Consequences of Orange Theory Fitness Training and Coalesce of Yogic Practice on Muscular Strength of Obese

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KEYWORDS

Orange Theory Fitness Training, Yogic Practice, Coalesce, Muscular Strength, Obese

ABSTRACT

Aim of the study was to find consequences of Orange Theory fitness training and coalesce of yogic practice on muscular strength of obese. For this purpose, sixty (N=60) men obese were randomly selected as subjects. The subjects were divided randomly into four groups of fifteen each (n=15) named Orange Theory Fitness Training, Yogic Practice, Coalesce of Orange Theory Fitness Training and Yogic Practice. Group-I underwent Orange Theory Fitness Training, Group-II underwent Yogic Practice, Group-III underwent Coalesce of Orange Theory Fitness Training and Yogic Practice and Group-IV acted as Control group. The experimental groups underwent respective training period for three days per week for eight weeks. Muscular Strength only selected as dependent variable for this study, and it was measured by bench press test. All the subjects were tested before and after the intervention on the muscular strength. The data obtained from the experimental groups before and after the experimental period were statistically analyzed with dependent 't'-test and Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post assessment means was found to be significant, the Scheffe's Post hoc test was applied to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases. The Coalesce of Orange Theory Fitness Training and Yogic Practice group has been found to be better than Orange Theory Fitness Training group, Yogic Practice group and Control group in developing muscular strength.

Introduction

Orangetheory uses a combination of high-intensity interval training (HIIT) and traditional cardio to help members reach their fitness goals. Orangetheory is a science-backed group fitness model that focuses on monitoring participants' heart rate during high-intensity interval training exercises to achieve the ideal metabolic workout (ACSM, 2016). Orangetheory is a dynamic blend of strength and cardio training scientifically designed to give you the most efficient and energizing 1-hour total body workout. All elements of the class work together to supercharge your metabolism so you're burning calories and body fat while also building lean muscle (Izadi et al., 2018).

Yoga is more than a physical exercise. Yoga means "union" and leads to an integration of mind and body. It facilitates change based on the principles of reflection, integrity and awakening. Central to the practice is vision and transformation. Hatha yoga is traditionally made up of asana (posture) practice, pranayama and bandha/mudra work. Often the asana practice is referred to as hatha yoga and there are now a multitude of different styles of hatha yoga being taught (Mandanmohan et al., 2003). Yoga (KSK Sanskrit, Listen) is a physical, mental, and spiritual practice or discipline which originated in India. There is a broad variety of schools, practices, and

goals in Hinduism, Buddhism and Jainism. Among the most well-known types of yoga are Hatha yoga and Raja yoga (Tran et al., 2001).

Obesity represents a significant public health concern, with one-third of adults classified as living with obesity in the United States. Obesity correlates with cardiometabolic comorbidities that can decrease the quality of life. Researchers have proposed that exercise is an important lifestyle measure to maintain a healthy weight. This review will cover the role of exercise in obesity and fitness(Ogden et al., 2014). Obesity is an excessive fat accumulation in adipose tissues defined by a body mass index (BMI) of 30 kg/m^2 and above. Individuals in the BMI range of 25 to 30 kg/m^2 are categorized as overweight, while a BMI of 40 kg/m^2 and above is regarded as morbid obesity(Hotamisligil, 2006).

Methodology

The present study was to find out the consequences of Orange Theory fitness training and coalesce of yogic practice on muscular strength of obese. For this purpose, sixty (N=60) men obese were randomly selected as subjects. The subjects were divided randomly into four groups of fifteen each (n=15) named Orange Theory Fitness Training, Yogic Practice, Coalesce of Orange Theory Fitness Training and Yogic Practice. Group-I underwent Orange Theory Fitness Training, Group-II underwent Yogic Practice, Group-III underwent Coalesce of Orange Theory Fitness Training and Yogic Practice and Group-IV acted as Control group. The experimental groups underwent respective training period for three days per week for eight weeks. Muscular Strength only selected as dependent variable for this study, and it was measured by bench press test. All the subjects were tested before and after the intervention on the muscular strength.

Analysis of the Data

The data collected from the experimental groups and control group on prior and after experimentation on selected variables were statistically examined by dependent t- test and analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted posttest means on selected criterion variables separately. Whenever they obtained f-ratio value in the simple effect was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed.

In order to examine the significance differences among Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group of selected variables dependent t- test was applied and it was presented in the Table-1.

Table -1
Distribution Mean values and Dependent t-test values for Pre-Assessment and Post- Assessment on Muscular Strength among Experimental Groups and Control Group

Test	Orange Theory Fitness Training Group	Yogic Practice Group	Coalesce of Orange Theory Fitness Training and Yogic Practice Group	Control Group
Pre-Assessment	41.33	41.83	41.80	42.50
Post-Assessment	50.17	54.50	56.43	43.67
't'-test	8.11*	10.82*	12.58*	1.17

**** Significant at 0.05 level.***
(Table value required for significance at .05 level for 't'-test with df 14 is 2.15)

The table-1 shows that the pre-assessment means of muscular strength for Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group are 41.33, 41.83, 41.80 and 42.50 respectively. The post- assessment mean is 50.17, 54.50, 56.43 and 43.67 respectively. The obtained dependent t-ratio values between the pre and post assessment means on muscular strength of Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group up are 8.11, 10.82, 12.58 and 1.17 respectively.

The table value required for significant difference with df 14 at 0.05 level is 2.15. It was concluded that experimental groups such as Orange Theory fitness training group, Yogic Practice group and Coalesce of Orange Theory fitness training and Yogic Practice had registered significant improvement in muscular strength.

In order to examine the significance improvement Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group of selected variables analysis of covariance (ANCOVA) was applied. Whenever the 'F' ratio for adjusted posttest means was found to be significant, Scheffe's test was followed as a post hoc test to determine which of the paired means difference was significant.

Table – 2

Computation of Analysis of Covariance of Experimental Groups and Control Group on Muscular Strength

Test	Orange Theory Fitness Training Group	Yogic Practice Group	Coalesce of Orange Theory Fitness Training and Yogic Practice Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F ratio
Pre-Assessment Mean	41.33	41.83	41.80	42.50	Between	10.37	3	3.45	0.29
					Within	672.57	56	12.01	
Post Assessment Mean	50.17	54.50	56.43	43.67	Between	1441.44	3	480.48	35.05*
					Within	767.60	56	13.71	
Adjusted Post Assessment Mean	50.51	54.52	56.48	43.26	Between	1527.74	3	509.24	57.48*
					Within	487.26	55	8.86	

**** Significant at 0.05 level of confidence,*** (**Muscular Strength** Scores in **Kilograms**)
Table value for df (3, 56) at 0.05 level = 2.76 Table value for df (3, 55) at 0.05 level = 2.78

The table-2 shows that the pre assessment mean values on muscular strength of Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group are 41.33, 41.83, 41.80 and 42.50 respectively. The obtained 'F' ratio of 0.10 for pre assessment scores was lesser than the table value of 0.29 for degrees of freedom 3 and 56 required for significance at 0.05 level of confidence on muscular strength.

The post assessment mean values on muscular strength of Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group are 50.17, 54.50, 56.43 and 43.67 respectively. The obtained 'F' ratio of 35.05 for post- assessment scores was higher than the table value of 2.76 for degrees of freedom 3 and 56 required for significance at 0.05 level of confidence on muscular strength.

The adjusted post-assessment means on muscular strength of Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group 50.51, 54.52, 56.48 and 43.26 respectively. The obtained 'F' ratio of 57.48 for adjusted post-assessment scores was higher than the table value of 2.78 for degrees of freedom 3 and 55 required for significance at 0.05 level of confidence on muscular strength.

The results of the study indicate that there are significant differences among the adjusted post assessment means of Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice and Control group in muscular strength performance.

To determine which of the paired means have a significant difference, the Scheffe's test is applied as Post hoc assessment and the results are presented in Table – 3.

Table – 3

The Scheffe's test for the differences between the adjusted post assessments paired means on Muscular Strength

Adjusted Post-test Means				Mean Difference	Confidence Interval
Orange Theory Fitness Training Group	Yogic Practice Group	Coalesce of Orange Theory Fitness Training and Yogic Practice Group	Control Group		
50.51	54.52			4.01*	3.13
50.51		56.48		5.97*	3.13
50.51			43.26	7.25*	3.13
	54.52	56.48		1.95	3.13
	54.52		43.26	11.26*	3.13
		56.48	43.26	13.22*	3.13

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

The above shows that the adjusted post assessment mean differences on muscular strength between Orange Theory fitness training group and Yogic Practice group, Orange Theory fitness training group and Coalesce of Orange Theory fitness training group, Orange Theory fitness training group and Control group, Yogic Practice group and Control group, Coalesce of Orange Theory fitness training group and Control group are 4.01, 5.97, 7.25, 11.26 and 13.22 respectively, which are greater than the confidence interval value of 3.13 at 0.05 level of confidence. Further the above shows that the adjusted post assessment mean differences on muscular strength between Yogic Practice group and Coalesce of Orange Theory fitness training group, is 1.95, which is less than the confidence interval value of 3.13 at 0.05 level of confidence.

The results of the study showed that there was a significant difference between Orange Theory fitness training group and Yogic Practice group, Orange Theory fitness training group and Coalesce of Orange Theory fitness training group, Orange Theory fitness training group and Control group, Yogic Practice group and Coalesce of Orange Theory fitness training group, Yogic Practice group and Control group, Coalesce of Orange Theory fitness training group and Control group on muscular strength . Further the results of the study showed that there was no significant difference between Yogic Practice group and Coalesce of Orange Theory fitness training group, on muscular strength.

The above data also reveal that Coalesce of Orange Theory fitness training and Yogic Practice group had shown better performance than Orange Theory fitness training group, Yogic Practice group and Control group in muscular strength.

The pre, post and adjusted post assessment mean values of Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice group and Control group on muscular strength are graphically represented in the Figure -1.

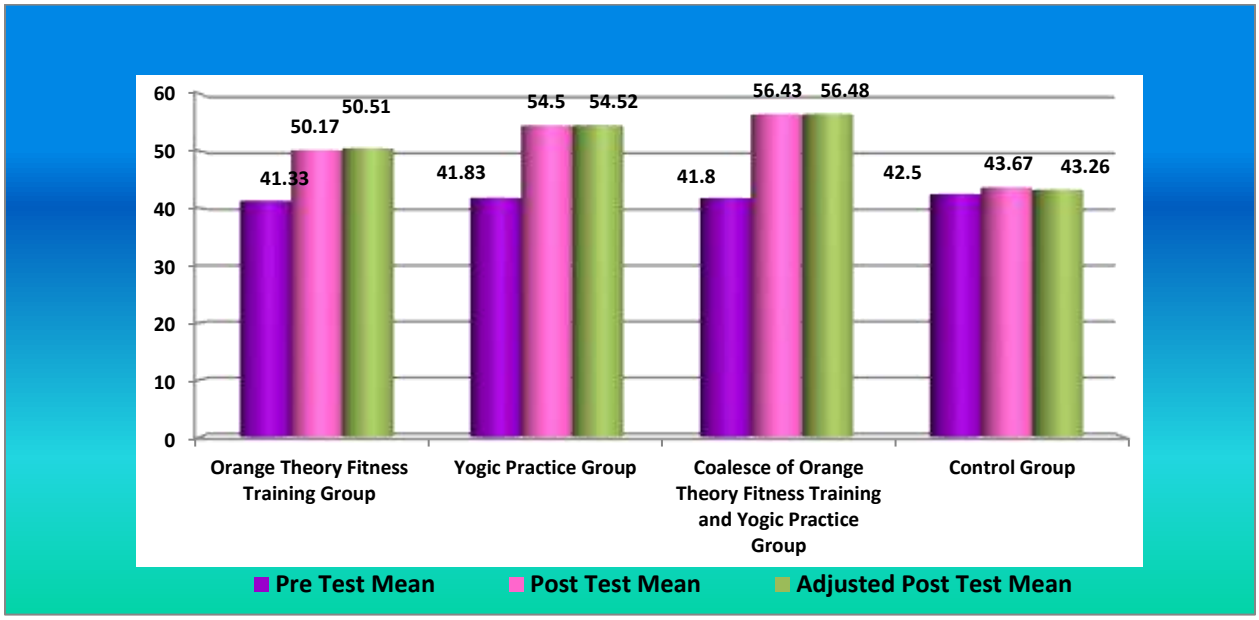

Fig. 1. Pre, Post and Adjusted post Assessment on Muscular Strength among Experimental Groups and Control Group (In Kilograms)

Conclusions

The results of the study showed the experimental groups such as Orange Theory fitness training group, Yogic Practice group, Coalesce of Orange Theory fitness training and Yogic Practice group had registered significant improvement on muscular strength. Further the study showed, when the experimental groups were compared with each other, the Coalesce of Orange Theory fitness training and Yogic Practice group was found to be greater than the Orange Theory fitness training group, Yogic Practice group and Control group on muscular strength.

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