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Effect of Remedial Yoga and Fitness Regimen Training on Selected Fat Mass, Stress and Anxiety Variables among Obese College Men

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Abstract – The present study was designed to analyze the effect of remedial yoga and physical fitness regimen training on selected physiological and psychological variables among obese college men. Remedial yoga and physical fitness training selected as independent variables for this study. To achieve the purpose of the study, 60 obese college men studying in the M.A.M. College of Engineering and Technology, Tiruchirappalli. The age of the subjects ranged from 18 to 21 years. The selected subjects were randomly assigned to two experimental groups and one control group of twenty (n=20) each for experimental group. Experiment Group I (RGC I), Experiment Group II (FRG) and control group (Group III). Group I underwent Remedial Yoga practices, Group II underwent Fitness Regimen Training for duration of 12 weeks. The control group (Group III) was asked to refrain from any special training except their regular practice and playing schedule. All the subjects of three groups were tested on selected physical and physiological variables before and after the treatment. The analysis of covariance (one-way ANCOVA). Whenever the 'F' ratio for adjusted test was found to be significant, the Scheffe's test was applied as post-hoc test to find out paired mean difference. In all the cases 0.05 level was fixed as significant level. The results were drawn accordingly.

Keywords: Yogic Practices, Fitness Regimen Training, Physiological and Psychological Variables, Obese Students

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INTRODUCTION

Obesity is defined as an excess of body fat. The body mass index (BMI) is the standard measure of overweight and obesity in children 2 years of age and older. The BMI is equal to the body weight divided by the height squared. In adults, a BMI between 25 and 30 is regarded as overweight and a BMI greater or equal to 30 is regarded as obese. Obesity around the world has almost tripled from 1975 to 2017 increasing obesity and obesity among adults and children in advanced countries puts health care at risk. In individuals with normal weight, fat tissue contains fat cells, but in obese people, fat tissue is loaded with macrophages, cells that ingest pathogens and other foreign materials and release inflammatory hormones such as TNF-alpha and interleukin that constantly activate the immune system at a low level, therefore contributing to a chronic inflammatory. Obesity and depression are two major public health problems among adolescents. Both obesity and depression are very prevalent and associated with numerous health complications, including hypertension, coronary heart disease, diabetes, and increased mortality. Obesity and depression increase the potential of precipitating the occurrence of other chronic diseases. In recent decades, the prevalence of both depression and obesity has increased at

Yoga is a form of exercise based on the belief that the body and breath intimately connected with the mind. By controlling the breath and holding the body in steady poses, or asana, yoga creates harmony. Yoga is means of balancing and harmonizing the body, mind and emotion and is a tool that allows us to withdraw from the chaos of the world and find a quite space within. Pranayama are the best exercise to increase the capacity of lungs capacity (Namdev, C 2011).

METHODOLOGY

The purpose of the study was to find out the effect of remedial yoga and physical fitness regimen training on selected physiological and psychological variables among obese college men.

To achieve this purpose, 60 male were selected as subjects who were Sri *M.A.M. College of Engineering and Technology*, Tiruchirappalli, Tamilnadu. The selected subjects were aged between 18 to 21 years. The selected subjects were randomly divided into two groups of 20 subjects in each group. The selected subjects may divided into three experimental groups and a control group with twenty subjects (n = 20) in each group. Experiment Group I (RGC I), Experiment Group II (FRG) and control group (Group III). Group I underwent Remedial Yoga practices, Group II underwent Fitness Regimen Training for duration of 12 weeks. The control group (Group III). Criterion Measures FAT MASS, stress and depression were selected as the dependent variables for this study and they were tested by using the DASS-21 Questionnaire for Depression (15), Anxiety and Stress respectively prior and after the training.

EXPERIMENTAL DESIGN

The subjects were randomly divided into remedial yoga practices (n = 20), physical fitness regimen training (n=20) and a control group (n=20). Then the subjects voluntarily consented to participate in the study. All tests were carried out before (pre-test) and after the training period (post-test). The duration of training session in the 12 weeks was between 45 to 60 minutes approximately, including warming up and cool down. The control group did not participate in any specific training on equivalence with experimental group.

STATISTICAL METHODS

The data were compiled and analysis was using SPSS version 20. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all skill related physical and physiological variables used in the study. The level of confidence was set at .05 levels.

RESULTS

Table 1 : ANALYSIS OF COVARIANCE ON FAT MASS, STRESS AND ANXIETY VARIABLE OF REMEDIAL YOGA GROUP AND FITNESS REGIMEN GROUP

Variables	Adjusted post test mean values			Source of Variance	Sum of Squares	Df	Mean Square	F
	Remedial yoga Group	FR Group	Control Group					
FAT MASS	15.52	15.66	23.95	BG	919.22	2	459.61	409.79*
				WG	62.80	56	1.12	
STRESS	26.61	30.00	35.73	BG	847.87	2	423.93	166.87*
				WG	142.26	56	2.54	
ANXIETY	18.46	22.84	29.49	BG	1233.49	2	616.74	202.12*
				WG	170.87	56	3.05	

*Significant(Table Value for 0.05 Level for df 2 & 57 = 3.15),
(Table Value for 0.05 Level for df 2 & 56 = 3.16)

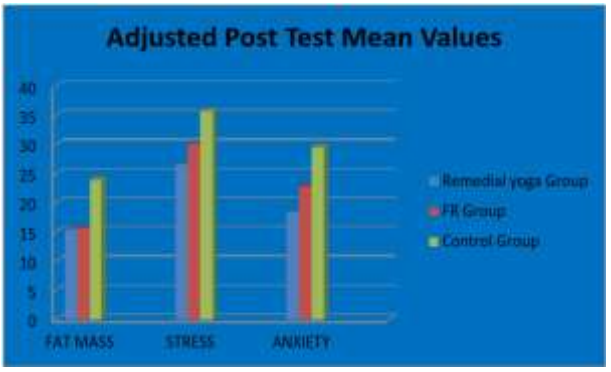

Fig 1: Shows the Adjustment Mean Values on Fat Mass, Stress and Anxiety Variable of Remedial Yoga Group and Fitness Regimen Group

TABLE – 2

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON FAT MASS, STRESS AND ANXIETY

Variables	Yoga Group (N=20)	FR Group (N=20)	Control Group (N=20)	Mean Difference	CI value
FAT MASS	15.52	15.66	-	0.14	0.84
	15.52	-	23.95	8.43*	
	-	15.66	23.95	8.29*	
STRESS	26.61	30.00	-	3.39*	1.26
	26.61	-	35.73	9.12*	
	-	30.00	35.73	5.73*	
ANXIETY	18.46	22.84	-	4.38*	1.38
	18.46	-	29.49	11.03*	
	-	22.84	29.49	6.65*	

*Significant

Table - 4.9 shows the ordered adjusted means and difference between the means of remedial yoga group, fitness regimen group and control group. The mean values of remedial yoga group, fitness regimen group and control group are 15.52, 15.66, 23.95, 26.61, 30.00, 35.73, 18.46, 22.84 and 22.84 respectively. The mean differences between remedial yoga group and fitness regimen group; remedial yoga group and control group; fitness regimen group and control group are 0.14, 8.43, 8.29, 3.39, 9.12, 5.73, 4.38, 11.03 and 6.65 respectively. Hence there is a significant difference between the mean differences between remedial yoga group and control group; fitness regimen group and control group. Further, there is no significant difference between remedial yoga group and fitness regimen group. The results of the study showed that remedial yoga group and fitness regimen group are better than control group for fat mass, stress and anxiety among obese college men. Further it showed that remedial yoga group and fitness regimen group are equally fat mass, stress and anxiety among obese college men.

CONCLUSIONS

From the results obtained, the following conclusions were drawn:

1. It was observed that the 12 weeks of remedial yoga practices and fitness regimen training have significantly improved the selected fat mass, stress and anxiety variables of among obese college men.

2. The remedial yoga practices and fitness regimen training group had achieved significant improvement on selected fat mass, stress and anxiety variables than the control group.

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