

Effect Of Bhujangadi Yoga Package In The Management Of Obesity: A Case Study**Dr .Sudarshan Kale,**

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Abstract:

Obesity became a serious global health issue in developed and developing countries including India. The main cause of obesity is decreased physical activity that means imbalance between the amount energy intake and the energy expenditure. Obese person may have feel of low energy level ,breathing difficulties, excessive sweating. It is a positive risk factor in the development of hypertension ,diabetes, coronary heart disease, also PCOD and infertility in female. Yoga has an important role in the management of obesity. Yogic management of obesity is based on yogapostures(Asana) and Breathing techniques(pranayama). Various types of asanas are described in Yogic Texts .In asanas various types of stretching like flexion and extension occurs and this stretching helps in reduction of accumulated fat of surrounding area.. Therefore yogasana are useful for weight reduction in obesity. **Aim-**To study the effect of Bhujangadi Yoga Package on weight and body mass index (BMI) in obese. **Material and methods-**This is a single case study on obese girl having BMI 25.45 kg/m². She has been advised to practice Sukshma Vyayama, Bhujangasana, pashimottasana, Dhanurasana and suryanamaskara abhaya shawasana for 3 months. Anthropometric parameters such as weight, body mass index (BMI), waist circumference (WC), hip circumference (HC) and mid arm circumference (MAC) and subjective parameters were assessed before and after 3 month of yoga practice. **Result-**After three months of regular yoga practice 5kg weight loss was observed, along with declining of other symptoms. BMI was reduced to 22.97kg/m² along with the reduction in WC, HC and MAC. **Conclusion-**Regular practice of Bhujangadi Yoga Package is effective for decreasing the weight and thereby BMI in obesity.

Keywords – Yoga, obesity, BMI.

Introduction

According to Ayurveda, *Sthaulya* can be correlated with obesity. Obesity may be defined as an abnormal growth of the adipose tissue due to enlargement of fat cell size or increases in fat cell number or a combination of both. It is usually expressed in terms of body mass index (BMI). BMI is a simple index of weight for height that is commonly used to identify and classify underweight, overweight and obesity in adults [1]. BMI \geq 25 Kg/m² is considered as overweight [2].

Overweight and obesity are the fifth leading risk of global health. As obesity is a key risk factor in development of other chronic and non communicable disease like hypertension, diabetes, coronary heart diseases [3].

There are some reasons for the increasing prevalence of obesity i.e. the obesogenic environment, which include increasing energy intake

and decreasing energy expenditure. Increase in energy intake is due to increase portion size, increase snacking and loss of regular meals, increase energy fatty food and increase affluence. Decrease energy expenditure due to decrease walking to school or work, decrease outdoorsports in school, increase automation, decrease manual labor, increase time spent on computer, games and watching T.V. and central heating [4].

Aacharya Charaka has stated eight types of undesirable person. obese person is one among them. excess intake of food, heavy, sweet, cold and unctuous food, lack of physical exercise, abstinence from sexual intercourse, day sleeping, lack of tension, lack of thinking and heredity are the causes of obesity. Highly obese people have deficient in longevity ,slow movement, difficulty in intercourse, weakness, odorous excess sweating ,excessive hunger and excessive thirst [5]

In obesity, fatty tissue obstructs the channels of digestive system. Therefore obstruction of the low of *vata dosha* gets obstructed in the digestive

system. It increases digestive power and the food digests rapidly and that leads to frequent hunger. So the person digests food quickly and becomes a voracious eater. If he does not get food supply, he becomes prone to serious disorders. As the fatty tissue and muscles increase in the body and weight increases [6]. In obese person only fat tissue gets more nourishment and other body tissues are deprived of nourishment, hence longevity is affected [6].

Yoga is an ancient technique that always aimed to promote holistic living through better lifestyle, improved food habits and a physical regime. *Yoga* plays an important role in treating Obesity. *Yoga* influences the internal organs, endocrine glands, brain, mind and other factors. *Asanas* strengthens the muscles, deep breathing while doing *yoga* reduces fat for bringing body weight to optimal level. *Yoga* can help to develop strong muscles, a flat stomach and a strong back along with improvement of posture [7].

Aim and objective:

- 1) To study the effect of *Bhujangadi Yogic Package* on weight and BMI in Obese.

Material & methods:

Case Report:

A 22 yrs old girl having weight 56kg came to *swasthavritta* OPD of Dr Rajendra Gode Ayurveda College and Hospital, Amravati; presenting with complaints of weight gain, lethargy, increased appetite and heaviness in the body. No H/O any major illness and bariatric surgery in the past was noted. No family history of obesity and any other major illness were found. Anthropometric parameters such as height 1.49m, BMI 25.45kg/m², chest circumference-36 inches, abdominal circumference – 31.5 inches, hip circumference – 39 inches, mid arm circumference – 10 inches were taken. In this patient, BMI ≥ 25Kg/m² which is considered as overweight.

Intervention and its basis:

In obesity extra fat is accumulated over thighs, abdomen etc. Therefore for the management of obesity physical exercise, fat reducing medicine and diet is necessary. In this case only *Yogasanas* were advised without any medicinal treatment and diet management. In the *Bhujangadi Yoga Package* these asanas were included, *Sukshma*

Vyayam, *Bhujangasana*, *Paschimottanasana*, *Dhanurasana* and *Suryanamaskara* and *shavasana*. These were practiced by patient for three months. Images of *Sukshma Vyayam*, *Paschimottanasa*, *Dhanurasana*, *Bhujangasana*, and *suryanamaskara* and are given in figure number 1, 2, 3, 4 and 5 respectively. These *Asanas* practiced early in the morning with empty stomach for 75 minutes and for 3 months. Prior to therapy 7 days of training was given to participant. Participant didn't have any previous experience of *yoga* practice. Total duration of each *Asana* during seven days training period and three months actual *Yoga* therapy is given in table number 1 and 2 respectively. While doing these *Asanas* abdomen, thighs and spine are stretched. Stretching helps to reduce extra fat which is accumulated over abdomen, thighs. That's why these *Asanas* were selected for the study.

Normal range of BMI is 18.50 to 24.99Kg/m². For 149cm height recommended cut off value of weight is 49.50kg.



Fig. no.1 : Sukshma vyayama

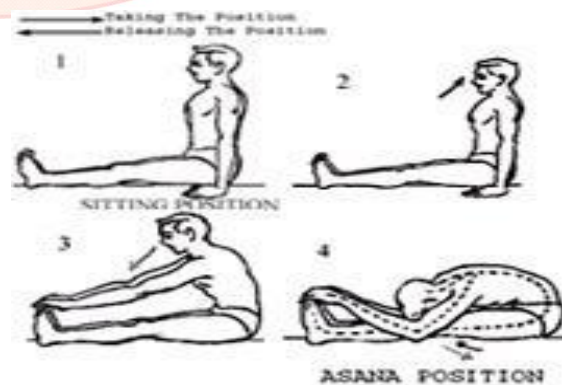


Fig. no. 2 : Paschimottanasana

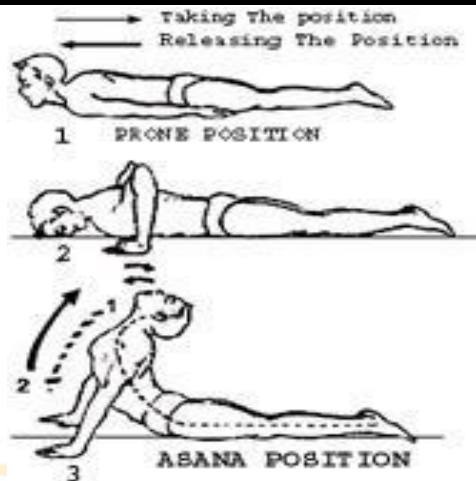
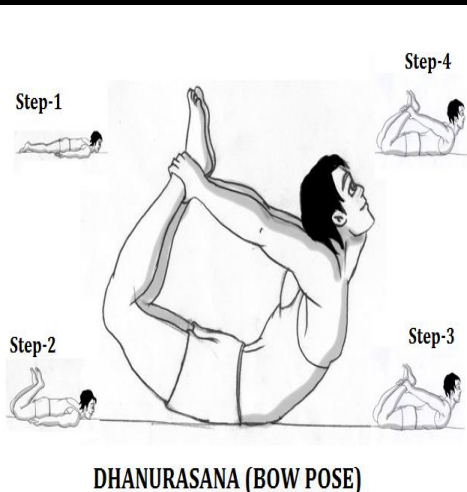


Fig.no. 3 : Dhanurasana

Fig. no. 4 : Bhujangasana



Fig. no. 5 : Suryanamaskara

Yoga Package practiced by the participant:

When patient first came in the OPD, patient was made to perform for 35 min seven days *Yogasana* training according to the schedule given in table number 1.

After 7 days *Yogasana* training, duration of *asanas* was increased. This was followed for 1 hour 15min daily in the morning with empty stomach. Schedule of *Yoga* therapy practiced for three months by patient as shown in table number 2 and follow up is given in table number 3.

Table 1: Bhujangadiyogapackage training schedule for seven days

Sr. No	Yogasana	Duration	Aavartana	Rest	Total Duration
1	Sukshnavyayama	10 min.	5/each	-	10 min
2	Bhujangasana	30 sec	5	30 sec	3 min
3	Paschimottasana	30 sec	5	30 sec	3 min
4	Dhanurasana	30 sec	5	30 sec	3 min
5	Suryanamaskara	2 min	5	-	10 min
6	Shwasana	6 min	1	6 min.	6 min

Table 2: BhujangadiYogapackage schedule for three months

Sr. No	Yogasana	Duration	Aavartana	Rest	Total Duration
1	Sukshmayayama	10 min.	5/each	-	10 min
2	Bhujangasana	1 min	7	1 min	8 min
3	Paschimottanasana	1 min	7	1 min	8 min
4	Dhanurasana	1 min	7	1 min	8 min
5	Suryanamaskara	2 min	1 0	After 30 min. 3 min-4min	26 min
6	Shwasana	15 min	1	15 min.	15 min

Table 3: Effect of BhujangadiYogapackage on weight and subjective parameters

Sr. no.	Day	Yoga duration	Weight loss	Upashaya(relief)
1	1 st - 15day	75 min	-	-
2	15 th day	75 min	1 K g	No change
3	30 th day	75 min	1.5 K g	Lightness in the body
4	60 th day	75 min	2 K g	Appetite normal, freshness
5	90 th day	75 min	1 K g	Feeling much better.

Observation & results -

After three months of regular yoga practice 5kg weight loss was observed, along with decline of other symptoms. BMI was reduced to 22.97kg/m² along with reduction in WC, HC and MAC.

The results were assessed using weight, BMI, chest circumference, abdominal circumference, hip circumference, mid arm circumference.

Table 3: Effect of Bhujangadi yoga package on anthropometric parameters

Sr.	Assessment	BT(Day 0)	AT(Day 90)	Difference
1	Weight	56kg	51Kg	5 Kg
2	Chest circumference	36inch	34inch	2 Inch
3	Abdominal circumference	31.5inch	29inch	2.5inch
4	Hip circumference	39inch	36.5inch	2.5inch
5	Mid arm circumference	10inch	9 inch	1 inch
6	B M I	25.45kg/m ²	22.97Kg/m ²	2.48Kg/m ²

* BT=Before treatment, AT= After treatment

Discussion-

Obesity is a condition characterized by an excess of body fat. That is accumulation of fat result

from imbalance between energy consumption and energy expenditure that is too large to be defended by the hypothalamic regulation of BMI. People who are more obese are likely to develop a range of chronic disorders. [12]

Yoga is an ancient Indian practice which is associated not just with the physical well-being of the body but with the overall health of a human being. Yoga is an ancient Indian practice, which is not like other physical activities; it improves physical and mental health.

This study was conducted to find the solution for weight reduction in obesity, without any therapeutic medicine and diet management. In this present study, participant was advised to practice BhujangadiYogasana for three months. In these Yogasana, flexion and extension of abdominal muscles occurs. sukshmayayamas prepare body for more flexibility and mobility. In Bhujangasana, Dhanurasana and Paschimottanasana forward and backward stretching of the abdomen, chest and thigh muscle occurs. Hence due to stretching of these muscles, accumulated fat reduces, therefore these asanas play an important role in weight reduction in obesity.

1) Bhujangasana-It strengthens the arms, shoulders and spine. That's why it brings flexibility and strength in upper and middle back. Spinal and abdominal region is strengthened and chest gets expanded in this asana. so it can help to reduce fat around abdominal and chest region weight [13].

2) Paschimottansana-It stretches the spine and legs and brings flexibility. It reduces fatty deposits which are accumulated in the abdominal area. It also tones up the abdominal organs like kidney, liver, spleen. It strengthens spine, enhances digestive power and provides health [14].

3) Dhanurasana-This strengthens the back and the abdomen at the same time. Spine is stretched back, so brings back the elasticity to the back and stimulates abdominal organs. It also strengthens the abdominal muscles and massages the abdomen, hence it helps in reducing fat around abdominal area. also it keeps active and energetic [15].

4) Suryanamaskara-This is the combination of twelve postures. In these postures, forward and backward bending of body occurs along with regulated breathing. This practice has a unique

influence on the endocrine and nervous system, helping to correct metabolic imbalances which cause obesity [16]. Due to stretching over all body it reduces extra accumulated fat [17].

Conclusion:

In this study the effect of given *yoga* package was promising on over all parameters of weight BMI. Further evaluation is necessary.

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