



## AN ANALYSIS OF OBESITY AMONG CHILDREN AND YOGIC SOLUTIONS COMBINED WITH PHYSICAL TRAINING ON BLOOD SUGAR

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### Abstract

The purpose of the study was to find out the effects of yogic practices combined with physical training on selected variables among obese children. To achieve the purpose of the present study, forty five obese children from GEMS Our Own English High School, Dubai, U.A.E, were selected as subjects at random and their ages ranged from 10 to 12 years. The subjects were divided into three equal groups of fifteen obese children each. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=45) were randomly assigned to three equal groups of fifteen obese children each. The groups were assigned as combined yogic practices & physical training, physical training and control group in an equivalent manner. The group I underwent combined yogic practices & physical training, group II underwent physical training and group III acted as a control group. The two experimental groups were participated the training for a period of twelve weeks to find out the outcome of the training packages and the control group did not participated in any training programme. Dependent 't' test, Analysis of covariance (ANCOVA) and scheffe's post-hoc test was administered. The combined yogic practices & physical training group had shown significant reduction on blood sugar than the physical training and control group.

**Keywords:** Obesity, Children, Yoga, Physical, Blood sugar.

### INTRODUCTION

Asana rehearse in yoga likewise includes commitment of physical action despite the fact that at a less concentrated level contrasted with the regular physical exercises. Existing examination has inside this setting kept up that yoga preparing program diminishes body weight, add up to cholesterol and level of muscle to fat ratio while expanding basal metabolic rate and without fat mass in respect to gauge esteems (Skoro-Kondza et al., 2009). A few investigations have likewise related yoga rehearse with a decrease in diastolic circulatory strain which is vital in stoutness administration keeping in mind the end goal to lessen related entanglements, for example, hypertension and diabetes (Singh et al., 2008). Just a couple of studies have revealed inconsequential discoveries in connection to the capacity of yoga to decrease weight of BMI (Wylie-Rosett and Jhangiani, 2015).

Past investigations have likewise proposed that mix of physical movement with different projects could possibly create better outcomes in administration of weight reduction among corpulent people. A joined physical movement and dietary program has been appeared to yield both here and now and long haul advantages, for example, diminish in BMI, increment in sans fat mass and fasting serum leptin levels. For instance, the investigation by Foster-Schubert et al. (2012) found that members who took

part just in a year dietary program weight reduction was - 8.5% while those in a physical movement program had a weight reduction of - 2.4%. Members who were included joined dietary and physical movement program had a weight reduction of - 10.8%.

### METHODOLOGY

The purpose of the study was to find out the effects of yogic practices combined with physical training on selected variables among obese children. To achieve the purpose of the present study, forty five obese children from GEMS Our Own English High School, Dubai, U.A.E, were selected as subjects at random and their ages ranged from 10 to 12 years. The subjects were divided into three equal groups of fifteen obese children each. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=45) were randomly assigned to three equal groups of fifteen obese children each. The groups were assigned as combined yogic practices & physical training, physical training and control group in an equivalent manner. The group I underwent combined yogic practices & physical training, group II underwent physical training and group III acted as a control group. The two experimental groups were participated the training for a period of twelve weeks to find out the outcome of the training packages and the control group did not participated in any training programme. Dependent 't' test, Analysis of covariance (ANCOVA)

and scheffe's post-hoc test was administered.

and post-test of the experimental and control groups have been analysed and presented in Table I.

## RESULTS AND DISCUSSION

The results of the dependent 't'-test on the data obtained for Blood sugar of the subjects in the pre-test

**TABLE – I**  
**THE SUMMARY OF MEAN AND DEPENDENT 't' - TEST FOR THE PRE AND POST TESTS ON BLOOD SUGAR OF COMBINED YOGIC PRACTICES WITH PHYSICAL TRAINING, PHYSICAL TRAINING AND CONTROL GROUPS**

	CYPPTG	PTG	CG
Pre-test mean	112.34	111.18	112.21
Post-test mean	108.38	109.25	111.89
't'-test	8.01*	6.43*	0.39
Magnitude of Improvement	3.52%	1.73%	0.28%

\* Significant at 0.05 level.

(Blood sugar Scores in mg/dl)

(Table value required for significance at 0.05 level for 't'-test with df 14 is 2.14)

From table I the dependent 't' test values, on blood sugar between the pre and post test means of combined yogic practices with physical training group and physical training group are 8.01 and 6.43 respectively. Since the obtained 't'-test values of the experimental groups are greater than the table value 2.14 with df 14 at 0.05 level of confidence it is concluded that combined yogic practices with physical training group and physical training group had registered significant reduction on blood sugar and in case of control group the obtained 't' value 0.39 is failed to reach the significant level.

From the table it is also observed that the magnitude of improvement (MI) of blood sugar due to the influence of combined yogic practices with physical training group, physical training group and control group are 3.52%, 1.73% and 0.28% respectively. It indicates that the combined yogic practices with physical training group had registered better percentage of reduction in blood sugar.

The analysis of covariance (ANCOVA) on blood sugar of combined yogic practices with physical training group, physical training group and control group have been analysed and presented in table -II.

**TABLE – II**  
**ANALYSIS OF COVARIANCE ON BLOOD SUGAR OF COMBINED YOGIC PRACTICES WITH PHYSICAL TRAINING, PHYSICAL TRAINING AND CONTROL GROUPS**

Adjusted Post-test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
CYPPTG	PTG	CG					
108.38	109.23	111.87	BG	3907.32	2	1953.66	31.26*
			WG	2561.80	41	62.48	

\* Significant at .05 level of confidence

(The table value required for Significant at 0.05 level with df 2 and 41 is 3.22)

Table II shows that the adjusted post test mean value of blood sugar for combined yogic practices with physical training group, physical training group and control group are 108.38, 109.23 and 111.87 respectively. The obtained F-ratio of 31.26 for the adjusted post test mean is more than the table value of 3.22 for df 2 and 41 required for significance at 0.05 level of confidence.

The results of the study indicates that there are significant differences among the adjusted post test means of combined yogic practices with physical training group, physical training group and control group on reduction of blood sugar.

To determine which of the paired means had a significant difference, Scheffe's test was applied as post hoc test and the results are presented in table III.

**TABLE – III**  
**THE SCHEFFE’S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON FASTING PLASMA GLUCOSE**

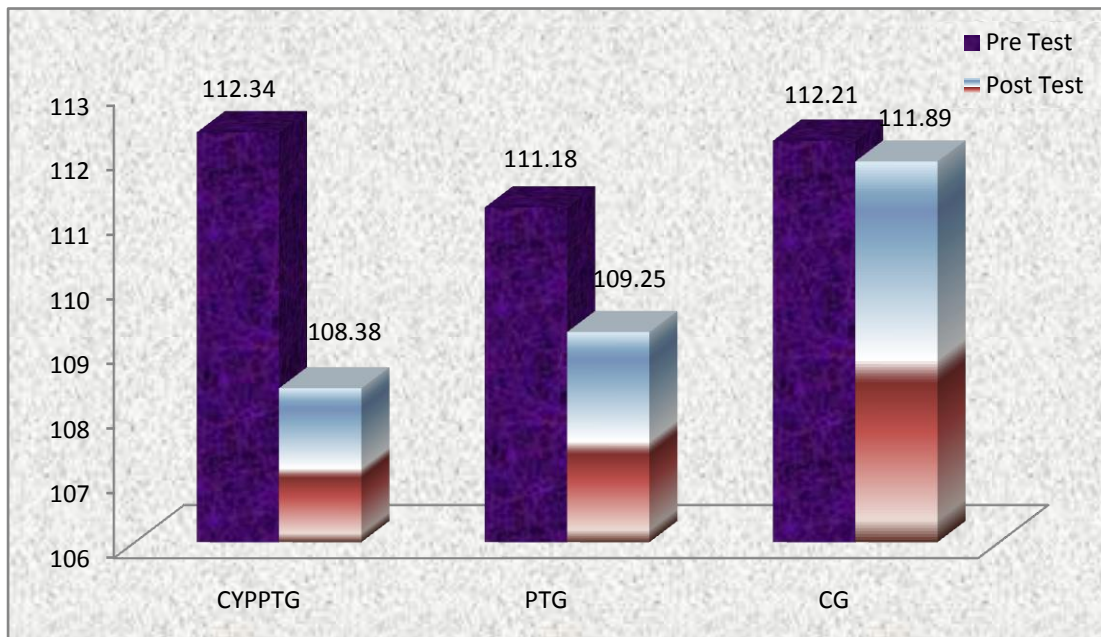
Adjusted Post-test means			Mean Difference	Confidence Interval
CYPPTG	PTG	CG		
108.38	109.23	--	0.85*	0.71
108.38	--	111.87	3.49*	0.71
--	109.23	111.87	2.64*	0.71

\* Significant at.05 level of confidence

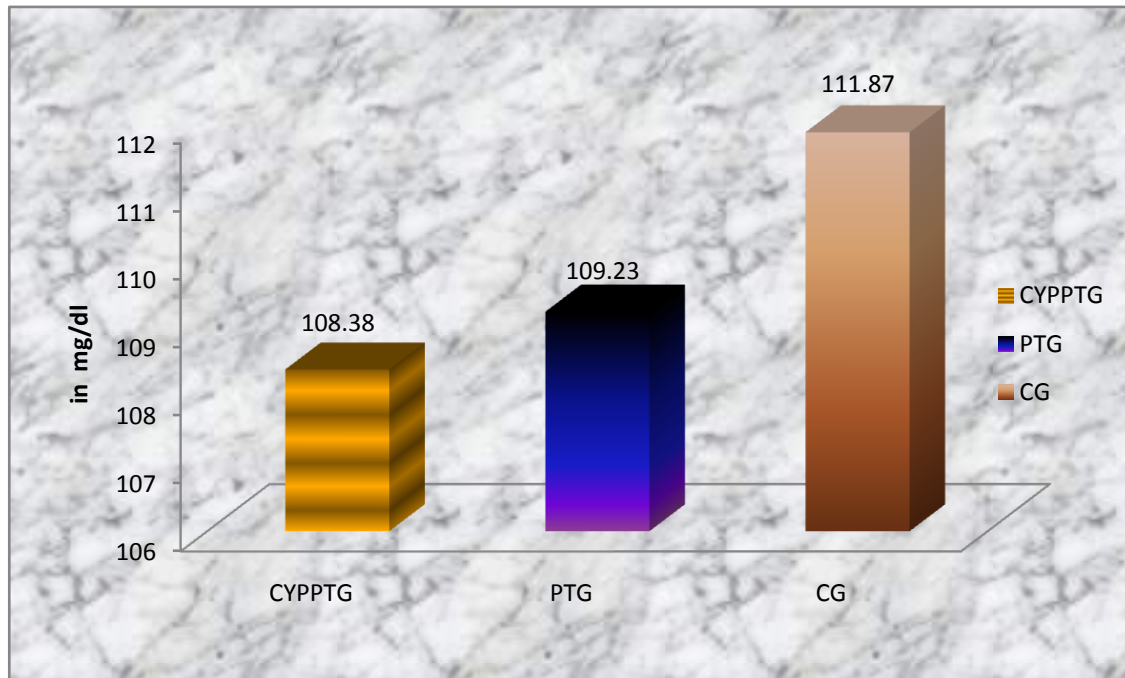
Table III shows that the mean difference values between combined yogic practices with physical training and physical training groups; combined yogic practices with physical training and control group, physical training and control groups were 0.85, 3.49 and 2.64 respectively on blood sugar which are greater than the confidence interval value 0.71 at 0.05 level of confidence. The results of the study showed that there was significant difference between combined yogic practices with physical training and physical training

groups; combined yogic practices with physical training and control group, physical training and control groups on blood sugar.

The mean values of combined yogic practices with physical training group, physical training group and control group on blood sugar are graphically represented in the figure -I. The adjusted post test mean values of combined yogic practices with physical training group, physical training group and control group on blood sugar are graphically represented in the figure –II.



**FIGURE-I**  
**MEAN VALUES OF COMBINED YOGIC PRACTICES WITH PHYSICAL TRAINING, PHYSICAL TRAINING AND CONTROL GROUPS ON BLOOD SUGAR**



**FIGURE-II**  
**THE ADJUSTED POST TESTS MEAN VALUES OF COMBINED YOGIC PRACTICES WITH PHYSICAL TRAINING, PHYSICAL TRAINING AND CONTROL GROUPS ON BLOOD SUGAR**

#### CONCLUSION

1. The combined yogic practices & physical training group had shown significant reduction on blood sugar.
2. The physical training group had shown significant reduction on blood sugar.
3. The combined yogic practices & physical training group had shown significant reduction on blood sugar than the physical training and control group.

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