

Effect of Yogic Intervention on General Body weight of the subjects: A study report

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Abstract

According to the American Heart Association, an estimated 112,000 people die every year from conditions related to being overweight or obese. Even losing a moderate amount of weight when someone is obese by 5 to 10 percent he can significantly reduce the risk for chronic disease. with the background that a number of studies being conducted to observe the effect of complementary therapies to reduce body weight, the present study aimed to find the impact of Hatha Yoga Practices on body weight of the normal Human subjects.

In present study seventy volunteers were taken as experimental group from urban area of Delhi, Gurgaon, Noida region. The subjects were a heterogeneous group having Diabetes, Hypertension, Obesity and joints problem but otherwise healthy and were voluntarily wanted to join Yoga session for general physical mental wellbeing. In this pre- post research study a package of Asana, pranayam, Shatkarma and relaxation techniques were introduced to them. The volunteers practiced for 90 days except Sunday and holidays. The impact of the practice of Hatha Yogic techniques showed a significant reduction on their body weight.

Key Words: Asana, Pranayama, Shatkarma and Body weight.

Introduction

The stability of body weight depends on the energy intake and expenditure. When energy intake exceeds output, the excess energy is stored in the body as carbohydrates, proteins or fats and this causes a gain in body weight. The converse is also true. When energy expenditure exceeds energy intake, body weight decreases. Excessive body weight is associated with various diseases, particularly High blood pressure, high cholesterol, type-2 diabetes, and arthritis etc.

India is following a trend of other developing countries that are steadily becoming more obese. Unhealthy, processed food has become much more accessible following India's continued integration in global food markets. Indians are genetically susceptible to weight accumulation especially around the waist. While studying 22 different SNPs near to MC4R gene, scientists

have identified a SNP (single nucleotide polymorphism) named rs12970134 to be mostly associated with waist circumference.¹

Jean-Pierre Després (2001) -It is generally accepted that obesity is a health hazard because of its association with numerous metabolic complications such as dyslipidaemia, type 2 diabetes, and cardiovascular diseases.¹ On that basis, health agencies have proposed that obesity should be defined on the basis of weight in kg expressed over height in m, the so called body mass index, Epidemiological studies have reported a progressive increase in the incidence of chronic diseases such as hypertension, diabetes, and coronary heart disease with increasing body mass index. However, despite this well documented evidence, physicians are, in their daily practice, perplexed by the remarkable heterogeneity found in their obese patients. For instance, some patients show a

relatively "normal" profile of metabolic risk factors despite the presence of substantial excess body fat, whereas others who are only moderately overweight can nevertheless be characterized by a whole cluster of metabolic complications.⁽⁵⁾ Obesity is a chronic metabolic disorder associated with CVD and increased morbidity and mortality. Poirier P, Després JP. (2001)²

To determine how much one should weigh (ideal body weight) several factors should be considered, including age, muscle-fat ratio, height, sex, and bone density. Some people suggest that calculating our Body Mass Index (BMI) is the best way to decide whether our body weight is ideal. Others say that BMI is faulty as it does not account for muscle mass and that waist-hip ratio is better.

One person's ideal body weight may be completely different from another's. If someone compares to family and friends the risk either aiming too high if he is surrounded by obese or overweight people or too low if everyone around him works as fashion models. Even comparing with people outside the immediate surroundings may not work. The levels of overweight and obesity in one country, such as the USA or UK, are much higher than in The Netherlands. So a Dutch person may aim for a lower ideal weight than an American if all he did was to compare himself to other people.

Astrup A. (2001) - The observation that obesity prevalence is increasing despite a slight decrease in population dietary fat consumption, is easily explained by the concomitantly decreasing physical activity, which reduces fat requirements and counteracts the beneficial effect of a slight reduction in dietary fat. (7)Thus, the effectiveness of regular exercise and a prudent diet for weight loss may be enhanced by attention to specific diet details. Johnston CS (2005)³

Exercise increased loss of body fat and preserved lean mass. This study demonstrated that a diet with higher protein and reduced carbohydrates combined with exercise additively

improved body composition during weight loss, whereas the effects on blood lipids differed between diet treatments. Layman DK, Evans E, Baum JI (2005)⁴

Schoeller DA, Shay K, Kushner RF.-Exercise is frequently identified as a predictor of weight maintenance after elective weight loss in retrospective studies of treatments for obesity.⁵ The prevalence of obesity has been on the increase and, on the whole, improvements in patient education have not led to the desired outcome of weight maintenance--let alone weight loss. For some time therapeutic techniques derived from behavioral psychology, such as self-monitoring, stimulus control and goal setting, have been incorporated as adjuncts to the treatment of weight problems--intended to help obese people make positive changes to their eating and activity habits. In more recent decades, behavior modification approaches have also incorporated strategies from cognitive therapy, which have involved the identification and modification of 'dysfunctional' thinking patterns and consequent negative mood states; hence the term 'cognitive behavior therapy' (CBT). There is increasing interest in adopting CBT approaches to achieve more modest and sustainable weight loss and improved psychological well-being. While CBT is not a panacea for problems of overweight it does offer additional treatment choice for some--and is compatible, as an adjunct, with other forms of obesity management.⁶

Material and methods

The study is based on the data collected on 70 subjects (35 males and 35 females), age ranging 30 – 50 years. Subjects were randomly selected from the Yoga classes of Delhi, Gurgaon, Noida region. Although 100 subjects were selected for the study, due to various reasons 30 subjects could not complete the study. The subjects were a heterogeneous group having Diabetes, Hypertension, Obesity and joints problem but otherwise healthy and were voluntarily wanted to join Yoga session for general physical mental wellbeing.

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pranayam, Shatkarma and relaxation techniques were introduced to them. They practiced Hatha Yoga regularly for 90 days under the guidance of a Yoga Expert except Sunday and holidays. The Body weight was observed before and after the 90 days duration, and the results were analyzed through proper statistical methods, which have been radiated below in Table 1.

Result: Table : 1 Showing the effect of Hatha Yogic Practices on Body Weight

	<i>Pre</i>	<i>Post</i>
Mean	84.44286	81.31429
Variance	280.0764	233.3781
Observations	70	70
Hypothesized Mean Difference	0	
df	137	
t Stat	1.155165	
P(T<=t) one-tail	0.125017	
t Critical one-tail	1.656052	
P(T<=t) two-tail	0.250034	
t Critical two-tail	1.977431	

Discussion and Conclusion:

In a research conducted in Connecticut, USA, a six-week program of yoga and meditation was undertaken to observe the brachial artery reactivity, significant reductions in blood pressure, heart rate, and BMI was observed in the total cohort with yoga.⁷ It was found that yogic practices are useful in preventing and managing disorders related to the body systems.⁸ In the present study body weight significantly decreased after Hatha yogic practices. A controlled trial held in India supports that yogic practices contribute to reduced excessive body fat not only among school students but also in obese patients.⁹ Yoga might have played role as a safety measure. Other study also performed in Toronto, Canada, clearly states that physically active individuals are less likely to develop hypertension than sedentary individuals.¹⁰

The impact being overweight or obese has on our body is one of the main reasons to lose weight. The more weight we gain, the more at risk we put ourselves for some serious medical conditions. High blood pressure, high cholesterol, type-2 diabetes, sleep apnea, arthritis and even some forms of cancer are linked to carrying around excess weight.

Table (1) shows that the practice of Hatha yoga reduces the body weight of the practitioners significantly. It is well known that yogic practices are beneficial for the health. The level of cholesterol, triglyceride and LDL was significantly reduced in one study after yogic practices.¹¹ Physical exercises including yogic practices along with dietary modification have

been observed to control lipid content of blood and to treat and prevent CAD. A study was conducted in Tampere, Finland also favor to the present study and mentioned that the practice of yoga was associated with significant decreases in cholesterol among subjects with cardiovascular disease.¹² At the end it can be concluded that Yogic practices significantly reduce the body weight of the practitioners.

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