LOGOS

an interdisciplinary biannual research journal

SREE NARAYANA COLLEGE

CHEMPAZHANTHY

Thiruvananthapuram, Kerala, South India – 695587

Established in 1964

Affiliated to the University of Kerala

Tel: 0471-2592077, 2596629. Fax : 0471-2596629

E-mail :principal@sncollegechempazhanthy.org

Website :www.sncollegechempazhanthy.org

Volume 2, Number 1

June 2014

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Logos is a biannual journal published by the Sree Narayana College, Chempazhanthy, a higher educational institution affiliated to the University of Kerala. This multidisciplinary journal with International Standard Serial Number **(ISSN)** is issued twice a year in June and December, and publishes original research articles in all areas relating to arts, science, humanities and commerce. However, repetitive/additive type of research is not necessarily acceptable. Manuscripts may be sent as e-mail attachment or by post to the Editor. If by post, two hard copies of the article should be accompanied by soft copy on CD. All manuscripts are subject to peer-review and copy editing.

Combined Effect of Asana Pranayama And Asana Meditation on Selected Physiological And Hematological Variables Among Obese Girls.

Sabaananth S

Lecturer, Sports Science Unit, University of Jaffna, Sri Lanka.
E-mail: sabarinathchandran@gmail.com

Abstract

Staying at a healthy weight is a long-term challenge for people who are overweight or obese. But there is chance to lower your risk for other serious health problems with the right life style and physical activity. To achieve the purpose of this study, sixty obese (BMI 30 ±2.5) girls were selected from Chidambaram, India, as subjects in the age range between 19 and 22 years. They were assigned into three groups, Group I underwent asanas and pranayama, group II underwent asanas and meditation and group III acted as control. The physiological variables [Peak expiratory flow rate (PEFR), Systolic Blood Pressure (SBP) and Diastolic Blood Pressure(DBP)] and Hematological variables [Haemoglobin (Hb) and Postprandial glucose (PPG)] of the selected subjects were measured. The interventional period for this study were eight weeks for both the experiment groups. The control group was not given any practice. Data were collected on selected variables before and after the training period, and were subjected to statistical treatment using analysis of covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the significance. When the obtained 'F' ratio was significant, Scheffe's post hog test was used to find out the paired mean difference. Within the limitations set for this study, it was concluded, that the selected physiological and haematological variables of both the experimental group were significantly influenced than the control. However asana with pranayama practice shows better effect than the asana meditation. Hence, it was recommended that asana with pranayama practice may have better effect on obese patient in respect to BP, PEFR, Hb, PPG level.

Key words: Obese, Asana, Pranayama, Meditation.

Introduction

Indiscriminate eating without any wisdom to control leads to an invariable obesity. The fast life of modern times has caused this melody, affecting many. Technological advancement in modern life has induced less physical activity. At homes, people use electrical gadgets

to save on hard physical labour, thereby, resulting in inactive lifestyle. Nervous tension and disturbances, improper functioning of the endocrine glands or digestive disorders also causes obesity.

There are several reasons for obesity. Stress plays a vital role in causing obesity. Psychological disturbances often drive a person to seek comfort in eating. Children suffering from such disturbances, have a tendency to become obese. Improper dietary habits can influence an individual to obesity. Consuming food rich in sugar, fats, starch and highly processed foods, prompts extra weight gain. Intake of drugs like steroids can make an individual crave for more food and enhance the hanger level obesity may be caused by genetic factors, through some psychological, environment factors also play a vital role.

When the body weight exceeds the requisite normal weight, accumulation of fat deposits in the body tissues result in obesity. When a person starts eating beyond a normal limit set before him imbalance sets in. Such a condition of the body is not good and gives birth to several discomfort and even serious disease. Hence the purpose of the study was to find out the combined effect of asana pranayama and asana meditation on selected physiological and hematological variables among obese girls.

Methodology

To achieve the purpose of this study, sixty obese (BMI 30 ±2.5) girls were selected from Chidambaram, India, as subjects in the age group between 19 and 22 years. They were assigned into three equal (n=20) groups, group I underwent asanas and pranayama, group II underwent asanas and meditation and group III acted as control. The training was given for both the groups for 60 min per day, 5 days per week for 6 weeks. The training includes warming up with surya namaskar and relaxation in savasana. The physiological variables of the selected subjects were measured [Peak expiratory flow rate (PEFR) using peak expiratory flow rate meter and mouth pieces, Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP)] using citizen make digital portable B.P monitor, and Hematological variables [Haemoglobin (Hb) using Sahil's heamometer and Postprandial glucose (PPG)] using enzyme reagent, Incubator and Photocolorimeter. Data were collected on selected variables before

and after the training period, and were subjected to statistical treatment using analysis of covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the significance. When the obtained 'F' ratio was significant Scheffe's post hog test was used to find out the paired mean difference.

RESULTS

Table I

Ancova For Systolic Blood Pressure, Diastolic Blood Pressure, Peak Expiratory Flow, Haemoglobin And Blood Glucose

Variables	Asanas Pranayama Group	Asanas Meditation Group	Control Group	F
Systolic blood pressure (SBP) mmHg	109.75	114.83	118.56	28.68*
Diastolic blood pressure (DBP) mmHg	81.29	90.19	91.79	93.28*
Haemoglobin (HP) grm/100ml	13.53	11.94	11.20	94.70*
Peak expiratory flow rate (PEF) L/sec	308.58	299.51	252.58	37.66*
Blood glucose (BG)mgs//dl	89.91	93.78	96.78	24.17*

Table F- ratio at 0.05 level of confidence for (2) (41) = 3.21

Table II

Mean Difference Between Experimental Group And Control Group

Variable	Control Vs Asanas meditation	Control Vs Asanas pranayama	Asanas meditation vs Asanas pranayama	CI
Systolic blood pressure (SBP) mmHg	3.64*	8.72*	5.08*	2.95
Diastolic blood pressure (DBP)mmHg	1.60	10.50*	8.90*	2.10
Haemoglobin (HP) grm/100ml	1.59*	2.33*	0.79*	0.422
Peak expiratory flow rate (PEF)L/sec	9.07	56.00*	46.93*	17.35
Blood glucose (BG) mgs//dl	3.00*	6.87*	3.87*	2.40

From the table it was clear that, there was a significant difference between experimental (Asana with pranayama and asana with meditation) and control groups on SBP, DBP, Hb, PEFR and PPG level. The result of post hoc test showed that, asana with pranayama and asana with meditation practice significantly reduce the SBP, DBP, Hb, PEFR and PPG level than control. Further the results shows asana with pranayama was better to

reduce SBP and PPG and increase Hb and PEFR level than asana with meditation for obese girls. However no difference was found between training for DBP for obese girls.

Discussions On Findings

Yoga definitely has an important role in obesity treatment. There are various yoga postures that specifically help in reducing body weight and restoring healthy conditions. These postures stimulate certain important glands, in particularly the thyroid gland, and help in hormonal balance. Vyas, Rashmic et.al (2002) examined effect of raja yoga meditation on respiratory functions, cardiovascular parameters and lipid profile. The result shows raja yoga meditation significantly reduces diastolic blood pressure and lipid profile. Another study conducted by Maxwell, Rain fourth et.al. (2001) is a stress reduction programme in patient with elevated blood pressure. The data suggest that transcendental meditation programme significantly reduce BP and improves CVD risk factors. The literature indicates that yoga practice in given period of time leads to a milder cardiovascular response (Udupa 2004). In the present investigation, the same trend was observed. The asana with pranayama practice positively improves the physiological (SBP, DBP, PEFR) and haematological (Hb,PPG) variable.

Conclusion

Within the limitations set of this study, it was concluded, that both asana pranayama and asana meditation by the experimental groups significantly influence the selected physiological and haematological variables than the control. However asana with pranayama practice shows better effect than the asana meditation in reducing SBP, PPG and increasing Hb, PEFR.

Recommendation

It was recommended that asana with pranayama practice may have better effect on obese patient in respect to BP, PEFR, Hb, PPG level.

Implication

Asana with pranayama practice may be used as a better therapy to reduce or control obesity than asana with meditation. However asana with meditation may also be given instead of asana with pranayama to reduce or control obesity.

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