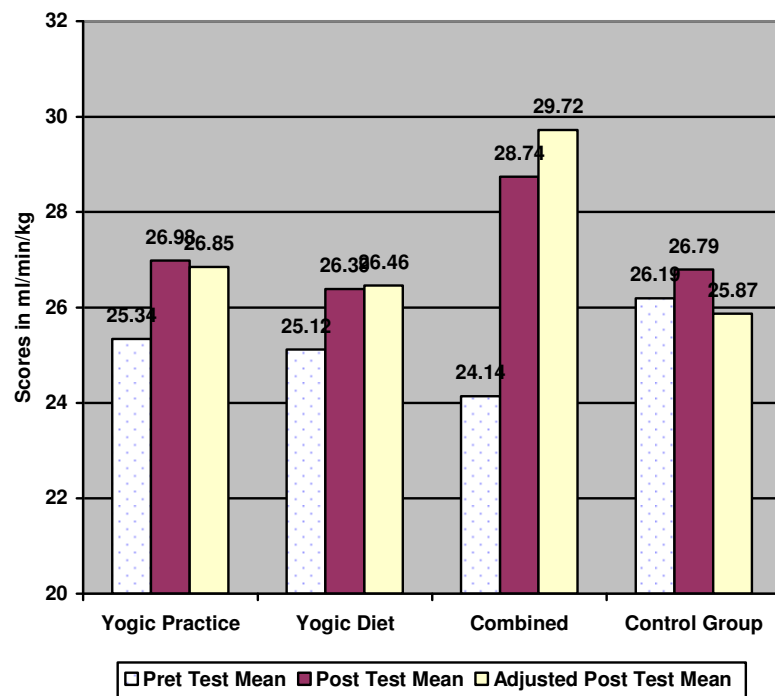
Yogic Practices Group Vs Combined Training Group (MD: 0.99)

Yogic diet Group Vs Combined Training Group (MD: 0.87)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 11.

Figure 11

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON VO₂ MAX



4.3.1.2 DISCUSSIONS ON VO₂ MAX

Rioux J et al. (2014) developed and tested the feasibility of a whole-systems lifestyle intervention for obesity treatment based on the practices of Ayurvedic medicine/ Yoga therapy. They recommended a comprehensive diet, activity, and lifestyle modification program based on principles of Ayurvedic medicine/yoga therapy with significant self-monitoring of lifestyle behaviors. Neumark-Sztainer D. (2012) documented that Weight-related problems, including unhealthy weight control behaviors, binge eating, overweight and obesity, and eating disorders, are prevalent in youth. Although dieting and body dissatisfaction strongly predict weight gain over time, these findings are not always taken into account in the design of obesity interventions for youth. Possible reasons as to why risk factors such as dieting, body dissatisfaction, and weight stigmatization may be not adequately addressed within interventions addressing obesity required further researches in this area. To address this problem, the investigator in this section made an attempt to find out the effect of combined and isolated effect of yogic practices and yogic diet on physiological variable, VO₂ max.

The results presented in Table VII proved that there was significant improvement on physiological variable VO₂ Max due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 15.45 was greater than the required table F value of 2.72. The post hoc analysis in table VIII proved that all the three experimental protocols significantly

altered VO₂ Max significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on VO₂ Max was accepted at 0.05 level. The post hoc analysis proved that there was significant difference between combined group and control group; yogic practices group and control group; and yogic diet group and control group in altering VO₂ max of the obese engineering college women students. It was also found that there was no significant differences between the treatment groups and the formulated hypothesis that there would be significant difference among experimental groups in improving the physiological variable VO₂ Max among obese engineering college women students was rejected at 0.05 level.

Mandanmohan, et al. (2003) found effect of yoga training on handgrip, respiratory pressures and pulmonary function, i.e. maximum expiratory pressure (MEP), maximum inspiratory pressure (MIP), forced expiratory volume (FEV), forced expiratory volume in first second (FEV1) and peak expiratory flow rate (PEFR) and found improves lung function, strength of inspiratory and expiratory muscles as well as skeletal muscle strength and endurance. Ross A, et.al. (2012) found yoga and fruit and vegetable consumption better health. The experimental treatments in the form of combined training consisting of yogic practices and yogic diet improved inspiratory, expiratory muscles as well as skeletal muscle strength and endurance, which improved VO₂ max of the obese

engineering women students and the findings of this study are in agreement with the findings of Madanmohan (2003) and Ross et al. (2012).

4.3.2.1 RESULTS ON BREATH HOLDING TIME

The statistical analysis comparing the initial and final means of Breath Holding Time due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table IX.

Table IX

**COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO
YOGIC PRACTICE, YOGIC DIET AND COMBINED
TRAINING ON BREATH HOLDING TIME**

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	49.30	49.50	47.50	49.00	B	49.35	3	16.45	0.53
Std Dev	7.26	5.49	4.62	4.38	W	2342.20	76	30.82	
Post Test Mean	50.40	51.60	51.50	49.00	B	59.40	3	19.80	0.67
Std Dev	7.49	5.17	4.62	4.38	W	2243.60	76	29.52	
Adjusted Post Test Mean	49.94	50.95	52.78	49.13	B	135.07	3	45.02	67.32*
					W	50.16	75	0.67	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table IX, the pre test mean on Breath Holding Time of yogic practices group was 49.30 with standard deviation ± 7.26 pre test mean of yogic diet group was 49.50 with standard deviation ± 5.49 , the pre test mean

of combined group consisting of yogic practice and yogic diet group was 47.50 with standard deviation \pm 4.62, the pre test mean of control group was 49.00 with standard deviation \pm 4.38. The obtained F ratio of 0.53 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table IX, the post test mean on Breath Holding Time of yogic practices group was 50.40 with standard deviation \pm 7.49 post test mean of yogic diet group was 51.60 with standard deviation \pm 5.17, the post test mean of combined group consisting of yogic practices and yogic diet group was 51.50 with standard deviation \pm 5.17, the post test mean of control group was 49.50 with standard deviation \pm 3.73. The obtained F ratio of 0.67 on post test means of the groups was significant at 0.05 level as the obtained F value was lesser than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups among post test means.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Breath Holding Time on yogic practices group was 49.94, yogic diet group was 50.95, combined training group was 52.78 and control group was 49.13. The obtained F value on adjusted means was 67.32. The obtained F value was greater than the required value of 2.72 and hence it

was accepted that there was significant differences among the adjusted means on the Breath Holding Time of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table X

Table X
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Breath Holding Time

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
49.94	50.95			1.01*	0.74
49.94		52.78		2.84*	0.74
49.94			49.13	0.81*	0.74
	50.95	52.78		1.84*	0.74
	50.95		49.13	1.82*	0.74
		52.78	49.13	3.65*	0.74

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 0.74. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: 1.01)

Yogic Practices Group Vs Combined Training Group (MD: 2.84)

Yogic Practices Group Vs Control Group (MD: 0.81)

Yogic diet Group Vs Combined Training Group (MD: 1.84)

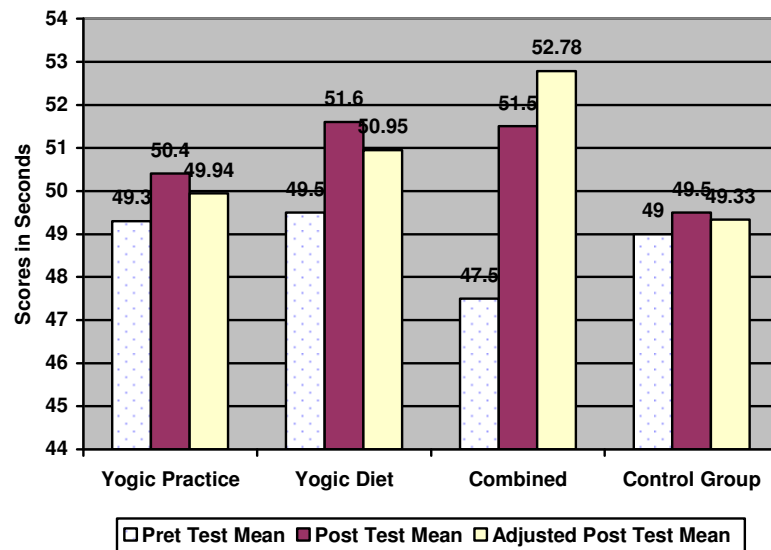
Yogic diet Group Vs Control Group (MD: 1.82)

Combined Group Vs Control Group (MD: 3.65)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 12.

Figure 12

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON BREATH HOLDING TIME



4.3.2.2 DISCUSSIONS ON BREATH HOLDING TIME

Rioux J et al. (2014) developed and tested the feasibility of a whole-systems lifestyle intervention for obesity treatment based on the practices of

Ayurvedic medicine/ Yoga therapy. They recommended a comprehensive diet, activity, and lifestyle modification program based on principles of Ayurvedic medicine/yoga therapy with significant self-monitoring of lifestyle behaviors. Neumark-Sztainer D. (2012) documented that Weight-related problems, including unhealthy weight control behaviors, binge eating, overweight and obesity, and eating disorders, are prevalent in youth. Although dieting and body dissatisfaction strongly predict weight gain over time, these findings are not always taken into account in the design of obesity interventions for youth. Possible reasons as to why risk factors such as dieting, body dissatisfaction, and weight stigmatization may be not adequately addressed within interventions addressing obesity required further researches in this area and to address this problem, the investigator in this study made an attempt to find out the effect of combined and isolated effect of yogic practices and yogic diet on breath holding time.

The results presented in Table IX proved that there was significant improvement on physiological variable Breath Holding Time due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 67.32 was greater than the required table F value of 2.72. The post hoc analysis in table X proved that all the three experimental protocols significantly altered Breath Holding Time significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Breath Holding Time was

accepted at 0.05 level. The post hoc analysis proved that combined group was significantly better than isolated groups, yogic practices group and yogic diet group and the formulated hypothesis that there would be significant difference among experimental groups in improving the physiological variable Breath Holding Time among obese engineering college women students was accepted at 0.05 level.

Yoga shows promise as a therapeutic intervention. Frequency of home practice favorably predicted ($P < .001$): mindfulness, subjective well-being, BMI, fruit and vegetable consumption, vegetarian status, sleep, and fatigue. Each component of yoga practice (different categories of physical poses, breath work, meditation, philosophy study) predicted at least 1 health outcome ($P < .05$) (Ross A, 2012). Thus, different physical poses and yoga techniques may have unique health benefits, which resulted in improved breath holding time. The findings of this study that combined and isolated yogic practices and yogic diet significantly contributed for improved breath holding time was in agreement with the findings of Ross A et al. (2012).

4.3.3.1 RESULTS ON RESTING PULSE RATE

The statistical analysis comparing the initial and final means of Resting Pulse Rate due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XI

Table XI

COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON RESTING PULSE RATE

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtai- ned F
Pre Test Mean	72.15	73.05	72.70	73.20	B	13.05	3	4.35	1.04
Std Dev	2.13	1.61	2.36	1.99	W	316.90	76	4.17	
Post Test Mean	70.85	69.95	69.55	73.20	B	142.44	3	47.48	10.36*
Std Dev	1.35	2.67	2.36	1.99	W	348.45	76	4.58	
Adjusted Post Test Mean	70.95	69.91	69.56	72.93	B	137.35	3	45.78	10.09*
					W	340.31	75	4.54	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XI, the pre test mean on Resting Pulse Rate of yogic practices group was 72.15 with standard deviation ± 2.13 pre test mean of yogic diet group was 73.05 with standard deviation ± 1.61 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 72.70 with standard deviation ± 2.36 , the pre test mean of control group was 73.20 with standard deviation ± 1.99 . The obtained F ratio of 1.04 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XI, the post test mean on Resting Pulse Rate of yogic practices group was 70.85 with standard deviation ± 1.35 post

test mean of yogic diet group was 69.95 with standard deviation ± 2.67 , the post test mean of combined group consisting of yogic practices and yogic diet group was 69.55 with standard deviation ± 2.67 , the post test mean of control group was 73.00 with standard deviation ± 2.27 . The obtained F ratio of 10.36 on post test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in means of the groups among post test means.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Resting Pulse Rate on yogic practices group was 70.95, yogic diet group was 69.91, combined training group was 69.56 and control group was 72.93. The obtained F value on adjusted means was 10.09. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Resting Pulse Rate of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XII

Table XII
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Resting Pulse Rate

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
70.95	69.91			1.04	1.92
70.95		69.56		1.39	1.92
70.95			72.93	1.98*	1.92
	69.91	69.56		0.34	1.92
	69.91		72.93	3.03*	1.92
		69.56	72.93	3.37*	1.92

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 1.92. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: -1.98)

Yogic diet Group Vs Control Group (MD: -3.03)

Combined Group Vs Control Group (MD: -3.37)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: 1.04)

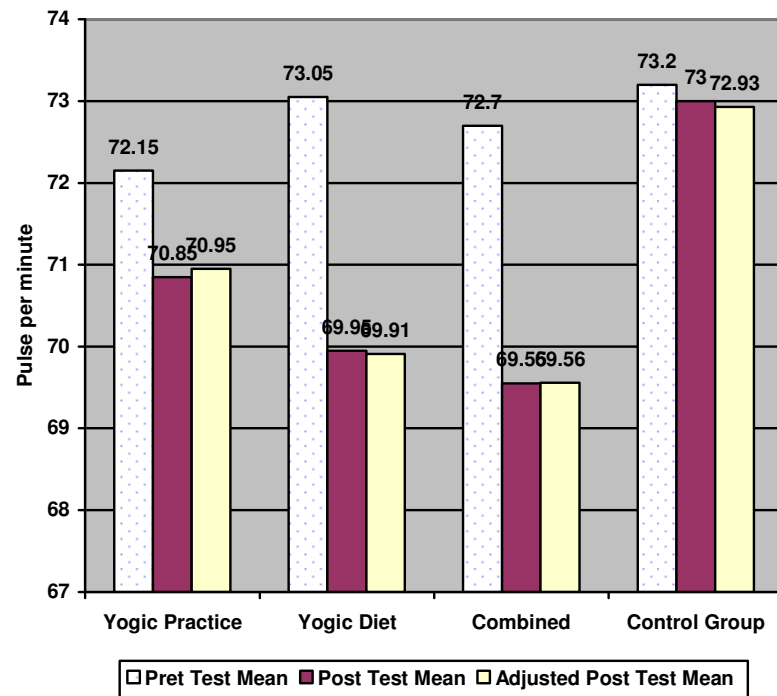
Yogic Practices Group Vs Combined Training Group (MD: 1.39)

Yogic diet Group Vs Combined Training Group (MD: 0.34)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 13.

Figure 13

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON RESTING PULSE RATE



4.3.3.2 DISCUSSIONS ON RESTING PULSE RATE

Rioux J et al. (2014) developed and tested the feasibility of a whole-systems lifestyle intervention for obesity treatment based on the practices of Ayurvedic medicine/ Yoga therapy. They recommended a comprehensive diet,

activity, and lifestyle modification program based on principles of Ayurvedic medicine/yoga therapy with significant self-monitoring of lifestyle behaviors. Neumark-Sztainer D. (2012) documented that Weight-related problems, including unhealthy weight control behaviors, binge eating, overweight and obesity, and eating disorders, are prevalent in youth. Although dieting and body dissatisfaction strongly predict weight gain over time, these findings are not always taken into account in the design of obesity interventions for youth. Possible reasons as to why risk factors such as dieting, body dissatisfaction, and weight stigmatization may be not adequately addressed within interventions addressing obesity required further researches in this area and to address this problem, the investigator in this study made an attempt to find out the effect of combined and isolated effect of yogic practices and yogic diet on resting pulse rate.

The results presented in Table XI proved that there was significant improvement on physiological variable Resting Pulse Rate due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 10.09 was greater than the required table F value of 2.72. The post hoc analysis in table XII proved that all the three experimental protocols significantly altered Resting Pulse Rate significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Resting Pulse Rate was accepted at 0.05 level. The post hoc analysis proved that there was no significant difference

between combined group and control group; yogic practices group and control group and yogic diet group and control group and the formulated hypothesis that there would be significant difference among experimental groups in altering the physiological variable Resting Pulse Rate among obese engineering college women students was rejected at 0.05 level.

Lohan and Rajesh (2002) measured the effect of yoga asanas and pranayama on blood pressure, heart rate, vital capacity and pulse rate and found significant improvement. Bharshankar, et.al. (2003) examined the effect of yoga on cardiovascular function including pulse rate, systolic and diastolic blood pressure and found to be significantly higher in yoga practitioners than in controls. Telles S et al. (2010) found a 6-day yoga and diet change program decreased the BMI and the fat-free mass. Total cholesterol also decreased due to reduced HDL levels. This suggests that a brief, intensive yoga program with a change in diet can benefit better postural stability, grip strength (though a 'practice effect' was not ruled out), reduced waist and hip circumferences and a decrease in serum leptin levels. These findings proved that yogic practices and modification in diet, especially in the form of yogic diet can better physiological variable resting pulse rate. Thus, the findings of the study that combined and isolated yogic practices and yogic diet

4.3.4.1 RESULTS ON VITAL CAPACITY

The statistical analysis comparing the initial and final means of Vital Capacity due to yogic practice, yogic diet, combined yogic practice and yogic

diet and control groups of obese engineering college women students is presented in Table XIII.

Table XIII
COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO
YOGIC PRACTICE, YOGIC DIET AND COMBINED
TRAINING ON VITAL CAPACITY

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	3442.50	3570.00	3657.50	3557.50	B	467593.75	3	155864.58	0.71
Std Dev	460.06	572.71	367.88	455.46	W	16766125.00	76	220606.91	
Post Test Mean	3660.00	3733.75	3917.50	3557.50	B	1009773.44	3	336591.15	1.57
Std Dev	475.55	570.28	367.88	455.46	W	16274593.75	76	214139.39	
Adjusted Post Test Mean	3767.22	3721.45	3823.17	3626.91	B	412989.31	3	137663.10	6.70*
					W	1540133.27	75	20535.11	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XIII, the pre test mean on Vital Capacity of yogic practices group was 3442.50 with standard deviation ± 460.06 pre test mean of yogic diet group was 3570.00 with standard deviation ± 572.71 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 3657.50 with standard deviation ± 367.88 , the pre test mean of control group was 3557.50 with standard deviation ± 455.46 . The obtained F ratio of 0.71 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05

level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XIII, the post test mean on Vital Capacity of yogic practices group was 3660.00 with standard deviation \pm 475.55 post test mean of yogic diet group was 3733.75 with standard deviation \pm 570.28, the post test mean of combined group consisting of yogic practices and yogic diet group was 3917.50 with standard deviation \pm 570.28, the post test mean of control group was 3627.50 with standard deviation \pm 381.99. The obtained F ratio of 1.57 on post test means of the groups was not significant at 0.05 level as the obtained F value was lesser than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups on post test means.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Vital Capacity on yogic practices group was 3767.22, yogic diet group was 3721.45, combined training group was 3823.17 and control group was 3626.91. The obtained F value on adjusted means was 6.70. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Vital Capacity of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XIV.

Table XIV
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Vital Capacity

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
3767.22	3721.45			45.78	129.45
3767.22		3823.17		55.95	129.45
3767.22			3626.91	140.31*	129.45
	3721.45	3823.17		101.72	129.45
	3721.45		3626.91	94.53	129.45
		3823.17	3626.91	196.25*	129.45

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 129.45. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: 140.31)

Combined Group Vs Control Group (MD: 196.25)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: 45.78)

Yogic Practices Group Vs Combined Training Group (MD: -55.95)

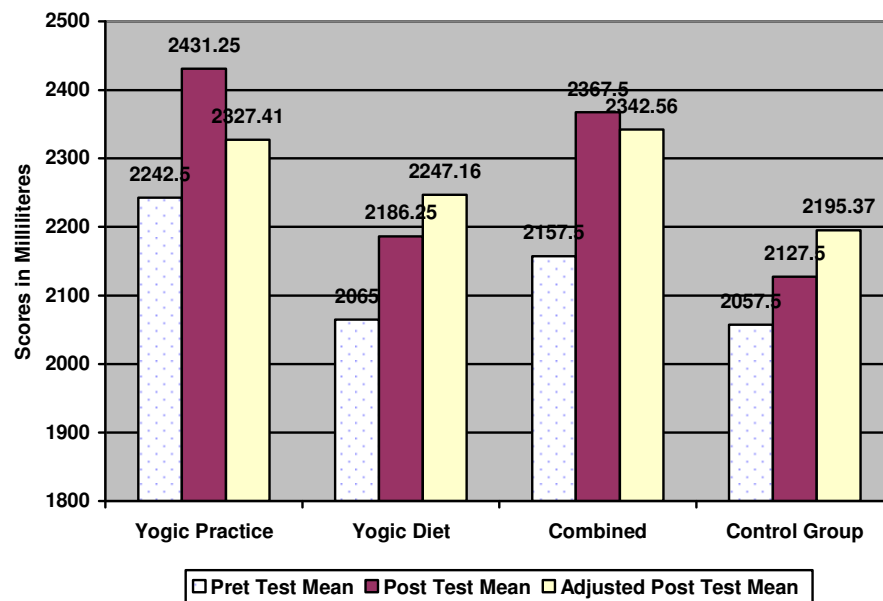
Yogic diet Group Vs Combined Training Group (MD: -101.72)

Yogic diet Group Vs Control Group (MD: 94.53)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 14.

Figure 14

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON VITAL CAPACITY



4.3.4.2 DISCUSSIONS ON VITAL CAPACITY

Rioux J et al. (2014) developed and tested the feasibility of a whole-systems lifestyle intervention for obesity treatment based on the practices of Ayurvedic medicine/ Yoga therapy. They recommended a comprehensive diet, activity, and lifestyle modification program based on principles of Ayurvedic medicine/yoga therapy with significant self-monitoring of lifestyle behaviors. Neumark-Sztainer D. (2012) documented that Weight-related problems, including unhealthy weight control behaviors, binge eating, overweight and obesity, and eating disorders, are prevalent in youth. Although dieting and body dissatisfaction strongly predict weight gain over time, these findings are not always taken into account in the design of obesity interventions for youth. Possible reasons as to why risk factors such as dieting, body dissatisfaction, and weight stigmatization may be not adequately addressed within interventions addressing obesity required further researches in this area and to address this problem, the investigator in this study made an attempt to find out the effect of combined and isolated effect of yogic practices and yogic diet on vital capacity.

The results presented in Table XIII proved that there was significant improvement on physiological variable Vital Capacity due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 6.70 was greater than the required table F value of 2.72. The post hoc analysis in table XIV proved that combined group and isolated yogic practices groups significantly altered Vital Capacity significantly compared to control

group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Vital Capacity was accepted at 0.05 level. The post hoc analysis proved that there was significant difference between combined group and control group; yogic practices group and control group and the formulated hypothesis that there would be significant difference among experimental groups in improving the physiological variable Vital Capacity among obese engineering college women students was accepted at 0.05 level for combined group and yogic practices group. And it was found that there was no significant difference between yogic diet and control group and to this extent, the hypothesis was rejected. The results further proved that there was no significant difference between treatment groups and the formulated hypothesis that there would be significant differences between experimental groups was rejected at 0.05 level.

Mandanmohan, et al. (2003) found effect of yoga training on handgrip, respiratory pressures and pulmonary function, i.e. maximum expiratory pressure (MEP), maximum inspiratory pressure (MIP), forced expiratory volume (FEV), forced expiratory volume in first second (FEV1) and peak expiratory flow rate (PEFR) and found improves lung function, strength of inspiratory and expiratory muscles as well as skeletal muscle strength and endurance. Ross A, et.al. (2012) found yoga and fruit and vegetable consumption better health. Lohan and Rajesh (2002) measured the effect of yoga asanas and pranayama on blood pressure, heart rate, vital capacity and pulse rate and found significant

improvement. The experimental treatments in the form of combined training consisting of yogic practices and yogic diet improved inspiratory, expiratory muscles as well as skeletal muscle strength and endurance, which improved improved vital capacity of the obese engineering women students and the findings of this study are in agreement with the findings of Madanmohan (2003), Ross et al. (2012) and Lohan and Rajesh (2002).

4.3.5.1 RESULTS ON MEAN ARTERIAL BLOOD PRESSURE

The statistical analysis comparing the initial and final means of Mean Arterial Blood Pressure due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XV.

Table XV
COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON MEAN ARTERIAL BLOOD PRESSURE

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	100.76	99.61	101.40	97.05	B	220.54	3	73.51	6.71*
Std Dev	2.83	1.62	2.63	5.13	W	832.49	76	10.95	
Post Test Mean	99.05	98.36	96.11	97.05	B	101	3	33.54	4.08*
Std Dev	2.23	1.35	2.63	5.13	W	625.24	76	8.23	
Adjusted Post Test Mean	98.78	98.38	95.67	99.14	B	134.95	3	44.98	5.91*
					W	570.58	75	7.61	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XV, the pre test mean on Mean Arterial Blood Pressure of yogic practices group was 100.76 with standard deviation ± 2.83 pre test mean of yogic diet group was 99.61 with standard deviation ± 1.62 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 101.40 with standard deviation ± 2.63 , the pre test mean of control group was 97.05 with standard deviation ± 5.13 . The obtained F ratio of 6.71 on pre test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in means of the groups at initial stage.

The results presented in Table XV, the post test mean on Mean Arterial Blood Pressure of yogic practices group was 99.05 with standard deviation ± 2.23 post test mean of yogic diet group was 98.36 with standard deviation ± 1.35 , the post test mean of combined group consisting of yogic practices and yogic diet group was 96.11 with standard deviation ± 1.35 , the post test mean of control group was 98.46 with standard deviation ± 4.57 . The obtained F ratio of 4.08 on post test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in means of the groups after post tests.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done.

The adjusted mean on Mean Arterial Blood Pressure on yogic practices group was 98.78, yogic diet group was 98.38, combined training group was 95.67 and control group was 99.14. The obtained F value on adjusted means was 5.91. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Mean Arterial Blood Pressure of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XVI.

Table XVI
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Mean Arterial Blood Pressure

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
98.78	98.38			0.40	2.49
98.78		95.67		3.11*	2.49
98.78			99.14	0.36	2.49
	98.38	95.67		2.71*	2.49
	98.38		99.14	0.76	2.49
		95.67	99.14	3.47*	2.49

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was

2.49. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Combined Training Group (MD: 3.11)

Yogic diet Group Vs Combined Training Group (MD: 2.71)

Combined Group Vs Control Group (MD: -3.47)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: 0.40)

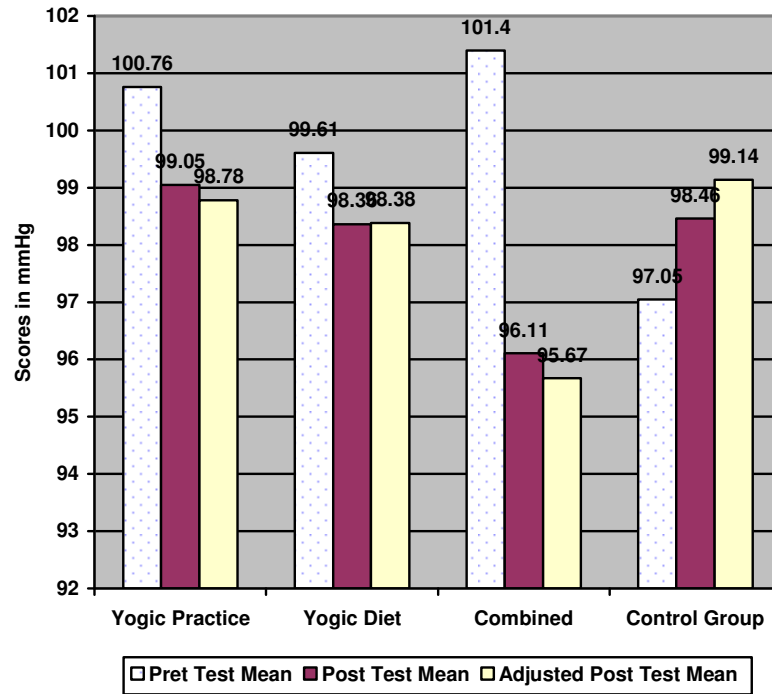
Yogic Practices Group Vs Control Group (MD: -0.36)

Yogic diet Group Vs Control Group (MD: -0.76)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 15.

Figure 15

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON MEAN ARTERIAL BLOOD PRESSURE



4.3.5.2 DISCUSSIONS ON MEAN ARTERIAL BLOOD PRESSURE

Rioux J et al. (2014) developed and tested the feasibility of a whole-systems lifestyle intervention for obesity treatment based on the practices of Ayurvedic medicine/ Yoga therapy. They recommended a comprehensive diet, activity, and lifestyle modification program based on principles of Ayurvedic medicine/yoga therapy with significant self-monitoring of lifestyle behaviors. Neumark-Sztainer D. (2012) documented that Weight-related problems, including unhealthy weight control behaviors, binge eating, overweight

and obesity, and eating disorders, are prevalent in youth. Although dieting and body dissatisfaction strongly predict weight gain over time, these findings are not always taken into account in the design of obesity interventions for youth. Possible reasons as to why risk factors such as dieting, body dissatisfaction, and weight stigmatization may be not adequately addressed within interventions addressing obesity required further researches in this area and to address this problem, the investigator in this study made an attempt to find out the effect of combined and isolated effect of yogic practices and yogic diet on mean arterial blood pressure.

The results presented in Table XV proved that there was significant improvement on physiological variable Mean Arterial Blood Pressure due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 5.91 was greater than the required table F value of 2.72. The post hoc analysis in table XVI proved that Mean Arterial Blood Pressure was significantly altered due to experimental treatments, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Mean Arterial Blood Pressure was accepted at 0.05 level. The post hoc analysis proved that combined groups was significantly better than yogic practices group; and yogic diet group and the formulated hypothesis that there would be significant difference among experimental groups in improving the physiological Mean Arterial Blood Pressure among obese engineering college women students was accepted at 0.05 level.

Ray US, et.al. (2012) found physiological parameters like heart rate, blood pressure, oral temperature, skin temperature in resting condition improved by yogic practices. Lohan and Rajesh (2002) measured the effect of yoga asanas and pranayama on blood pressure, heart rate, vital capacity and pulse rate and found significant improvement. Madanmohan et.al (2005) effect of short term (three weeks) training in savitri (slow breathing) and bhastrika (fast breathing) pranayams on respiratory pressures and endurance, reaction time, blood pressure, heart rate, rate-pressure product and double product. Heart rate, rate-pressure product and double product decreased in savitri pranayam group but increased significantly in bhastrika group. Bharshankar, et.al. (2003) examined the effect of yoga on cardiovascular function such as Pulse rate, systolic and diastolic blood pressure. found to be significantly higher in yoga practitioners than in controls. These findings made it clear that yogic practices with diet modifications can alter blood pressure. The findings of this study proved that proved that effect of combined and isolated yogic practices and yogic diet significantly altered mean arterial blood pressure compared to controls. And these findings were in agreement with the findings of Ray US et al (2012), Madanmohan (2005) and Bharshankar, et.al. (2003).

4.3.6 RESULTS ON SELF CONFIDENCE

The statistical analysis comparing the initial and final means of Self Confidence due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XVII

Table XVII

COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON SELF CONFIDENCE

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtai-ned F
Pre Test Mean	16.50	17.85	18.05	17.75	B	29.64	3	9.88	1.57
Std Dev	2.01	2.28	2.19	3.34	W	478.25	76	6.29	
Post Test Mean	19.25	20.45	21.95	17.75	B	186.64	3	62.21	9.44*
Std Dev	2.53	2.80	2.19	3.34	W	500.85	76	6.59	
Adjusted Post Test Mean	20.04	20.21	21.56	17.64	B	159.54	3	53.18	17.93*
					W	222.43	75	2.97	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XVII, the pre test mean on Self Confidence of yogic practices group was 16.50 with standard deviation ± 2.01 pre test mean of yogic diet group was 17.85 with standard deviation ± 2.28 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 18.05 with standard deviation ± 2.19 , the pre test mean of control group was 17.75 with standard deviation ± 3.34 . The obtained F ratio of 1.57 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XVII, the post test mean on Self Confidence of yogic practices group was 19.25 with standard deviation ± 2.53

post test mean of yogic diet group was 20.45 with standard deviation \pm 2.80, the post test mean of combined group consisting of yogic practices and yogic diet group was 21.95 with standard deviation \pm 2.80, the post test mean of control group was 17.80 with standard deviation \pm 2.98. The obtained F ratio of 9.44 on post test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in means of the groups after post tests..

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Self Confidence on yogic practices group was 20.04, yogic diet group was 20.21, combined training group was 21.56 and control group was 17.64. The obtained F value on adjusted means was 17.93. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Self Confidence of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XVIII

Table XVIII
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Self Confidence

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
20.04	20.21			0.17	1.56
20.04		21.56		1.52	1.56
20.04			17.64	2.40*	1.56
	20.21	21.56		1.35	1.56
	20.21		17.64	2.57*	1.56
		21.56	17.64	3.92*	1.56

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 1.56. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: 2.40)

Yogic diet Group Vs Control Group (MD: 2.57)

Combined Group Vs Control Group (MD: 3.92)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: -0.17)

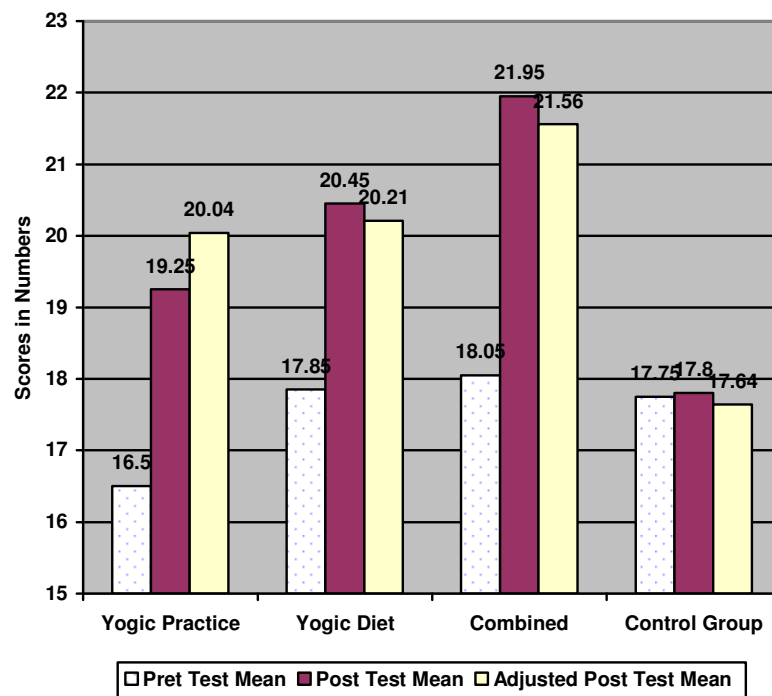
Yogic Practices Group Vs Combined Training Group (MD: -1.52)

Yogic diet Group Vs Combined Training Group (MD: -1.35)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 16.

Figure 16

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON SELF CONFIDENCE



4.3.6.2 DISCUSSIONS ON SELF CONFIDENCE

The increasing prevalence of overweight and obesity in humans is a growing public health. Concomitants include poor health behaviors and reduced

psychological well-being. Preliminary evidence suggests yoga and treatment paradigms incorporating mindfulness, self-compassion (SC), acceptance, non-dieting, and intuitive eating may improve these ancillary correlates, which may promote long-term weight loss. (Braun, TD et al. (2012). Yoga practice has been effectively prescribed in conjunction with other medical and yogic procedures in the management of severe psychosomatic diseases, including cancer, bronchial asthma, colitis, peptic and ulcer. The effects of Yogic Practice were evaluated on anxiety/depression associated with obesity and found supports yoga as an effective tool with no diet restriction to improve anxiety and depression symptoms as well as obesity in obese subjects. Dhanajai S. et al. (2013). Since there were lack of studies to find out the effect of combined and isolated yogic practices and yogic diet on selected psychological variables among obese women, this section of the study dealt with the influence of selected experimental protocols on psychological variable, self confidence.

The results presented in Table XVII proved that there was significant improvement on psychological variable Self Confidence due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 17.93 was greater than the required table F value of 2.72. The post hoc analysis in table XVIII proved that all the three experimental protocols significantly altered Self Confidence significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Self Confidence was accepted at

0.05 level. The post hoc analysis proved that there was no significant differences between treatment groups and the formulated hypothesis that there would be significant difference among experimental groups in improving the psychological variable Self Confidence among obese engineering college women students was rejected at 0.05 level.

Benavides S and Caballero J. (2009) examined that the Ashtanga yoga for children and adolescents for weight management and psychological well-being. self-concept, anxiety, and depression inventories were measured and found significant contribution. Sarris J et.al. (2012) complementary medicine, exercise, meditation, diet, and lifestyle modification for anxiety disorders. lifestyle modifications including adoption of moderate exercise and mindfulness meditation, whereas dietary improvement, avoidance of caffeine, alcohol, and nicotine offer encouraging preliminary data. Harinath et. al.(2004) Yogic practices for 3 months resulted in an improvement in cardiorespiratory performance and psychologic profiles. Thus the theoretical foundations based on previous researches proved that yogic practices, dietary improvements contributed for psychological profiles, which leads to improved self confidence. The findings of this study proved that combined and isolated yogic practices and yogic diet improved self confidence of obese engineering college women students and these findings were in agreement with the previous studies.

4.3.7.1 RESULTS ON STRESS MANAGEMENT

The statistical analysis comparing the initial and final means of Stress Management due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XIX.

Table XIX

**COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO
YOGIC PRACTICE, YOGIC DIET AND COMBINED
TRAINING ON STRESS MANAGEMENT**

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	31.90	34.70	33.55	33.50	B	79.44	3	26.48	0.88
Std Dev	4.42	5.43	5.53	6.33	W	2273.95	76	29.92	
Post Test Mean	34.50	36.80	36.75	33.50	B	143	3	47.58	1.74
Std Dev	5.18	5.20	5.53	6.33	W	2079.15	76	27.36	
Adjusted Post Test Mean	35.87	35.64	36.63	33.72	B	91.58	3	30.53	10.36*
					W	221.02	75	2.95	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XIX, the pre test mean on Stress Management of yogic practices group was 31.90 with standard deviation ± 4.42 pre test mean of yogic diet group was 34.70 with standard deviation ± 5.43 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 33.55 with standard deviation ± 5.53 , the pre test mean of control group was 33.50 with standard deviation ± 6.33 . The obtained F ratio of 0.88 on pre test means

of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XIX, the post test mean on Stress Management of yogic practices group was 34.50 with standard deviation ± 5.18 post test mean of yogic diet group was 36.80 with standard deviation ± 5.20 , the post test mean of combined group consisting of yogic practices and yogic diet group was 36.75 with standard deviation ± 5.20 , the post test mean of control group was 33.80 with standard deviation ± 5.75 . The obtained F ratio of 1.74 on post test means of the groups was not significant at 0.05 level as the obtained F value was lesser than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference among post test means of the groups.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Stress Management on yogic practices group was 35.87, yogic diet group was 35.64, combined training group was 36.63 and control group was 33.72. The obtained F value on adjusted means was 10.36. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Stress Management of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XX.

Table XX
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Stress Management

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
35.87	35.64			0.23	1.55
35.87		36.63		0.76	1.55
35.87			33.72	2.15*	1.55
	35.64	36.63		0.99	1.55
	35.64		33.72	1.92*	1.55
		36.63	33.72	2.90*	1.55

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 1.55. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: 2.15)

Yogic diet Group Vs Control Group (MD: 1.92)

Combined Group Vs Control Group (MD: 2.90)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: 0.23)

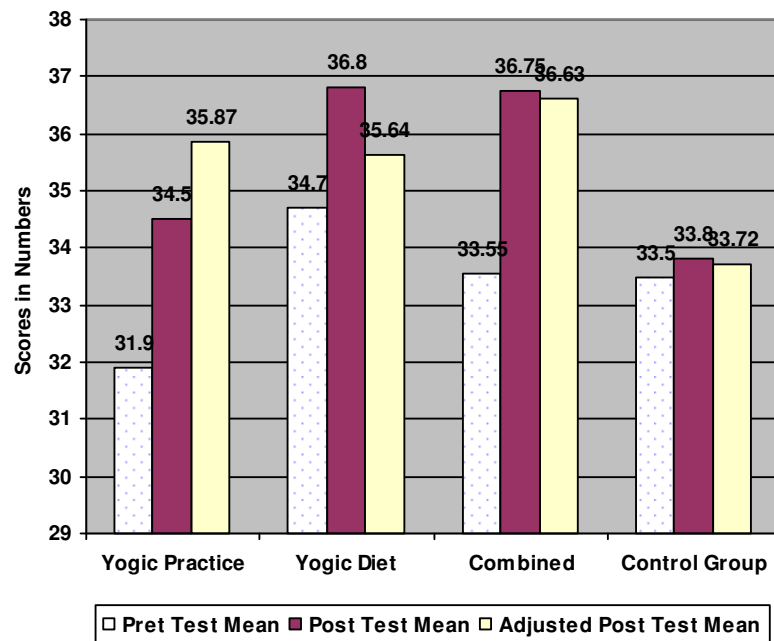
Yogic Practices Group Vs Combined Training Group (MD: -0.76)

Yogic diet Group Vs Combined Training Group (MD: -0.99)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 17.

Figure 17

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON STRESS MANAGEMENT



4.3.7.2 DISCUSSIONS ON STRESS MANAGEMENT

The increasing prevalence of overweight and obesity in humans is a growing public health. Concomitants include poor health behaviors and reduced psychological well-being. Preliminary evidence suggests yoga and treatment paradigms incorporating mindfulness, self-compassion (SC), acceptance, non-dieting, and intuitive eating may improve these ancillary correlates, which may promote long-term weight loss (Braun TD et al. (2012) Yoga practice has been effectively prescribed in conjunction with other medical and yogic procedures in the management of severe psychosomatic diseases, including cancer, bronchial asthma, colitis, peptic and ulcer. The effects of Yogic Practice were evaluated on anxiety/depression associated with obesity and found supports yoga as an effective tool with no diet restriction to improve anxiety and depression symptoms as well as obesity in obese subjects. Dhannjai et al. (2013). Since there were lack of studies to find out the effect of combined and isolated yogic practices and yogic diet on selected psychological variables among obese women, this section of the study dealt with the influence of selected experimental protocols on psychological variable, stress management.

The results presented in Table XIX proved that there was significant improvement on psychological variable Stress Management due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 10.36 was greater than the required table F value of 2.72. The post hoc analysis in table XX proved that all the three experimental protocols

significantly altered Stress Management significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Stress Management was accepted at 0.05 level. The post hoc analysis proved that there was no significant differences among treatment groups and the formulated hypothesis that there would be significant difference among experimental groups in improving the psychological variables Stress Management among obese engineering college women students was rejected at 0.05 level.

Vandana B., et.al. (2011) conducted a study on Meditation induces a positive response during stress events in young Indian adults. Relaxation techniques like meditation have been found to be beneficial in reducing stress. Yadav RK, et.al. (2012) studied the Efficacy of a short-term yoga-based lifestyle intervention in reducing stress and inflammation and this brief yoga-based lifestyle intervention reduced the markers of stress and inflammation among obese people. Li AW and Goldsmith CA.(2012) studied the beneficial effect of yoga on Stress and anxiety. Shankarapillai R., Nair MA and George R (2012) examined the effect of yoga in stress reduction for dental students. These theoretical foundations based on previous researches proved that yogic practices and dietary habits can significantly reduce stress. The findings of this study that combined and isolated yogic practices and yogic diet significantly improved stress management capacity of the obese engineering college women students were in agreement with the previous researches cited.

4.3.8.1 RESULTS ON INTER PERSONAL RELATIONSHIP

The statistical analysis comparing the initial and final means of Inter Personal Relationship due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XXI.

Table XXI

COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON INTER PERSONAL RELATIONSHIP

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	23.20	22.00	21.25	21.35	B	48.30	3	16.10	1.26
Std Dev	3.75	3.16	3.26	4.06	W	971.50	76	12.78	
Post Test Mean	25.40	24.75	25.05	21.35	B	189.74	3	63.25	6.10*
Std Dev	3.83	3.32	3.26	4.06	W	788.45	76	10.37	
Adjusted Post Test Mean	24.38	24.71	25.62	22.04	B	139.45	3	46.48	24.50*
					W	142.30	75	1.90	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XXI, the pre test mean on Inter Personal Relationship of yogic practices group was 23.20 with standard deviation ± 3.75 pre test mean of yogic diet group was 22.00 with standard deviation ± 3.16 , the pre test mean of combined group consisting of yogic practice and yogic diet group was 21.25 with standard deviation ± 3.26 , the pre test mean of control group was 21.35 with standard deviation ± 4.06 . The obtained F ratio of 1.26

on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XXI, the post test mean on Inter Personal Relationship of yogic practices group was 25.40 with standard deviation \pm 3.83 post test mean of yogic diet group was 24.75 with standard deviation \pm 3.32, the post test mean of combined group consisting of yogic practices and yogic diet group was 25.05 with standard deviation \pm 3.32, the post test mean of control group was 21.55 with standard deviation \pm 3.47. The obtained F ratio of 6.10 on post test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in post test means of the groups.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Inter Personal Relationship on yogic practices group was 24.38, yogic diet group was 24.71, combined training group was 25.62 and control group was 22.04. The obtained F value on adjusted means was 24.50. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Inter Personal Relationship of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XXII.

Table XXII
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Inter Personal Relationship

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
24.38	24.71			0.33	1.24
24.38		25.62		1.24*	1.24
24.38			22.04	2.34*	1.24
	24.71	25.62		0.91	1.24
	24.71		22.04	2.67*	1.24
		25.62	22.04	3.58*	1.24

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 1.24. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Combined Training Group (MD: 1.24)

Yogic Practices Group Vs Control Group (MD: 2.34)

Yogic diet Group Vs Control Group (MD: 2.67)

Combined Group Vs Control Group (MD: 3.58)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

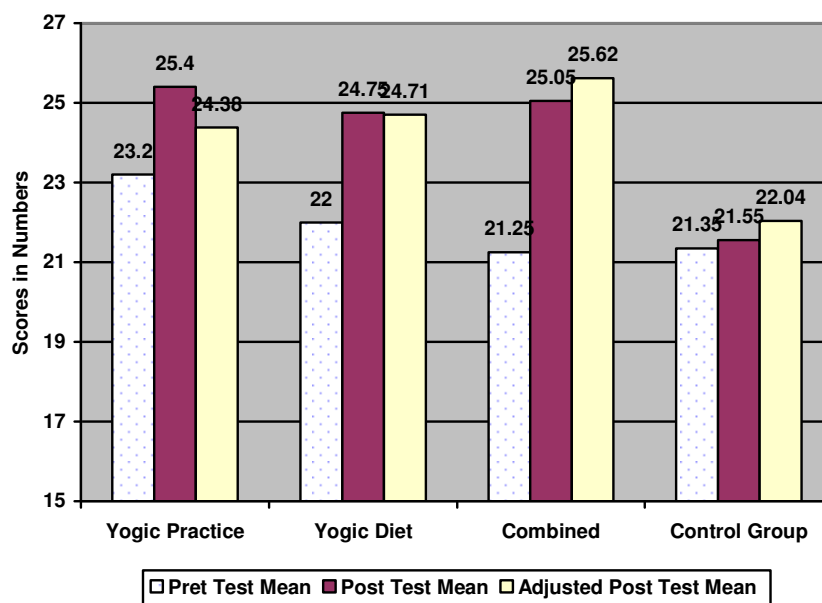
Yogic Practices Group Vs Yogic diet Group (MD: 0.33)

Yogic diet Group Vs Combined Training Group (MD: 0.91)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 18.

Figure 18

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON INTER PERSONAL RELATIONSHIP



4.3.8.2 DISCUSSIONS ON INTER PERSONAL RELATIONSHIP

The increasing prevalence of overweight and obesity in humans is a growing public health. Concomitants include poor health behaviors and reduced psychological well-being. Preliminary evidence suggests yoga and treatment paradigms incorporating mindfulness, self-compassion (SC), acceptance, non-dieting, and intuitive eating may improve these ancillary correlates, which may promote long-term weight loss. (Braun TD et al. (2012) Yoga practice has been effectively prescribed in conjunction with other medical and yogic procedures in the management of severe psychosomatic diseases, including cancer, bronchial asthma, colitis, peptic and ulcer. The effects of Yogic Practice were evaluated on anxiety/depression associated with obesity and found supports yoga as an effective tool with no diet restriction to improve anxiety and depression symptoms as well as obesity in obese subjects. Dhannjai et al. (2013). Since there were lack of studies to find out the effect of combined and isolated yogic practices and yogic diet on selected psychological variables among obese women, this section of the study dealt with the influence of selected experimental protocols on psychological variable, inter personal relationship.

The results presented in Table XXI proved that there was significant improvement on psychological variable Inter Personal Relationship due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 24.50 was greater than the required table F value of 2.72.

The post hoc analysis in table XXII proved that all the three experimental protocols significantly altered Inter Personal Relationship significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Inter Personal Relationship was accepted at 0.05 level. The post hoc analysis proved that there was significant difference between combined group and yogic practices group on interpersonal relationship and the formulated hypothesis that there would be significant difference among experimental groups in improving the psychological variables inter personal relationship among obese engineering college women students was accepted at 0.05 level. However, there were no significant differences between combined group and yogic diet group; and yogic practices group and yogic diet group and to this extent, the formulated hypothesis was rejected.

Iliceto P et al. (2012) explored gender-related differences concerning anger expression and interpersonal relationships in a sample of overweight/obese subjects. Overweight/obese subjects have a tendency to turn feelings of anger inward on to themselves together with impaired interpersonal relationships, especially in women. This study made an attempt to find out the combined and isolated effect of yogic practices and yogic diet among obese engineering college women students. The results proved that the experimental treatments were able to improve interpersonal relationship of obese engineering

college women students and the combined group was better than isolated yogic practices group.

4.3.9 RESULTS ON ACHIEVEMENT MOTIVATION

The statistical analysis comparing the initial and final means of Achievement Motivation due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XXIII.

Table XXIII

COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON ACHIEVEMENT MOTIVATION

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	Df	Mean Squares	Obtai-ned F
Pre Test Mean	122.30	120.85	118.00	118.60	B	239.14	3	79.71	0.30
Std Dev	18.07	18.97	13.45	14.20	W	20307.55	76	267.20	
Post Test Mean	134.00	129.00	133.00	118.60	B	2368.60	3	789.53	2.78*
Std Dev	17.70	21.66	13.45	14.20	W	21547.20	76	283.52	
Adjusted Post Test Mean	131.67	128.10	134.91	121.52	B	1976.59	3	658.86	26.47*
					W	1866.63	75	24.89	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XXIII, the pre test mean on Achievement Motivation of yogic practices group was 122.30 with standard deviation ± 18.07 pre test mean of yogic diet group was 120.85 with standard deviation ± 18.97 , the pre

test mean of combined group consisting of yogic practice and yogic diet group was 118.00 with standard deviation \pm 13.45, the pre test mean of control group was 118.60 with standard deviation \pm 14.20. The obtained F ratio of 0.30 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XXIII, the post test mean on Achievement Motivation of yogic practices group was 134.00 with standard deviation \pm 17.70 post test mean of yogic diet group was 129.00 with standard deviation \pm 21.66, the post test mean of combined group consisting of yogic practices and yogic diet group was 133.00 with standard deviation \pm 21.66, the post test mean of control group was 120.20 with standard deviation \pm 13.08. The obtained F ratio of 2.78 on post test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in post test means of the groups.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Achievement Motivation on yogic practices group was 131.67, yogic diet group was 128.10, combined training group was 134.91 and control group was 121.52. The obtained F value on adjusted means was 26.47.

The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Achievement Motivation of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XIV.

Table XIV
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Achievement Motivation

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
131.67	128.10			3.57	4.51
131.67		134.91		3.23	4.51
131.67			121.52	10.16*	4.51
	128.10	134.91		6.81*	4.51
	128.10		121.52	6.59*	4.51
		134.91	121.52	13.39*	4.51

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 4.51. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: 10.16)

Yogic diet Group Vs Combined Training Group (MD: -6.81)

Yogic diet Group Vs Control Group (MD: 6.59)

Combined Group Vs Control Group (MD: 13.39)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

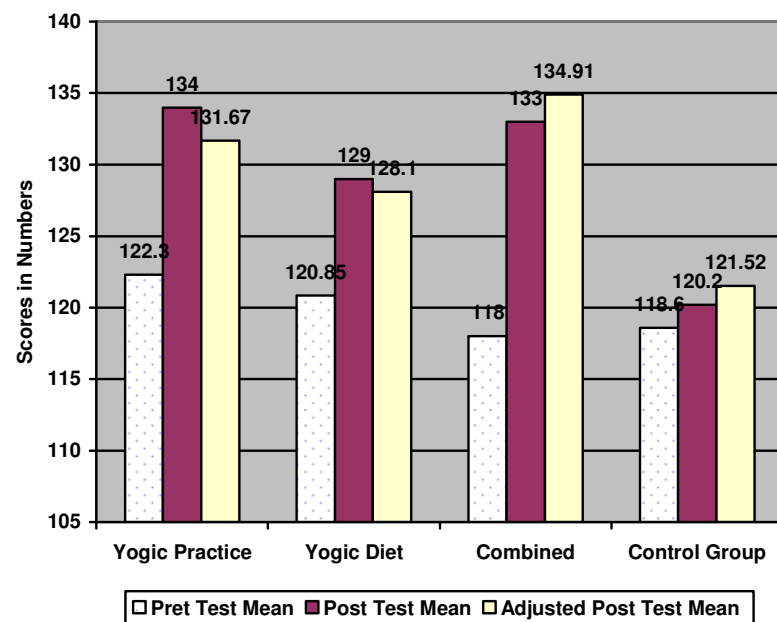
Yogic Practices Group Vs Yogic diet Group (MD: 3.57)

Yogic Practices Group Vs Combined Training Group (MD: 3.23)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 19.

Figure 19

BAR DIAGRAM SHOWING PRE, POST AND ADJUSTED MEANS ON ACHIEVEMENT MOTIVATION



4.3.9.2 DISCUSSIONS ON ACHIEVEMENT MOTIVATION

The increasing prevalence of overweight and obesity in humans is a growing public health. Concomitants include poor health behaviors and reduced psychological well-being. Preliminary evidence suggests yoga and treatment paradigms incorporating mindfulness, self-compassion (SC), acceptance, non-dieting, and intuitive eating may improve these ancillary correlates, which may promote long-term weight loss. (Braun TD et al. (2012) Yoga practice has been effectively prescribed in conjunction with other medical and yogic procedures in the management of severe psychosomatic diseases, including cancer, bronchial asthma, colitis, peptic and ulcer. The effects of Yogic Practice were evaluated on anxiety/depression associated with obesity and found supports yoga as an effective tool with no diet restriction to improve anxiety and depression symptoms as well as obesity in obese subjects. Dhananjai S et al. (2013). Since there were lack of studies to find out the effect of combined and isolated yogic practices and yogic diet on selected psychological variables among obese women, this section of the study dealt with the influence of selected experimental protocols on psychological variable, achievement motivation.

The results presented in Table XXIII proved that there was significant improvement on psychological variable Achievement Motivation due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 26.47 was greater than the required table F value of 2.72.

The post hoc analysis in table XIV proved that all the three experimental protocols significantly altered Achievement Motivation significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Achievement Motivation was accepted at 0.05 level. The post hoc analysis proved that combined group was significantly better than yogic diet group in improving achievement motivation of the subjects and the formulated hypothesis that there would be significant difference among experimental groups in improving the performance related fitness variable Achievement Motivation among obese engineering college women students was accepted at 0.05 level. However, there was no significant differences between combined group and yogic practices group and yogic practices group and yogic diet group and to this extend the formulated hypothesis was rejected.

Newton M et al. (2004) studied the relations of achievement goal theory constructs and physical self-perceptions were explored among 225 students enrolled in basic physical activity classes such as, aerobics, weight training, modern dance, badminton, yoga, tai chi, basketball, racquetball, gymnastics, bowling, aquatone, and step aerobics and found constructs of achievement goal theory were not predictive of Physical Self-perceptions in the women. Since the earlier researches were not focused on finding out the combined and isolated effect of yogic practices and yogic diet among obese college women, this study was attempted and it was found that combined and

isolated effects of yogic practices and yogic diet significantly improved achievement motivation of obese engineering college women students and comparing among the treatment groups, it was found that combined group was better than yogic diet group in improving achievement motivation of the subjects.

4.3.10.1 RESULTS ON SELF CONCEPT

The statistical analysis comparing the initial and final means of Self Concept due to yogic practice, yogic diet, combined yogic practice and yogic diet and control groups of obese engineering college women students is presented in Table XXV.

Table XXV

COMPUTATION OF ANALYSIS OF COVARIANCE DUE TO YOGIC PRACTICE, YOGIC DIET AND COMBINED TRAINING ON SELF CONCEPT

	Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtai- ned F
Pre Test Mean	48.90	49.30	52.20	49.50	B	135.75	3	45.25	0.78
Std Dev	5.53	8.47	9.56	6.12	W	4392.20	76	57.79	
Post Test Mean	51.90	52.75	55.95	49.50	B	282.54	3	94.18	1.94
Std Dev	5.53	7.41	9.56	6.12	W	3681.45	76	48.44	
Adjusted Post Test Mean	52.87	53.36	53.95	51.38	B	71.92	3	23.97	13.73*
					W	130.93	75	1.75	

SOV: Source of Variance; B: Between W: Within

Required $F_{(0.05), (df 3,76)} = 2.72$

* Significant at 0.05 level of confidence

As shown in Table XXV, the pre test mean on Self Concept of yogic practices group was 48.90 with standard deviation \pm 5.53 pre test mean of yogic diet group was 49.30 with standard deviation \pm 8.47, the pre test mean of combined group consisting of yogic practice and yogic diet group was 52.20 with standard deviation \pm 9.56, the pre test mean of control group was 49.50 with standard deviation \pm 6.12. The obtained F ratio of 0.78 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table XXV, the post test mean on Self Concept of yogic practices group was 51.90 with standard deviation \pm 5.53 post test mean of yogic diet group was 52.75 with standard deviation \pm 7.41, the post test mean of combined group consisting of yogic practices and yogic diet group was 55.95 with standard deviation \pm 7.41, the post test mean of control group was 50.95 with standard deviation \pm 6.41. The obtained F ratio of 1.94 on post test means of the groups was significant at 0.05 level as the obtained F value was greater than the required table F value of 2.72 to be significant at 0.05 level. This shows that there was significant difference in post test means of the groups.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Self Concept on yogic practices group was 52.87, yogic

diet group was 53.36, combined training group was 53.95 and control group was 51.38. The obtained F value on adjusted means was 13.73. The obtained F value was greater than the required value of 2.72 and hence it was accepted that there was significant differences among the adjusted means on the Self Concept of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table XVI.

Table XVI
Multiple Comparisons between Yogic Practice, Yogic diet, Combined and Control Groups and Scheffe's Post Hoc Analysis on Self Concept

Yogic Practices Group	Yogic diet Group	Com-bined Group	Control Group	MEAN DIFF	C.I
52.87	53.36			0.49	1.19
52.87		53.95		1.08	1.19
52.87			51.38	1.49*	1.19
	53.36	53.95		0.59	1.19
	53.36		51.38	1.98*	1.19
		53.95	51.38	2.57*	1.19

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was

1.19. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

Yogic Practices Group Vs Control Group (MD: 1.49)

Yogic diet Group Vs Control Group (MD: 1.98)

Combined Group Vs Control Group (MD: 2.57)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Yogic Practices Group Vs Yogic diet Group (MD: -0.49)

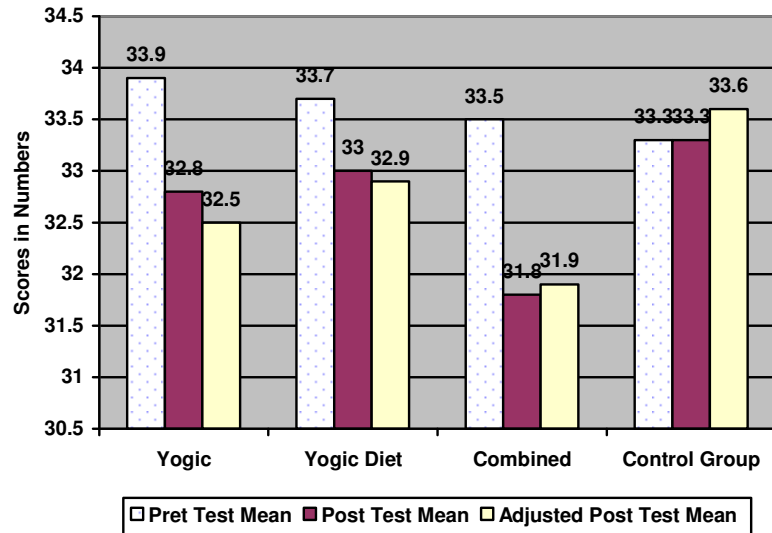
Yogic Practices Group Vs Combined Training Group (MD: -1.08)

Yogic diet Group Vs Combined Training Group (MD: -0.59)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure 20.

Figure 20

LINE GRAPH SHOWING PRE, POST AND ADJUSTED MEANS ON SELF CONCEPT



4.3.10.2 DISCUSSIONS ON SELF CONCEPT

The increasing prevalence of overweight and obesity in humans is a growing public health. Concomitants include poor health behaviors and reduced psychological well-being. Preliminary evidence suggests yoga and treatment paradigms incorporating mindfulness, self-compassion (SC), acceptance, non-dieting, and intuitive eating may improve these ancillary correlates, which may promote long-term weight loss. (Braun TD et al. (2012) Yoga practice has been effectively prescribed in conjunction with other medical and yogic procedures in the management of severe psychosomatic diseases, including cancer, bronchial asthma, colitis, peptic and ulcer. The effects of Yogic Practice were evaluated on anxiety/depression associated with obesity and found

supports yoga as an effective tool with no diet restriction to improve anxiety and depression symptoms as well as obesity in obese subjects. Dhananji S. et al. (2013). Since there were lack of studies to find out the effect of combined and isolated yogic practices and yogic diet on selected psychological variables among obese women, this section of the study dealt with the influence of selected experimental protocols on psychological variable, achievement motivation.

The results presented in Table XXV proved that there was significant improvement on psychological variable Self Concept due to combined and isolated yogic practices and yogic diet as the obtained F value on post test means of 13.73 was greater than the required table F value of 2.72. The post hoc analysis in table XVI proved that all the three experimental protocols significantly altered Self Concept significantly compared to control group, and the formulated hypothesis that combined and isolated yogic practices and yogic diet would have significant effect on Self Concept was accepted at 0.05 level. The post hoc analysis proved that there was no significant differences between the treatment groups and the formulated hypothesis that there would be significant difference among experimental groups in improving the performance related fitness variable Self Concept among obese engineering college women students was rejected at 0.05 level.

Benavides S and Caballero J. (2009) examined that the Ashtanga yoga for children and adolescents for weight management. Psychological well-being.

self-concept, anxiety, and depression inventories were measured and found significant contribution by yoga. The findings of this study proved that combined and isolated yogic practices and yogic diet significantly improved self concept of obese engineering college women students and the findings of this study were in agreement with the findings of Benavides S and Caballero J. (2009).

4.4 DISCUSSIONS ON HYPOTHESES

For the purpose of the study, the following hypotheses were formed:

1. It was hypothesized that the selected isolated yogic practices would significantly alter selected physiological variables, VO_2 max, breath holding time, resting pulse rate, vital capacity and blood pressure and psychological variables, Self Confidence, Stress Management, Inter Personal Relationship, Achievement Motivation and Self Concept of obese engineering college women students.
2. It was hypothesized that the selected isolated yogic diet would significantly alter selected physiological variables, VO_2 max, breath holding time, resting pulse rate vital capacity and blood pressure and psychological variables, Self Confidence, Stress Management, Inter Personal Relationship, Achievement Motivation and Self Concept of obese engineering college women students.
3. It was hypothesized that the selected combined yogic practices and yogic diet would significantly alter selected physiological variables,

VO₂ max, breath holding time, resting pulse rate vital capacity and blood pressure and psychological variables, Self Confidence, Stress Management, Inter Personal Relationship, Achievement Motivation and Self Concept of obese engineering college women students.

4. It was hypothesized that comparing between the treatment groups, the combined group experimented with yogic practices and yogic diet would be significantly better than isolated treatments, yogic practices and yogic diet in altering selected physiological and psychological variables.

The results presented in Tables VII, IX, XI, XIII, XV, XVII, XIX, XXI, XXIII and XXV on ANCOVA calculations on variables such as, VO₂ max, breath holding time, resting pulse rate, vital capacity, self confidence, stress management, interpersonal relationship, achievement motivation and self concept due to experimental treatments among obese engineering college women students. The results proved that the obtained F values were greater than the required table value to be significant at 0.05 level. Since significant F values were obtained due to experimental treatments, the obtained results were further subjected to statistical analysis using Scheffe's Post hoc analysis and the multiple comparisons of paired adjusted means were presented in Tables VIII, X, XII, XIV, XVI, XVIII, XX, XXII, XXIV and XXVI on variables VO₂ max, breath holding time, resting pulse rate, vital capacity, mean arterial blood pressure, self confidence, stress management, interpersonal relationship, achievement motivation and self concept respectively. The results on paired

adjusted mean comparisons proved that isolated yogic practices significantly altered selected variables except mean arterial blood pressure. Hence, the formulated hypothesis No. 1 that isolated yogic practice would significantly alter selected variables was accepted at 0.05 level except of mean arterial blood pressure. The hypothesis was rejected as for mean arterial blood pressure at 0.05 level.

The formulated hypothesis No. 2 stated that isolated yogic diet would significantly alter selected physiological variables, VO_2 max, vital capacity, breath holding time, resting pulse rate and blood pressure and psychological variables, self confidence, stress management inter personal relationship, achievement motivation and self concept of obese engineering college women students. The results on post hoc analysis proved that isolated yogic diet significantly altered resting pulse rate, breath holding time, self confidence, stress management, interpersonal relationship, achievement motivation and self concept and the formulated hypothesis No. 3 was accepted for these variables at 0.05 level. As for VO_2 max, Vital capacity and Mean Arterial blood pressure, yogic diet failed to significantly alter and to these extent the formulated hypothesis was rejected.

The formulated hypothesis No. 3 stated that selected combined treatment consisting of yogic practices and yogic diet would significantly alter selected physiological variables, VO_2 max, vital capacity, breath holding time, resting pulse rate and blood pressure and psychological variables, self confidence,

stress management, inter personal relationship, achievement motivation and self concept of obese engineering college women students. The post hoc results proved that combined yogic practices and yogic diet group significantly altered selected physiological and psychological variables and the formulated hypothesis was accepted at 0.05 level.

The formulated hypothesis No. 4 stated that comparing between the treatment groups, the combined group experimented with yogic practices and yogic diet would be significantly better than isolated treatments, yogic practices and yogic diet in altering selected physiological and psychological variables. The post hoc analysis proved that combined group was better than isolated yogic practices group in improving VO_2 max; combined group was better than isolated yogic practices group and yogic diet group in altering breath holding time; combined group was better than isolated yogic practices group and yogic diet group in altering mean arterial blood pressure; combined group was significantly better than yogic practices group in improving interpersonal relationship; combined group was significantly better than yogic diet group in improving achievement motivation; and the formulated hypothesis was accepted for VO_2 max, breath holding time, mean arterial blood pressure, inter personal relationship and achievement motivation at 0.05 level. As there were no significant differences between combined group and isolated groups on resting pulse rate, vital capacity, self confidence, stress management, and self concept, the formulated hypothesis was rejected for these variables.