

# A study on the effect of Yoga and diet-control on Body mass index and cholesterol level of the Obese Youth

Seema Patel<sup>1</sup> & Kamakhya Kumar<sup>2</sup>

<sup>1</sup>Research Scholar, Dept. of Yoga and Health, Dev Sanskriti Vishwavidyalaya, Haridwar

<sup>2</sup>Assoc. Professor, Dept. of Yoga and Health, Dev Sanskriti Vishwavidyalaya, Haridwar

## Abstract

Obesity is a condition where a person has accumulated so much body fat that it might have a negative effect on their health. If a person's bodyweight is at least 20% higher than it should be, he or she is considered obese. If your Body Mass Index (BMI) is between 25 and 29.9 you are considered overweight. If your BMI is 30 or over you are considered obese.

The aim of this study was to observe the impact of yoga practices for 6 weeks on body mass index (BMI) cholesterol of subjects with the age group 15- 25 years. For this 25 male subjects were selected randomly from New Delhi India. In this Pre- post study data were collected before and after intervention of yoga practices for 6 weeks 45 days. Body mass index (BMI) was measured according to world health organization (WHO) body mass index (BMI) chart; and the serum cholesterol was measured through lipid profile test. Paired t - test was applied for statistical analysis and p-value <0.01 was considered the level of significance. It is concluded that significant decreased was seen in body mass index and level of cholesterol. This study show that yoga practices has reducing impact on Body Mass Index (BMI) and cholesterol level of the obese youth.

**Key words:** *Asana, Pranayama, Shatkarma, BMI & Cholesterol*

Article Received: 17-02-2016, Published: 18-03-2016

Conflict of interest: None declared

\*Corresponding Author:

Seema Patel, Research Scholar, Dept. of Yoga and Health, Dev Sanskriti Vishwavidyalaya, Haridwar, India

E-mail: [seemadsvv@gmail.com](mailto:seemadsvv@gmail.com)

**International Journal of Science and Consciousness (IJSC): a Bio-Psycho-Spiritual approach**  
Published by the Research Foundation for Science & Consciousness, Uttarakhand, India

## Yoga and diet-control on BMI and cholesterol level of the Obese Youth

### Introduction:

Obesity is not just a problem for adults - the spread of obesity among children is also alarming experts. At least 20 million children under the age of 5 years were overweight globally in 2005, according to the WHO. <sup>1</sup>

India is experiencing a major obesity epidemic. Reduced physical activity and/or increased energy intakes are important factors in this epidemic. Johnston CS (2005)<sup>2</sup> 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.<sup>3</sup>

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.<sup>1</sup> 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.<sup>4</sup> Obesity is a chronic metabolic disorder

associated with CVD and increased morbidity and mortality. Poirier P, Després JP. (2001)<sup>5</sup>

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.<sup>6</sup> 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)<sup>2</sup>

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)<sup>7</sup> 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.<sup>8</sup>

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.<sup>9</sup>

### Methodology

To observe the effect of Yogic Practice and diet-control on Body mass index and cholesterol level of the Obese Youth a six week study was conducted at Delhi area. In this study to observe the impact of yoga practices for 6 weeks on body mass index (BMI) cholesterol of subjects with the age group 15- 25 years. For this 25 male subjects were selected randomly from New Delhi India.

The body mass index (BMI) is a statistical measurement derived from your height and weight. Although it is considered to be a useful way to estimate healthy body weight, it does not

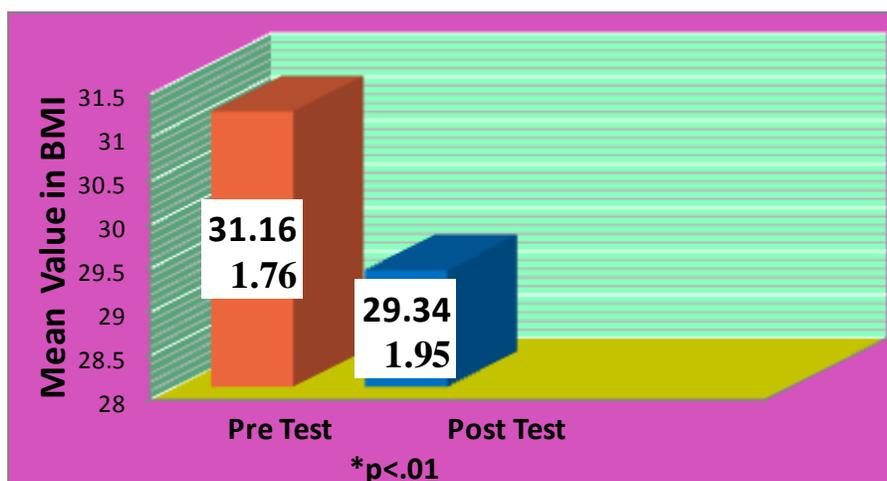
measure the percentage of body fat. The BMI measurement can sometimes be misleading - a muscleman may have a high BMI but have much less fat than an unfit person whose BMI is lower. However, in general, the BMI measurement can be a useful indicator for the 'average person.

In this Pre- post study data were collected before and after intervention of yoga practices for 6 weeks 45 days. Body mass index (BMI) was measured according to world health organization (WHO) body mass index (BMI) chart; and the serum cholesterol was measured through lipid profile test. Paired t - test was applied for statistical analysis and p-value <0.01 was considered the level of significance

### Results

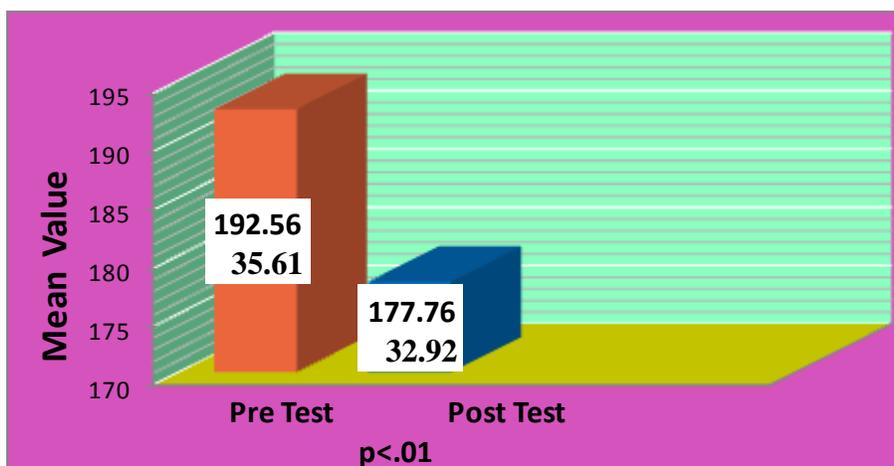
**Table 1: BMI level of the subjects**

Group	Test	N	Mean	SD	r	Sed	df	t	Significance
Male	Pre	25	31.16	1.76	.85	.21	24	8.76	<.01
	Post	25	29.34	1.95					



**Table 2: Blood cholesterol level of the subjects**

Group	Test	N	Mean	SD	r	Sed	df	t	significance
Male	Pre	25	192.56	35.61	.84	4.02	24	3.75	<.01
	Post	25	177.76	32.92					



### Discussion & Conclusion:

Obesity is increasing globally due to changing lifestyle with rapid urbanization. Regular practice of Yoga not only helps in better metabolism but it also regulates the digestive process. The better digestion, assimilation and ejection regulate the body physiology. Effect of Yogic Intervention significantly reduces the General Body weight of the subjects: according to a study report<sup>10</sup>

The present study shows a significant reduction in the body weight and the level of cholesterol as well, because the intervention not only based on Asana Pranayama. It included the Shatkarma (the cleansing practice) as well. One of the study over Effect of Shatkarma practices on serum glucose and serum cholesterol level of the Human subjects shows a significant reduction in both the parameters.<sup>11</sup>

The reduction in the cholesterol of the practitioners is due to better metabolism. one such study on the effect of Hatha Yogic Practices on Body weight of the Human subjects shows a significant reduction in the subjects practicing Yoga<sup>12</sup>.

### References:

1. (BBC NEWS Health Obesity in statistics) , Last Updated: Wednesday, 2 January 2008, 16:39 GMT
2. Johnston CS, Strategies for healthy weight loss: from vitamin C to the glycemic response, J Am Coll Nutr. 2005 Jun;24(3):158-65
3. National Heart, Lung, and Blood Institute (PDF). Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. International Medical Publishing,

4. Jean-Pierre Després, professor , Isabelle Lemieux, PhD student , Denis Prud'homme, professor ., Treatment of obesity: need to focus on high risk abdominally obese patients : Clinical review,BMJ 2001;322:716-720
5. Poirier P, Després JP., Exercise in weight management of obesity, *Cardiol Clin.* 2001 Aug; 19(3):459-70.
6. Astrup A., The role of dietary fat in the prevention and treatment of obesity. Efficacy and safety of low-fat diets., *Int J Obes Relat Metab Disord.* 2001 May;25 Suppl 1:S46-50.
7. Layman DK, Evans E, Baum JI, Seyler J, Erickson DJ, Boileau RA.,Dietary protein and exercise have additive effects on body composition during weight loss in adult women, *J Nutr.* 2005 Aug; 135(8):1903-10.
8. Schoeller DA, Shay K, Kushner RF.,How much physical activity is needed to minimize weight gain in previously obese women?, *Am J Clin Nutr.* 1997 Sep; 66(3):551-6.
9. RM Suskind a , U Blecker 1 a , JN Udall, Jr b , TK von Almen b , HD Schumacher b , L Carlisle b MS Sothorn b , Hypertension. 2008;51:1519.)
10. Kumar K, Effect of Yogic Intervention on General Body weight of the subjects: A study report; *International Journal of Yoga and Allied Sciences*, Vol. 4, No. 1, 2015. pp 11- 14.
11. Pokhriyal K P & Kumar K; Effect of Shatkarma practices on serum glucose and serum cholesterol level of the Human subjects: an Observation; *International Journal of Yoga and Allied Sciences*, Vol. 2, No. 1, 2013. pp 10-13.
12. Pokhariyal K P & Kumar K; A study on the effect of Hatha Yogic Practices on Body weight of the Human subjects, *ACADEMICIA* Volume 3, Issue 2 (February, 2013) pp 257-61.

**Cite this paper as: Patel, S. and Kumar, K. (2016). A study on the effect of Yoga and diet-control on Body mass index and cholesterol level of the Obese Youth. *International Journal of Science and Consciousness*; 2(1): 13-17.**