



Research article

EFFECT OF SELECTED YOGIC PRACTICES ON PHYSICAL FITNESS COMPONENTS AMONG OBESE PRE-ADOLESCENT GIRLS

Dr. T. SHANMUGAVALLI

Associate Professor and Head, Department of Physical Education,
Avinashilingam Institute for Home Science and Higher Education for Women,
Coimbatore, Tamil Nadu, India.

Received 20th July 2017, Accepted 28th July 2017

Abstract

The purpose of the study was to find out the effect of selected yogic practices on physical fitness components among obese pre-adolescent girls. The study was hypothesized to that the yogic practices significantly improved the selected physical fitness components among obese pre-adolescent girls. For the purpose of the study 60 obese pre adolescence girls from reputed school in Coimbatore were selected as subjects, the age of the subjects ranged from 10-12years. The true randomized group design was used as experimental design in which the subjects were divided into two groups of 30 each. The experimental group underwent Yoga practice and the other group acted as control group. The subjects were tested prior to and after the experimentation period on muscular endurance, cardio respiratory endurance and body composition. The obtained data were statistically analyzed by using analysis of covariance (ANCOVA). And obtained values were found to be significant at 0.05 level of confidence.

Key words: Physical Fitness, Obese, Yogic Practice, Cardio respiratory Endurance, Muscular Endurance, Body composition etc.,

© Copy Right, IJAPEY, 2016. All Rights Reserved

Corresponding Author: Dr. T. Shanmugavalli
e-mail: shanmugavalli.senthilvel@gmail.com

INTRODUCTION

Childhood obesity is rising rapidly in many countries. Preadolescents appear to be at particularly high risk. This study estimated the prevalence of overweight and obesity in preadolescent schoolchildren. Overweight and obesity among adolescents is an emerging

problem. The magnitude of overweight ranges from 9% to 27.5% and obesity ranges from 1% to 12.9% among Children.

Obesity during childhood and adolescence has become an issue of major concern over the last 10 years, around the world, regardless of race. This event has

been named an epidemic and has much to do with profound changes not only in economic issues through higher economic conditions, but also especially in dietary habits and lifestyle, in parallel with decreased physical activity due to a variety of reasons. Despite all the concerns about overweight/obesity and the advent of numerous diets for weight reduction, it appears that most of them have been ineffective in reducing weight. According to WHO, 22 million children (under 5 years of age are overweight. Obesity is evolving as a major nutritional problem in developing countries, affecting a substantial number of adults and resulting in an increased burden of chronic disease.

METHODS AND MATERIALS

For the purpose of the study 60 obese pre adolescence girls from reputed school in Coimbatore were selected as subjects, the age of the subjects ranged from 10-12years. The true randomized group design was used as experimental design in which the subjects were divided into two groups of 30 each. The experimental group underwent Yoga practice and the other group acted as control group. The subjects were tested prior to and after the experimentation period on muscular endurance, cardio respiratory endurance and body composition. The obtained data were statistically analyzed by using analysis of covariance (ANCOVA). The tests used to assess selected physical fitness components are given in table-I.

**TABLE –I
TESTS USED IN THE STUDY**

S.No	Test	Equipments	Unit of measurement
1	Bent knee Sit ups	Stop Watch	Count
2	800mts run	Stop Watch	Timing
4	Percent body fat	Skin fold calliper	Percentage

The training programmes were organized in a progressive manner and scheduled only in the morning session

from 7-8am for three alternate days in a week for 12 weeks continuously and the description is given in table II.

**TABLE II
TRAINING SCHEDULE**

Weeks	Asanas	Duration
I-III	Suryanamaskar, Padmasana, Paschimuthasana, Dhanurasana,	1 hour
IV-VI	Padhapadmasana, Halasana, Vajrasana, Bhujankasana,	1 hour
VII-IX	Trikonasana, Tadasana, Arthasalabasana, Pavanamukthasana	1 hour
X-XII	Pranayama, Sakrasana, Chakrasana, Salabasana	1 hour

RESULTS

The descriptive data collected on the selected physical fitness components prior to and immediately after six weeks of Yogic training are presented in table III, IV and V. The obtained data were

statistically analysed by using analysis of covariance (ANCOVA). The final means and f ratio were tested for significance and are given in tables.

TABLE III
ANCOVA ON CARDIO RESPIRATORY ENDURANCE OF
EXPERIMENTAL GROUP AND CONTROL GROUP

Cardio respiratory Endurance	Experimental	Control	Sources of Variance	Sum of Squares	Df	Mean Squares	Obtained F ratio
Pre-Test Mean	1439.10	1437.72	Between	0.537	1	0.537	1.06
SD	0.80	0.998	Within	14.133	28	0.505	
Post-test Mean	1660.88	1437.99	Between	3.33	1	3.33	6.923*
SD	0.77	0.88	Within	13.47	28	0.481	

TABLE-IV
ANCOVA ON MUSCULAR ENDURANCE OF EXPERIMENTAL
GROUP AND CONTROL GROUP

Muscular Endurance	Experimental	Control	Sources of Variance	Sum of Squares	Df	Mean Squares	Obtained F ratio
Pre-Test Mean	9.13	9.14	Between	0.018	1	0.018	2.40
SD	0.35	0.33	Within	0.21	28	0.0075	
Post-test Mean	8.83	9.04	Between	0.013	1	0.013	52.0*
SD	0.35	0.33	Within	0.007	28	0.00025	

TABLE V
ANCOVA ON BODY FAT OF EXPERIMENTAL GROUP
AND CONTROL GROUP

Percent Body Fat	Experimental	Control	Sources of Variance	Sum of Squares	Df	Mean Squares	Obtained F ratio
Pre-Test Mean	68.80	71.40	Between	33.80	1	33.80	2.62
SD	1.99	4.67	Within	232.0	28	12.89	
Post-test Mean	66.00	71.30	Between	140.45	1	140.45	10.99*
SD	2.79	4.22	Within	230.1	28	12.78	

Required table value 4.20 at 0.05b level

DISCUSSION

From the above tables (III to V) it was proved that the cardio respiratory endurance of experimental group and control group were statically analysed and the obtained value of 6.923 was higher than the required value of 4.20 it shows that the cardio respiratory endurance was significantly improved due to yogic practices. The combination of gentle movements, focused breathing and stretching yield health benefits for children's and the deep, intentional breathing exercises involved in yoga can improve the cardiac and respiratory system.

The muscular endurance of experimental group and control group were statistically analysed and the obtained 'F' value of 52.0 was higher than the required value of 4.20 it shows that the muscular endurance was significantly improved due to yogic practices. The yogic practices were improved the body

by making it strong, supple and flexible. Regular yoga practice stretches and tones the body muscles and also makes them strong.

The body fat of experimental group and control group were statically analysed and obtained 'F' value of 10.99 was higher than the required value of 4.20 it shows that the body fat was significantly reduced due to yogic practices.

CONCLUSIONS

1. The selected yogic practices significantly improved the cardio respiratory endurance among obese pre-adolescent girls.
2. The selected yogic practices significantly improved the muscular endurance among obese pre-adolescent girls.
3. The selected yogic practices significantly reduced the body fat among obese pre-adolescent girls.

REFERENCES

- [1] Brown, K.W., Ryan, R.M., & Creswell, J.D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *An International Journal for the Advancement of Psychological Theory*, 18:4, 211 – 237.
- [2] Jain, Andrea R. (2012). The malleability of yoga: a response to Christian and Hindu opponents of the popularization of yoga. *Journal of Hindu-Christian Studies*, 25: 1–8.
- [3] Kumar, Kamakhya (2006) A study of the improvement of Physical and Mental Health through Yoga nidra; *Dev Sanskriti Journal*, Vol. 4.
- [4] Rosenberg, M. (1965). *Society and the adolescent self-image*. NJ: Princeton University Press.
- [5] YeonHee Park., Yeon Hwan Park., & Jon Gerrard. (1989). *Tae Kwon Do: The Ultimate Reference Guide to the Worlds Most Popular Martial Art*. New York: Facts On File, Inc.,
- [6] YushinYoo. (1990). *The Making of Modern Korea*. Louisville, Kentucky: Golden Pond Press.

Site this article:

Shanmugavalli, T. (2017). Effect of Selected Yogic Practices on Physical Fitness Components among Obese Pre-Adolescent Girls. *International Journal of Adapted Physical Education & Yoga*, Vol. 2, No. 8, pp. 1 to 5.