

Impact of Yoga on obesity Management of Corporate Personnel

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Abstract:

Background: 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 5 to 10 percent 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 kunjla kriya Practices on body weight of the normal Human subjects.

Methods: Forty five subjects were taken as experimental group from urban area of Haridwar region. The subjects were a heterogeneous group having 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 kunjla kriya were introduced to them. The volunteers practiced for 30 days except Sunday.

Results: The impact of the practice of Hatha Yogic techniques showed a significant reduction on their body weight.

Conclusion: The study reveals that the practice of kunjla kriya can helps the people suffering from obesity and obese. So finally it can be concluded that the practice of kunjla kriya can helps to manage obesity in corporate world.

Keywords: Obesity, Kunjal Kriya, Corporate Sector.

Introduction:

According to the World Health Organization (WHO), obesity is one of the most common, yet among the most neglected, public health problems in both developed and developing countries¹. According to the WHO World Health statistics report 2012, globally one in six adults is obese and nearly 2.8 million individuals die each year due to overweight or obesity.² Due to the increased risk of morbidity and mortality, obesity is now being recognized as a disease in its own right. Additionally, obesity is strongly associated with other metabolic disorders including diabetes, hypertension, dyslipidaemia, cardiovascular disease and even some cancers. The risk for these disorders appears to start ³ from a body mass index (BMI) of about 21 kg/m². Obesity is generally classified as generalized obesity

(GO) and abdominal obesity (AO). Individuals with obesity have higher rates of mortality and morbidity compared to non obese individuals ^{4,5}.

Second most populous country in the world and is currently experiencing rapid epidemiological transition. Under nutrition due to poverty which dominated in the past, is being rapidly replaced by obesity associated with affluence⁶ industrialization and urbanization also contributes to increased prevalence of obesity. Studies from different parts of India have provided evidence of the rising prevalence of obesity ^{6,7,8,9} However; most reports have been region specific (mostly from urban areas).

That's why we are decided to done such a job taking only who are working in corporate sector, who were definitely too busy with their schedule, the people working

basically in corporate sector in india are living such a sedentary life style. Therefore they have no enough time to manage their life style, due to overwhelming life style. And obesity is well recognizing as the resultant of sedentary life.

According to Gherand Samhita, a well known text book of hath yoga, kunjil practice is under the section of cleansing process (i.e. Shatkarma) can helps to people who want to become a yogi for cleansing the stomach region of digestive system as well as reducing the fat (kafa), which is well known as third Doshha in the concept of Tridosha according to Ayurveda. And fat (Kafa) is the major cause of body weight. Therefore when the fat reduction is going on the body weight can be reduce and manage. Now, in the process of reduction of fat diet must be manage by the researcher, and the overall intake of fat during the process should be low.

Definition of obesity:

Obesity has been defines as a person, “who on account of inordinate of fat and flesh, is disfigured with pendulous, buttocks, belly and breasts and whose increase bulk is not matched by a corresponding increase in energy”. Excess deposition of fat in adipose tissue is obesity. A body weight 20% or more than the desirable weight for age, sex and height is regarded as obesity. A recent national institute of health consensus conference defines obesity as B.M.I.>25 K.G./m².

BMI= actual weight in K.G. / height in m²
 According to parks, obesity may be defines as an abnormal growth of the adipose tissue. It is in three ways

- Enlargement of fat cell in size i.e. hypertrophic obesity.
- Increase in the number of fat cell i.e. hyper plastic obesity

- A combination of both

Here the modern terminology obesity can be understood as a disease. This is further responsible for the associated disease like diabetes, cardiac problems, CHD etc.

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. The World Health Organization's (WHO) recommended body weight based on BMI values for adults. It is used for both men and women, age 18 or older.

Category	BMI range - kg/m ²
Severe Thinness	< 16
Moderate Thinness	16 - 17
Mild Thinness	17 - 18.5
Normal	18.5 - 25
Overweight	25 - 30
Obese Class I	30 - 35
Obese Class II	35 - 40
Obese Class III	> 40

An ideal BMI is in the 18.5-24.9 range. If your BMI is 25 or more, you weigh more than is ideal for your height: 25-29.9 is overweight. 30-39.9 is obese.

Kunjal Kriya:

Kunjal is performed by drinking slightly salty water up to the point till the feeling of vomiting is generated. The water should be lukewarm. Normally water is taken in a normal sitting defecation posture on ground (both leg folded through the knees) so that stomach is pressed inside.

One can take 3 to 6 glasses of water in one go quickly but one can also take more water as per his convenience and capacity. Vomiting is normally done while standing and bending forward towards the wash basin. If vomiting is not initiated automatically at this point one may then put two fingers down in the throat and massage the back of the tongue as far down as possible to initiate vomiting. By pressing back of the tongue, feeling/urge to vomit (called the ‘gag reflex’ in medical term) will start. Water will come out of mouth in a quick succession/gushes. Continue pressing until stomach is empty.

Clean/rinse mouth with fresh water and lie down with back touching the resting floor, on flat surface/bed and rest for minimum half an hour to two hours to feel comfortable. Normally, this practice may be done as a first thing in the morning on an empty stomach after passing out stool.

Surya Namaskara (sun salutation):

A set of 12 powerful yoga postures (asanas) that provide a good cardiovascular workout in the form of Surya Namaskara. Literally translated to sun salutation, these postures are a good way to keep the body in shape and the mind calm and healthy.

Surya Namaskara is best done early morning on an empty stomach. Let’s begin with these simple yet effective Sun Salutation steps on our way to good health.

Each Sun Salutation round consists of two sets. These 12 yoga poses complete one set of Surya Namaskara. To complete the

second half, you need to repeat the same sequence of postures, only moving the left leg instead of the right (in steps 4 and 9 given below). You might find several versions of doing Sun Salutation. However, it is best to stick to one particular sequence and practice it regularly for best results.

Objective:

To examine the Effect of Kunjal Kriya and Surya Namaskara on obesity people of corporate sector.

Material and methods:

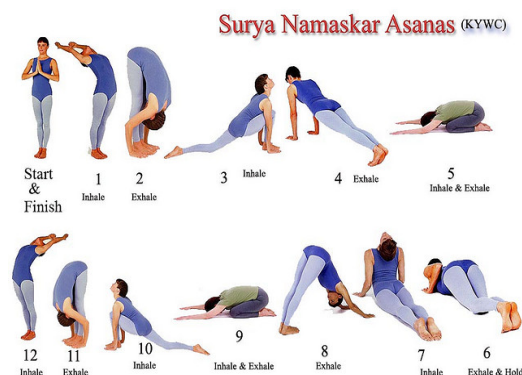
Forty five subjects were taken as experimental group from urban area of Haridwar region. The people who are belonging from corporate sector are purposively selected for this research work. The subjects were a heterogeneous group having Obesity at least (BMI = 25-35) and joints problem but otherwise healthy.

Inclusion criteria:

Person voluntarily wanted to join Yoga session for general physical mental wellbeing and not suffering from such chronic illness as well as not taking any kind of medicine.

Intervention:

In this pre-post research study a package of



kunjal kriya and surya namaskar were

introduced to them. The volunteers practiced for 30 days except Sunday.

Single group pre-post test design was used in the present study, at the beginning of the study 0th day pre data was collected and tabulated and after 30th day of intervention post data of effectiveness was collected, data was analyzed to see if there is a difference between them as a result of intervention or not. The analysis of pre- post data were analyzed by SPSS ver. 23.

Intervention schedule:

S.No.	Practice Schedule	Round	Duration
1	Om chanting	3 times	02 min
2	Kunjal kriya	1 round / day	10 min
3	Surya namaskar	2 round / day	05 min
4	Shanti path	1 round /day	02 min
	Total		19 min / day

Tools:

For measurement of body weight and height, a weighing machine and an inch tape were used. After measuring the height and weight of the subjects the calculation of BMI is done by the help of calculator.

Procedures:

This study was conducted at BHEL Haridwar, Uttarakhand. Forty five male subjects were selected through purposive sampling and the sample was assigned as experimental group (n= 45) and there age range is in between 23 to 32 years of age. All members of experimental group followed there prescribed yogic practices during the course of study and also instructed not to exert his body. The Yogic intervention was given to the experimental group while there was no control Group. The outcome measures were assessed in both groups before and after the study.

Statistical analysis:

Obtained data were tabulated and analyzed. The initial values on 0th day of each parameter were compared with the final values obtained on 30th day's measurement. Paired t- test was used for the statistical analysis with the help of SPSS ver. 23.

Paired Samples Statistics

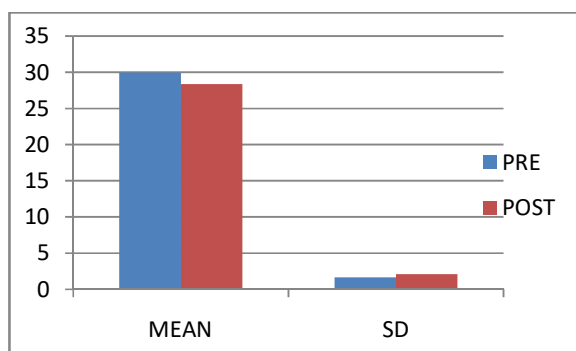
	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 pre obesity	29.9595	45	1.66690	.25721
post obesity	28.3690	45	2.10093	.32418

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 pre obesity & post obesity	45	.786	.000

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence				
				Lower	Upper			
Pair 1 pre obesity - post obesity	1.59048	1.29799	.20028	1.18599	1.99496	7.941	44	.001



Result:

The mean & standard error of mean ($M \pm SD$) of pre test and post test on level of obesity of the experimental group were consecutively found to be 29.95 ± 1.66 and 28.36 ± 2.10 . The correlation (r) .78 and SEd is 0.200 and obtained t-value is 7.941 which are statistically highly significant at 0.001 significance level of confidence.

In this study we can see clearly that the obesity level had shifted from severe stage to normal stage, which denotes that, the practitioners of Kunjal Kriya and Surya Namaskara series get relief and feeling relaxed.

On the basis of obtained result it can be concluded that, a combination of Kunjal Kriya and Surya Namaskara (sun salutation) intervention is significantly decrease the level of obesity of people working in corporate sector.

Conclusion:

The results of the present study reveal that the regular practice of Kunjal Kriya and sun salutation helps to cope up the obesity level of an obese adult. All these aspects affect the interpersonal and social behavior as well as physical Health of an individual. Healthy citizen makes mentally healthy society then this will lead to the society for the development.

In other way different yogis stat the principle of yoga that the blockage in the pranic passage is known as disease so during

the practice of yoga, actually we are trying to clear the blockage which exist in the way of vital energy/Prana. Once a person clears the blockage he definitely get rid of disease. "Pranayama induces calmness and tranquility in several ways. It clears all the pranic passages of any blockages, due to the presence of toxins-It equalizes the flow of prana in the ida and pingala network of nadis. It purifies the blood systems of all toxins. The purifying action of Pranayama on the brain cells enhances the efficiency of the brain centers, allowing them to function at their optimum capacity."¹¹

"Kunjal has none of the unpleasant sensations usually associated with vomiting, like nausea and bad smell. The water brought up is usually clean and without smell. The added salt removes the acid by naturalizing it, which removes the burning feeling. The water contains nothing solid, thus it comes out quickly and easily. After the first few times, Kunjal becomes a pleasure."¹²

"At the physical level Kunjal can aid the maintenance of good health as well as help in the cure of the following diseases: acidity and gas in the stomach; biliousness, nausea, food poisoning and auto-poisoning; indigestion; inflamed esophageal mucosa, coughs, asthma, bronchitis and respiratory ailments; headaches, (both tension and migraine) and diseases of the nervous system."¹²

The indirect effects of Kunjal are that it tones up and helps to rebalance the nervous system, thus helping to rejuvenate the whole body

"When you do Kunjal, the action of the energy flush moving from the stomach on the physical level, and Manipur chakra on the psychic level, stimulates the vagus nerve both in its sensory and motor functions."¹³

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.¹⁴ It was found that yogic practices are useful in preventing and managing disorders related to the body systems.¹⁵ 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.¹⁶ 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.¹⁷ at the end it can be concluded that practice of Kunjal Kriya and Surya Namaskara significantly reduce the body weight of the practitioners.

References:

1. World Health Organization (WHO). Obesity: preventing and managing the global epidemic. report of a WHO consultation. World Health Organ Tech Rep Ser2000; 894: i-xii, 1-253.
2. 2012. Geneva: WHO; 2012. Available from: http://www.who.int/gho/publications/world_health_statistics/EN_WHS2012_Full.pdf, accessed on november 28, 2012.
3. James WpT, et. Al. Comparative quantification of health risks: global and regional burden of disease attributable to selected major risk factors. vol i. Geneva: World Health Organization; 2004. p. 497-596. Flegal Km, Kit bK, Orpana H, Graubard bi. association of
4. All-cause mortality with overweight and obesity using standard body mass index categories: a systematic review and meta-analysis. JAMA2013; 309 : 71-82.
5. mortality and burden of disease attributable to selected major risks. Geneva: switzerland, WHO; 2009. http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf, accessed on February 3, 2014. mohan V, deepa r. Obesity & abdominal obesity in asian
6. Indian J Med Res2006; 123: 593-6. bhardwaj s, misra a, misra r, Goel K, bhatt sp, rastogi
7. KV, et al. High prevalence of abdominal, intra-abdominal and subcutaneous adiposity and clustering of risk factors among urban asian indians in north india. PLoS One2011; 6: e24362.
8. Deepa m, Farooq s, deepa r, manjula d, mohan V. prevalence and significance of generalized and central body obesity in an urban asian indian population in chennai, india (cUrEs: 47). Eur J Clin Nutr2009; 63: 259-67.
9. In developing countries. J Clin Endocrinol Metab2008; 93 (11 suppl 1): s9-30.
10. Poirier P, Després JP., (2001 Aug) Exercise in weight management of obesity, Cardiol Clin.;19(3):459-470.
11. Magazine of Bihar school of yoga (<http://www.yogamag.net/archives/1991/fnov91/pranstr.shtml>)
12. Dr. Swami Shankardevananda Saraswati
<http://www.yogamag.net/archives/1977/dapr77/kunjal.shtml>
13. Kumar. k. (2015), effect of yogic intervention on genral body weight of the subjects: a study report, international journal of yoga and allied sciences, vol 4: issue-1.
14. Sivasankaran S, Sachdeva S, Sachdeva R, Pugada J, Hoq SM, Stuart et al. Division of CardiovascularMedicine, Department of Medicine, Bridgeport Hospital, Bridgeport, Connecticut 06610, USA. Clinical Cardiology (Clin Cardiol) 2006;29(September (9)):393—8.
15. Saraswati K, Swami. Yogic management of common diseases. Munger: Bihar School of Yoga;1986. p. 27.
16. Bera TK, Gore MM, Kulkarni DD, Bhogal RS, Oak JP. Yoga Mimansa, vol. XXXIV, nos. 3 and 4. October 2002 and January 2003. p. 166—87.
17. Shephard RJ. Absolute versus relative intensity of physical activity in a dose-response context. Med Sci Sports Exerc 2001;33:S400—18.