

Integrated approach of yoga therapy towards morbid obesity: A case report

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KEY WORDS

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ABSTRACT

The present case study is of evaluation of Grade 3 obesity who visited the Arogyadhama (SVYASA University, Bangalore). Conversations with the patient uncovered that the patient was being treated for obesity and patient portrayed his capacity to deal with the mental pressure related with overweight. He credited it to the inspirational demeanor created by his Yoga practice for 48 days. The patient was additionally ready to decrease body weight. The present narrative is an endeavor to give IAYT Practices, detoxification through Naturopathy.

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Introduction

Overweight and obesity are characterized as unreasonable fat accumulation that is hazardous to wellbeing. An unrefined proportion of obesity is the weight record of BMI, an individual's weight (in kilograms) separated by the square of their stature (in meters). An individual with a BMI of at least 30 is commonly viewed as Obesity grade 3. An individual with a BMI equivalent to or more than 25 is regarded as overweight.

Overweight and obesity are significant risk factors for various disorders, including diabetes, cardiovascular ailments and malignant growth (1).

Yoga reasoning and practice was first codified by Patanjali to the great content, Yoga *Sutras* are broadly recognized as the legitimate content on Yoga. Yoga is a type of mind-body wellness that includes a blend of strong action and a coordinated attention to oneself, the breath, and vitality. Yoga is perceived as a type of mind-body practice that coordinates a person's physical, mental and profound segments to improve parts of wellbeing, especially stress related ailments (2).

In 2016, more than 1.9 billion grown-ups matured to 18 years while the more seasoned were found to overweight. Of these more than 650 million grown-ups were large. In 2016, 39% of grown-ups matured 18 years and over (39% of male and 40% of female) were overweight. Overall, about 13% of the world's grown-up population (11% of male and 15% of female) were fat in 2016. The overall predominance of heftiness almost significantly increased somewhere in the range of 1975 and 2016.

In 2016, an expected 41 million kids younger than 5 years were overweight or fat. Overweight and heftiness are presently on the increase in low-and middle income nations, especially in urban settings. In Africa, the degree of overweight youth, under 5, has expanded by almost 50 percent since 2000. More than 340 million kids and young people matured to 5–19 were overweight or in 2016.

The predominance of overweight and weight among youngsters and teenagers matured in the age group of 5–19 has risen drastically from only 4% in 1975 to simply over 18% in 2016. The increase has happened comparably among the two young men and young ladies: in 2016, 18% of young ladies and 19% of young men were overweight. While under 1% of children and adolescents aged 5–19 were obese in 1975, more than 124 million children and adolescents (6% of girls and 8% of boys) were reported obese in 2016.

Overweight and obesity are known to be the primary contributing factors for deaths worldwide than underweight. Globally, there are more people who are obese than underweight – this occurs worldwide except parts of sub-Saharan Africa and Asia (3).

The etiology of obesity is unquestionably more unpredictable than just an unevenness between vitality admission and vitality yield. In spite of the fact that this view permits simple conceptualization of the different instruments engaged with the advancement of obesity, factor is undeniably more than just the consequence of eating excessively as well as practicing pretty much nothing (sedentary lifestyle). Potential factors in the advancement of obesity are the following:

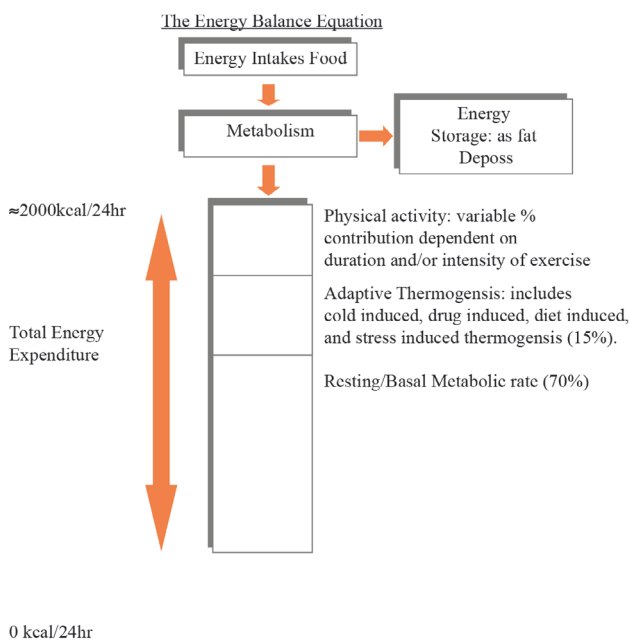
- Metabolic factors
- Genetic factors
- Level of activity
- Endocrine factors
- Race, sex, and age factors
- Ethnic and cultural factors
- Socioeconomic status
- Dietary habits
- Smoking cessation
- Pregnancy and menopause
- Psychological factors
- History of gestational diabetes
- Lactation history in mothers

Developing information suggests that a striking incendiary, and potentially infective, etiology may exist for obesity. Fat tissue is known to be a vault of different cytokines, particularly interleukin 6 and tumor putrefaction factor alpha. One investigation indicated a relationship among obesity and a high-typical degree of plasma procalcitonin, a needy variable that mirrors a condition of pain or irritation. Data has demonstrated that adenovirus-36 is related with obesity in chickens and mice. In human examinations, the pervasiveness of adenovirus-36 disease is 20–30% in individuals who are obese, versus 5% in individuals who are not over weight (4).

Case presentation

Recruitment of patient

A 28 year old male participant from New Delhi, enrolled himself at Prashanthi Kutiram on the 15th of June 2018 and was



put in section 'H', which deals with Obesity. He resided in campus from 15.06.2018 to 02.08.2018 (48 days). He underwent Yoga therapy with some detoxification treatments like sauna

bath, steambath, hip bath and underwater massage as well as for more relaxation and aids more benefits Mud pack to abdomen and eyes for a week in between.

IAYT protocol: Treatment regimen

Loosening practice (5), (6)

S. No.	Loosening practice	Duration of procedure	Frequency	Duration of intervention
1	Butterfly	10	2 times a day	8 weeks
2	Loosening of Fingers & wrist	10	2 times a day	8 weeks
3	Padasanacalana	10	2 times a day	8 weeks
4	Loosening of elbow	10	2 times a day	8 weeks
5	Side bending	10	2 times a day	8 weeks
6	Shoulder Rotation	10	2 times a day	8 weeks
7	Twisting	10	2 times a day	8 weeks
8	Spinal Twisting	10	2 times a day	8 weeks
9	Neck movement	10	2 times a day	8 weeks
10	Rotation	10	2 times a day	8 weeks
11	Ardhakati Chakrasana	10	2 times a day	8 weeks
12	Sideward bending	10	2 times a day	8 weeks
13	Spinal twist	10	2 times a day	8 weeks
14	Hip stretch	10	2 times a day	8 weeks
15	Back stretch with alternate leg	10	2 times a day	8 weeks
16	Full butterfly	10	2 times a day	8 weeks
17	Alternate & both leg raising	10	2 times a day	8 weeks
18	Side leg raising	10	2 times a day	8 weeks
19	Cycling	10	2 times a day	8 weeks
20	Pavanamuktasana-kriya	10	2 times a day	8 weeks
21	Lumber stretch	10	2 times a day	8 weeks

Suryanamaskara (7)

S. No.	Suryanamaskara	Duration of procedure	Frequency	Duration of intervention
1	Hastauttanasana Pádahastásana Aswasancalanasana Tulasana Sasankasana Sastanganamaskar Bhujangasana Parvatasana Sasankasana Aswasancalanasana Pádahastásana Hastauttanasana	12	24 times a day	8 weeks

Pranayama (8) (9)

S. No.	Pranayama	Duration of procedure	Frequency	Duration of intervention
1.	<i>Nadishuddhi Pranayama:</i> <i>Nādisuddhi pranayama</i> balances both the lobes equally which restores the balance between the sympathetic and parasympathetic nervous system.	9 Rounds for each nostril	2 times a day	8 weeks
2.	<i>Brahmari:</i> <i>Brahmari</i> gives soothing effect to the entire brain.	9 Rounds	2 times a day	8 weeks
3	<i>Naadaanusandhana:</i> Breathing exercises, sectional breathing strengthens and soothes the entire nervous system restoring balance to a depleted and imbalanced autonomic nervous system	5 Rounds	2 times a day	8 weeks

Mind Sound Resonance Technique (MSRT) (10)

Advanced Yoga technique MSRT which is developed by SVYASA to specifically strengthen the immune defence, to develop will power and there by promote health and happiness was done once a day.

Deep Relaxation Technique (DRT) (11)

Each session of passive exercise, pranayama was completed with DRT.

DRT is a deeper and more intense form of relaxation. The entire body and the mind move together, connecting with each other while the breathing plays a crucial role to bring this connection. The main features of this form of relaxation technique are:

DRT is done in Savasana (Corpse Pose) and is best done at the end of the Yoga practice to release all the tensions while retaining the muscle strength. It is done longer and is generally for a minimum of 15 minutes. It is always done with the instructions given by a Yoga teacher. DRT can also be done anytime during the day provided the time gap between meals is minimum 2+hours. It can also be done by anyone even without the practice of Yoga poses.

DRT is considered a base pose as deep relaxation technique variations can be derived from this pose.

Breathing practices

S. No	Breathing practices	Duration of procedure	Frequency	Duration of intervention
1	Hand Stretch Breathing	2 minutes	2 times a day	8 weeks
2	Hands In and Out Breathing	2 minutes	2 times a day	8 weeks
3	Ankle stretch Breathing	2 minutes	2 times a day	8 weeks
4	Tiger Breathing	2 minutes	2 times a day	8 weeks

Yogasana (12)

S. No.	Yogasanas	Duration of procedure	Frequency	Duration of intervention
<i>Standing position</i>				
1.	<i>Ardhakati Chakraasana:</i> Reduces fat in waist region, stimulates the sides of the body. Give lateral bending to the spine.	2 minutes	2 times a day	8 weeks
2.	<i>Ardha Chakraasana:</i> Makes the spine flexible, stimulates the spinal nerves, promotes circulation of blood into head. Strengthens the neck muscles. Expands chest and shoulders. Improves breathing.	2 minutes	2 times a day	8 weeks
<i>Sitting position</i>				
3.	<i>Vakrasana:</i> Lateral twist gives flexibility to the spine, tones up the spinal nerves. Helps to cure constipation. Improves lung capacity.	2 minutes	2 times a day	8 weeks
<i>Prone position</i>				
4.	<i>Bhujangasana:</i> Brings flexibility to the dorsal spine. Strengthens the spinal muscles. Reduces the abdominal fat.	2 minutes	2 times a day	8 weeks
	<i>Shalabhasana:</i> Helpful in managing sciatica and low back ache. Reduces fat on thighs and buttocks.	2 minutes	2 times a day	8 weeks

(Continued)

	Supine position			
	<i>Sethubandhasana:</i> The extensor muscles of the back grow powerful and the hips are contracted and hardened. The asana strengthens the neck and tones the cervical, dorsal, lumbar and sacral regions of the spine.	2 minutes	2 times a day	8 weeks

Diet Protocol

Participant completely underwent a Naturopathic diet includes raw diet (fruits, Salad, Sprouts and buttermilk), Boiled diet (Boiled vegetables, Chapati, Rice, Dal and Buttermilk) as well as planned frequent juice therapy and fruit diet and also underwent a Naturopathy treatment for detoxification for a week in starting (6 days).

Naturopathy diet:

	8:00 am	10:00 am	12:00 pm	2:00 pm	5:00 pm	7:30 pm	8:30 pm
1st day	Juice	Juice	Boiled diet	Juice	Juice	Boiled diet	Kashayam
2nd day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
3rd day	Juice	Juice	Juice	Juice	Juice	Juice	Juice
4th–6th day	Lemon honey juice fasting						
7th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
8th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
9th–13th day	Lemon honey juice fasting						
14th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
15th day	juice	juice	1 apple	juice	juice	1 apple	Kashayam
16th–22nd day	Lemon honey juice fasting						
23rd day	juice	juice	1 apple	juice	juice	1 apple	Kashayam
24th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
25th day	juice	juice	1 apple	juice	juice	1 apple	Kashayam
26th–30th day	Lemon honey juice fasting						
31st–32nd day	juice	juice	1 apple	juice	juice	1 apple	Kashayam
33rd day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
34th day	juice	juice	Boiled diet	juice	juice	Boiled diet	Kashayam
35th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
36th day	juice	juice	1 apple	juice	juice	1 apple	Kashayam
37th day–44th day	Lemon honey juice fasting						
45th day	juice	juice	1 apple	juice	juice	1 apple	Kashayam
46th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
47th day	juice	juice	Raw diet	juice	juice	Raw diet	Kashayam
48th day	juice	juice	Boiled diet	juice	juice	Boiled diet	Kashayam

	8:00 am	10:00 am	12:00 pm	2:00 pm	5:00 pm	7:30 pm	8:30 pm
Saturday	Ashguard juice	Bitterguard juice	Lunch	Lemon honey juice	Papaya juice	Dinner	Kashayam
Sunday	Carrot juice	Watermelon	Lunch	Lemon honey	Musk melon Juice	Dinner	Kashayam
Monday	Bottleguard juice	Musk melon	Lunch	Buttermilk	Papaya Juice	Dinner	Kashayam
Tuesday	Methi water	Pinapple Juice	Lunch	Lemon honey	Carrot juice	Dinner	Kashayam

Wednesday	Ash guard juice	Carrot juice	Lunch	Lemon honey	Papaya juice	Dinner	Kashayam
Thursday	Carrot juice	Ash guard	Lunch	Buttermilk		Dinner	Kashayam
Friday	Breakfast	–	Pongal+ buttermilk	–	–	Dinner	–

Lunch (boiled diet) 1 chapati, 1 cup adl, 1 cup rice, buttermilk, 100gm boiled

vegetables (beans+pumkin+beetroot+methi+spinach+knolkhol)

Dinner: (raw diet) 2-3 slices fruits(papaya+watermelon+pomegranate/muskmelon), Vegetable salad (cucumber+pomegranate+beetroot+

carrot), sprouts (Moong+groundnuts), Buttermilk

Naturoapthy Treatment chart (only for 1 week in a starting of protocol for detoxification)

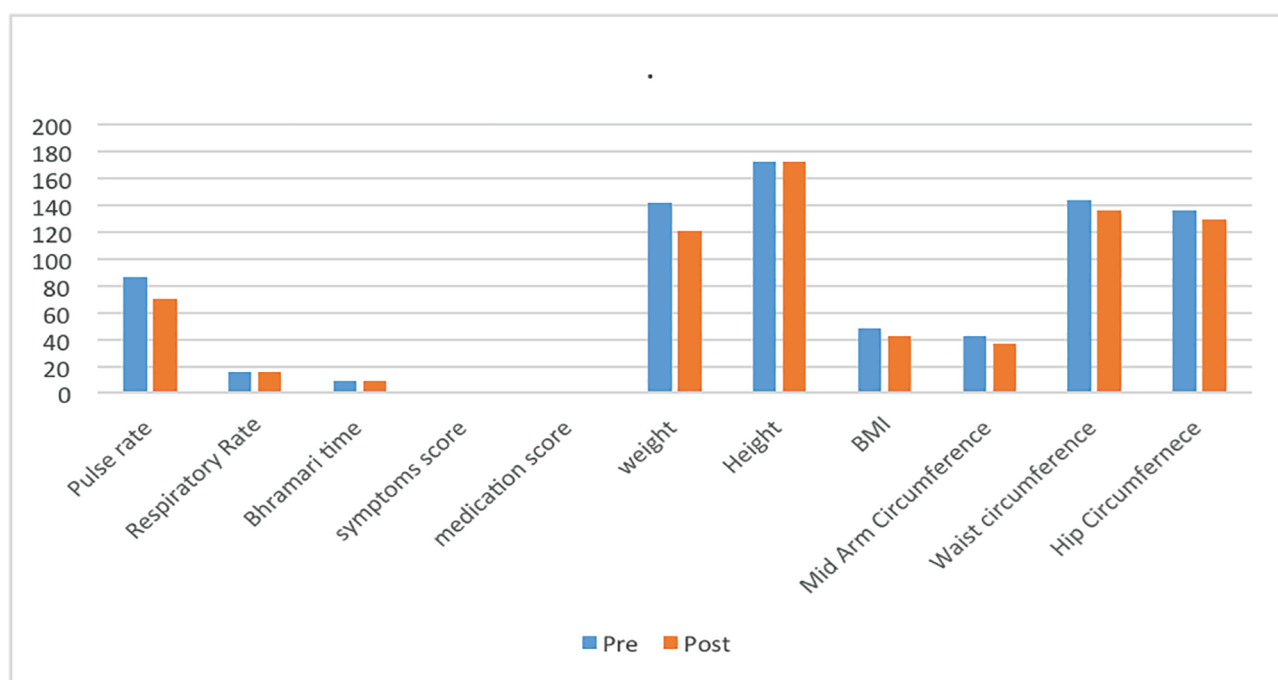
	8:00 am	2:00 pm
Saturday	Mud pack to abdomen and eye	Full mud bath
Sunday	–	Cold under water massage
Monday	Mud pack to abdomen and eye	Full body massage
Tuesday	–	Vibromsg to abdomen and thighs+sauna bath
Wednesday	Mud pack to abdomen and eye	Cold hip bath+GH Pack
Thursday	Mud pack to abdomen and eye	Sauna bath+Vibromsg to abdomen

Diagnosis

Progression of Obesity was detected by his Anthropometric measurements, whose reports were provided by the patient.

Parameters	DOA	DOD	Parameters	DOA	DOD
Pulse Beats/min	86 bpm	70 bpm	Weight in kg	142 kg	121.6 kg
BP in mmHg	150/100 mm/Hg	130/90 mm/Hg	Height in mt	172 cm	***
Respiratory Cycles/min	16 cpm	16 cpm	BMI [Kg/mt²]	47.99	42.2
Bhramari Time (Sec)	9 sec	9 sec	Mid arm circumference	42 cm	37 cm
Symptoms score	0	0	Waist circumference	144 cm	136 cm
Medication score	0	0	Hip circumference	136 cm	129 cm

Vital data and Anthropometric measurements:



The patient was able to lose 20.4 Kgs of weight after following the above treatment regimen as well as regulation of Pulse rate and respiratory rate take place. Blood pressure got marked in range that is 130/90 mm/hg compare to before treatment. Respiratory rate remain regular and same after the treatment. There will be drastic reduction in weight and anthropometric measurements that includes mid arm circumference from 42 cm to 37 cm, Hip circumference 136 cm to 129 cm and Waist circumference from 144 cm to 136 cm as well as marked reduction in overall Body mass index from 47.99-42.2 Kg/(M)².

Discussion

The weight of patients has been accounted to increase since a long time. Aggravating factor is the absence of physical movement and life style. Anthropometric parameters have indicated that a patient belongs to grade 3 obesity. It is anticipated that the patient had the option to keep up a consistent body weight by receiving IAYT (Integrated methodology of Yoga treatment) which may have forestalled weight gain. During his stay, he experienced Integrated approach of Yoga treatment just as Naturopathy for Detoxification and Diet treatment moreover. Naturopathy helps to keep up balance between medicines and diet. Naturopathy enables improvement in fat digestion just as perspiration by follow up on waste framework. Patient used to practice *Pranamyama* (daily once), Yoga special technique day by day two sessions, (Weight decrease) just as *Kriya* (weekly twice). Overall, Yoga helped him to keep up physical wellbeing just as emotional well-being.

Conclusion

A case of a 28 year old male of Grade 3 Obesity was conservatively managed using principles of Yoga therapy with Naturopathy as proposed by the SVYASA. By following the Obesity based protocol, the patient was successful to lose 20.4 Kgs and attain the desirable target set at the beginning of the month. It is, therefore, proposed that further prospective studies be carried out using Yoga therapy so that an evidence-based model of obesity protocol can be formulated for all patients in this age group.

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Authorship contribution

RPJ: has written article.

RN: guided to write article

AS: has contributed in a treatment planning.

Informed consent form

Yes

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Conflict of interest

Nil

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