

Efficacy of an integrated treatment protocol in Obesity- A case report

Dr. Vidyashree M^{1*}, Dr Vaisakh K², Dr Kavyashree M³

¹Assistant Professor, Dept of PG Studies in Swasthavritta, JSS Ayurveda Medical College, Mysuru.

²Assistant Professor, Dept of PG Studies in Kaumarabhritya, JSS Ayurveda Medical College, Mysuru.

³Consultant, Avyukth Health care, Mysuru, Karnataka, India.

***Corresponding Author:** Dr. Vidyashree M

*Assistant Professor, Dept of PG Studies in Swasthavritta, JSS Ayurveda Medical College, Mysuru.

Abstract

Obesity is a complex, multifactorial condition characterized by excessive body fat accumulation, leading to adverse health effects. It has reached epidemic proportions worldwide, affecting both adults and children across diverse populations. The condition is associated with numerous comorbidities, including type 2 diabetes, cardiovascular diseases, certain cancers, and musculoskeletal disorders, significantly impacting quality of life and life expectancy. Addressing obesity requires a comprehensive approach that includes Lifestyle Modifications and Medical Interventions. Treatment algorithms that include integration of *Ayurvedic* treatment & diet, *Panchakarma* therapies will ensure good fat control and reduce the progression of complications. A female patient aged about 26 years visited with the following complaints: increased weight gain associated with mild breathing difficulty after climbing the stairs. Patient was treated with a course of *Sarvanga Udwartana* (Dry medicated powder rubbing whole body), *Sadhyo Virechana*, and *Yogabasti*. Patient was prescribed with *Ayurvedic* diet and exercises along with Yoga Practices. This case report provides evidence for the safe and effective use of an *Ayurvedic* treatment protocol in the management of obesity, with no adverse effects reported.

Keywords: *Sthoulya*, Obesity, *Ayurvedic* treatment, *Panchakarma*, Yoga

1. Introduction

According to WHO, obesity is defined as abnormal or excessive accumulation of body fat that may harm health. Obesity may be defined as an abnormal growth of the adipose tissue due to an enlargement of fat cell size (hypertrophic obesity) or an increase in fat cell number (hyperplastic obesity) or a combination of both ⁽¹⁾. Prevalence of obesity is higher in women than in men as per National Family Health Survey- 5 ⁽²⁾. Prevalence of overweight/obesity among women in India from the National Family Health Survey 2015–2016 showed that 13.6% were overweight (23.0–24.9 kg/m²), 17.0% with class I obesity (BMI 25.0–29.9 kg/m²), and 5.7% with class II obesity (BMI ≥30.0 kg/m²) ⁽³⁾. It is expected that prevalence of overweight will more than double among Indian adults aged 20–69 years between 2010 and 2040, while the prevalence of obesity will triple by 2040 as per a recent study ⁽⁴⁾.

Sthoulya is the *medo-mamsagata Vyadhi* where the individual exhibit symptoms like *chala spik*, *udara* and *sthana*, there will less *utsaha* and *ayata upachaya* ⁽⁵⁾. Acc to *Madhava nidana*, individual will have symptoms like *Kshudra Shwasa*, *Trishna*, *Moha*, *Swapna krathana*, *Sada*, *Kshut*, *Durgandhya*, *Alpa prana*. ⁽⁶⁾

This case study underscores the therapeutic potential of *Ayurvedic* interventions, including *Panchakarma*, *Ayurvedic* medications, Yoga, and lifestyle management, in achieving optimal clinical outcomes without any adverse effects.

2. Patient information

A 26 years old female patient approached the OPD on 01/03/2024 with the following complaints: increased weight gain for over a period of 1 year, associated with mild breathing difficulty and tiredness after walking for some time. The patient had noticed approximately 12 kg weight gain in last 1 year. No family history of Obesity was found.

3. Clinical Findings

Patient had progressive weight gain since last 1 year. Personal details and habits include lifestyle with continuous sitting as the patient is preparing for competitive exams. Due to the exam stress and depression and because of unsuccessful past exam attempts, her social relations are less and also developed a habit of over eating when stressed. On examination patient had abdominal obesity with well-nourished body with normal menstrual history,

Patient was 155cm tall and weight was 94.8kg with waist circumference 43cm and BMI of 39.46Kg/m², which confirmed *Sthoulya* (Obesity Class II) ⁽⁷⁾. Assessment done on first visit revealed normal FBS value (102mg/dl). Patient was observed to have mild breathing difficulty after brisk walking or climbing steps for 10 minutes with elevated respiratory rate of 26 cycles/min. Patient is having *mrudukoshta* and passed motions for 2-3times/day and has a sleep of 7-8 hours/day. *Prakriti* assessment done with standardized *prakriti* assessment scale showed *Kapha-pitta prakriti* ⁽⁸⁾.

4. Diagnostic focus and Assessment

Diagnosis was based on clinical symptoms and anthropometric parameters

Clinical features exhibited by patient are increased weight gain, *Kshudra Shwasa*, Excessive hunger and thirst and Shortness of breath while climbing stairs.

Anthropometric parameters are as follows,

Waist circumference- 43cm

Chest circumference- 45cm

Mid arm circumference- 15cm

Mid-thigh circumference- 25cm

Height-155 cm

Weight- 94.8kg

BMI- 39.46 kg/m²

5. Therapeutic intervention

Table 1: Day wise treatment plan

DAY	TREATMENT DONE
1.	<i>Sarvanga Udwartana</i> with <i>Kolakulathadi churna</i> and <i>Triphala churna</i> followed by <i>Bashpa Sweda</i>
2.	
3.	
4.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i>
5.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i> <i>Sadyo Virechana</i> with <i>Avipattikara churna</i> 20g and <i>Draksha Kashaya</i> 150ml No. of Vegas – 12
6.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i>
7.	
8.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i> <i>Anuvasana basti</i> with <i>Triphaladhi taila</i> 60ml
9.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i> <i>Niruha basti</i> <i>Anuvasana basti</i> with <i>Triphaladhi taila</i> 60ml
10.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i> <i>Niruha basti</i> <i>Anuvasana basti</i> with <i>Triphaladhi taila</i> 60ml
11.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i> <i>Niruha basti</i> <i>Anuvasana basti</i> with <i>Triphaladhi taila</i> 60ml
12.	<i>Sarvanga Abhyanga</i> with <i>Triphaladi Taila</i> followed by <i>Bashpa Sweda</i> <i>Anuvasana basti</i> with <i>Triphaladhi taila</i> 60ml

Table no.2: Ingredients of Niruha Basti

Ingredients of Niruha Basti
<i>Makshika</i> – 50 ml
<i>Saindhava</i> – 10 g
<i>Triphaladi Taila</i> – 50 ml
<i>Kalka- Triphala Choorna</i>
<i>Kwatha</i> – <i>Triphala Kwatha</i> 300ml
<i>Gomutra</i> - 60 ml
<i>Avapa- Yavakshara</i> -4g

Advice on discharge

For 30 days

Asanadi Kashaya 15ml-0-15ml with 30ml of warm water Before Food*Navaka Guggulu* 2-0-2 After food**Diet prescribed****Table no 3: Diet plan post discharge**

Time	Diet advised
6.30 am	<i>Madhudaka/ Bilvadi panchamula Kashaya</i> with <i>Madhu</i>
9.00am	<i>Yava Rotika</i> with <i>Chanaka</i> curry/ <i>Kulattha</i> curry/ <i>Karavellaka</i> curry
11.00am	<i>Kulattha/ Mudga Yusha</i>
1.30pm	Red rice with and sambar, <i>Adraaka siddha takra</i>
9.00pm	<i>Godhuma Rotika</i> with <i>Patola</i> curry/ <i>Shigru</i> curry, <i>Kodhrava</i> Upma or Pongal

Exercise & Yoga

Brisk walking daily for 30 minutes daily

Warmup and loosening exercises twice daily

Soorya Namaskara – 12 rounds daily

Yoga Asanas for 30 minutes daily morning - Trikonasana, Ardha Kati Chakrasana, Arda Chakrasana, Vajrasana, Gomukhasana, Ardha Matsyendrasana, Pavana Muktasana, Bhujangasana, Dhanurasana, Shavasana.

6.Follow up and outcome**Table no.4 – Outcome of treatment**

	Before Treatment	After Treatment	Follow Up (After 30 days)
Waist circumference	43cm	41cm	40 cm
Chest circumference	45cm	43cm	42 cm
Mid arm circumference	15cm	14.5cm	14.5 cm
Mid-thigh circumference	25cm	24.5cm	24.5 cm
Height	155 cm	155 cm	155 cm
Weight	94.8kg	86.4kg	84.2 kg
BMI	39.46 kg/m ²	36.96 kg/m ²	35 kg/m ²

7.Discussion

Sthoulya is one among kapha predominant diseases involving *kapha* and *medas* as the main *dosha* and *dushya* in pathogenesis. Acknowledged as a *bahudoshaja vyadhi*, *Sthoulya* is considered a precursor to various serious health conditions⁽⁹⁾. *Acharya Charaka* explains *Sthoulya* as one among *Ashtanindita* (undesirable person in the perspective of physical structures) and explains that *Atisthoulya* leads to *Ayusho Hrasa* (Reduced lifespan), *Javoparodha* (restricted movements), *Dourbalya* (Weakness), *Kshut Atimatra* (excessive hunger) etc.⁽¹⁰⁾. *Ayurveda* explains *Sthoulya* or *Medoroga* as *Santarpana Janya Vyadhi* ie: caused due to excessive *Brimhana*.⁽¹¹⁾ Reduced physical activity is also one of the root cause of obesity⁽⁹⁾. This was evident from the symptoms of overeating and reduced physical activity in the patient due to entrance exam preparations.

General line of treating *Sthoulya* is mentioned as *Guru* (heavy) and *Atarpana* (therapeutic abstinence from food/foods with less nutrition) type of approach by *Ayurveda Acharyas*⁽¹²⁾. The treatment was planned based on these principles and was started with *Udwartana* (therapeutic powder massage). *Udwartana* has *kapha medohara* property and helps in *Shoshana* of the body⁽¹³⁾.

Triphaladi Taila Abhyanga is having *Kapha*, *Meda Vilayana* property and due to *Ushna* and *Teekshna Guna* of *Dravya* and effect of massage on *Romakupa*, the *Veerya* of drug enters into body, leading to *Paka* of *Kapha* and *Medas*. By the above action, there will be *Dravatha Vrudhi* of *Kapha* and *Medas*.⁽¹⁴⁾

The principle action of *Virechana Karma* is the elimination of vitiated *Pitta Dosha* which is the important factor in regulation of *Agni*. By *Virechana Karma*, all *Doshas* (*Vata*, *Pitta* and *Kapha*) also get eliminated so the weight of the body automatically decreases which leads to *Sthoulyanasha*. After *Virechana Karma*, proper *Samsarjana Karma* should be followed which results in *Agni vridhi* and *Amanasha*. By *Virechana Karma*, *Srotas* especially *Medovaha* and *Rasavaha Srotas* also get purified.⁽¹⁵⁾

Abhyanga was continued for the further days after *Virechana* and later *Yoga basti* was administered. *Anuvasana Basti* was given with *Triphaladi Taila* and *Niruha Basti* with *Triphala Kwatha*, *Triphala choorna*, *Yava kshara* etc was administered. As *Sthoulya*, is *Kapha-Meda Pradhana*, *Acharya Charaka* has recommended *Ushna-Tikshna Dravyas* for *Basti* & *Acharya Sushruta* mentioned *Lekhana Basti* in management of *Medoroga*⁽¹⁶⁾⁽¹⁷⁾. Due to difficulty in availability of all

ingredients of *Ushakadi gana* mentioned by *Acharya Susruta*, A modified version of this *lekhana basti* was used as mentioned in table no. 2 by adding *Triphala Choorna* and *Yavakshara*. Administration of this *Basti* leads to *Srotovishodhana* along with *Deepana & Pachana* which normalizes *Agni* at the level of *Jatharagni & Dhatwagni* thereby helping in breaking the pathogenesis of disease. The *Guna* of contents in *Lekhana basti*, helps in *Kapha-Medoharana*, *Karshana* of excess *Meda* in the body & *Vatanulomana*. It also helps in normalising the *Apanavayu* functions and helps to break the pathogenesis of the disease⁽¹⁸⁾. *Triphala*, one of the major ingredients in *Basti Dravya* has proven anti-obesity effect which might have contributed to reduction in weight⁽¹⁹⁾⁽²⁰⁾.

Asanadi Kashaya and *Navaka Guggulu* was advised as discharge medications along with diet and yoga. *Asanadi Kashaya*, has been found to regulate weight by normalizing lipid metabolism and glucose levels, owing to the synergistic effects of its constituent herbs, including *Asana*, *Arjuna*, *Khadhira*, *Jambubeeja*, *Palasa*, etc⁽²¹⁾. *Navaka Guggulu* contains ingredients like *Trikatu*, *Triphala*, *Chitraka*, *Musta*, *Vidanga* and *Shuddha Guggulu*. It has *Meda*, *Kapha*, *Ama* & *Vatahara* action which is very effective and apt in management of *Sthoulya*⁽²²⁾. In accordance with *Charaka's* recommendations a dietary approach similar to *Guru* and *Atarpana* was adopted for managing *Shoulya*, emphasizing the role of a tailored diet in addressing the unique needs of this condition⁽¹²⁾.

Brisk walking has been proved clinically significant in reduction of body weight, BMI, waist circumference, and fat mass for obese men and women⁽²³⁾. *Surya Namaskara*, a component of *Hatha Yoga*, consists of a series of postures (*asanas*) that are repeated 12 times. Regular practice of *Surya Namaskara* maintain and improve cardiorespiratory fitness, as well as promote weight management⁽²⁴⁾.

8. Conclusion

The combination of *Panchakarma* therapies, dietary guidance (*Pathyahara*), and *Yoga* practices has been demonstrated to be an effective treatment strategy for obesity. To prevent weight regain and maintain overall well-being, continued adherence to healthy lifestyle habits, including *Yoga* and a balanced diet, is essential.

8.1 Patient perspective

The Patient was satisfied with the overall health improvement. She was happy with the weight loss and improvement in energy levels. She also feels more confident and is able to concentrate better on competitive exam preparations.

8.2 Patient Consent

Written permission for publication of this case study has been obtained from the patient.

Source of Funding: None

Conflict of Interest: None

References

- Hager, A. (1981). Br.Med.Bull.,37 (3) 287
- Verma M, Esht V, Alshehri MM, Aljahni M, Chauhan K, Morsy WE, Kapoor N, Kalra S. Factors contributing to the change in overweight/obesity prevalence among Indian adults: a multivariate decomposition analysis of data from the national family health surveys. *Advances in Therapy*. 2023 Dec;40(12):5222-42.
- Pengpid S, Peltzer K. Prevalence and correlates of underweight and overweight/obesity among women in India: results from the National Family Health Survey 2015–2016. *Diabetes, metabolic syndrome and obesity: targets and therapy*. 2019 May 3:647-53.
- Luhar S, Timæus IM, Jones R, Cunningham S, Patel SA, Kinra S, Clarke L, Houben R. Forecasting the prevalence of overweight and obesity in India to 2040. *PloS one*. 2020 Feb 24;15(2):e0229438.
- Charaka. *Sutrasthana*; *Ashtouninditiya Adhyaya*: Chapter 21, Verse 9. In: Acharya, J.T (ed.) *Charaka samhitha by Agnivesha with the Ayurveda-Dipika Commentary of Chakrapanidatta*. Varanasi: Chaukhambha Orientalia; c2014. p. 129
- Madhav nidana commented by vijay rakshit & shri kanthadutta, madhukosh teeka by madhavakara chapter 34 *Medoroga nidana* pg no. 425.
- Pi-Sunyer FX. Obesity: criteria and classification. *Proceedings of the Nutrition Society*. 2000 Nov;59(4):505-9.
- Singh R, Sharma L, Ota S, Gupta B, Singhal R, Rana R, Thrigulla SR, Lavaniya VK, Makhija D, Sharma S, Godatwar PK. Development of a standardized assessment scale for assessing Prakriti (psychosomatic constitution). *AYU (An International Quarterly Journal of Research in Ayurveda)*. 2022 Oct 1;43(4):109-29.
- Saniya CK, Chakraborty S. AYURVEDIC UNDERSTANDING OF STHOULYA (OVERWEIGHT/OBESITY), *European Journal of Pharmaceutical and Medical Research*. 2021;8(1), 332-339.
- R Vidyanath. *Illustrated Charaka Samhita English translation with chakrapani commentary*. 1st Edn Vol 1. *Sutrasthana*. Ch.21. Varanasi: Chaukhamba Prakashak; 2022.p.612-613.
- Dey Ruma, Bhattacharjee Samarpita. Integrated Ayurvedic Strategies for Obesity: A Case Report of Multidimensional Care. *AYUSHDHARA*, 2024;11(4):235-241. <https://doi.org/10.47070/ayushdhara.v11i4.1706>

12. R Vidyanath. Illustrated Charaka Samhita English translation with chakrapani commentary.1st Edn Vol 1. Sutrasthana. Ch.21. Varanasi: Chaukhamba Prakashak; 2022.p.618.
13. T. Sreekumar. Ashtangahrudaya English Commentary, Vol 1.Sutrasthana, Ch 2.Ver.15. Thrissur:Harisree Hospital;2013.p.68.
14. Patil UA. A Comparative Clinical Study of Triphaladi Taila Abhyanga and Triphala Choorna Udhvartana in the management of Sthaulya. Journal of Ayurveda and Integrated Medical Sciences. 2018 Apr 30;3(02):15-22.
15. Dr. Rajan N. M., Dr. Santosh Kumar Bhatted. Effect of Virechana Karma on Sthaulya w.s.r to Obesity . J Ayurveda Integr Med Sci 2019;4:27- 32 . <http://dx.doi.org/10.21760/jaims.4.4.4>
16. KRS Murthy(Ed.).Illustrated Susruta Samhita of Susruta with English Commentary, Vol 2. Chikitsa sthana, Ch38.Ver82. Varanasi:Chaukhambha Orientalia;2016.p376-377.
17. R Vidyanath. Illustrated Charaka Samhita English translation with chakrapani commentary.1st Edn Vol 1. Sutrasthana. Ch.21.Ver21. Varanasi: Chaukhamba Prakashak; 2022.p.619.
18. Narayan G, Sharma MK. ROLE OF TRIPHALA VIDANGADI LEKHANA BASTI & VIDANGADI GHANA VATI IN THE MANAGEMENT OF STHOULYA WSR TO OBESITY. World Journal of Pharmaceutical Research.2020;9:1.p.1273-90.
19. Bhalerao SS, Joshi AA, Khadke S, Sathiyarayan A. Anti-obesity Effects of Triphala at Biochemical and Molecular Level in High-Fat Diet-induced Obese Rats. *Pharmacognosy Magazine*. 2024;20(1):30-42. doi:10.1177/09731296231198316
20. Khilaj A, Hamid KS, Reza KA, Ranjbar SH, Esfehiani MM, Mohammad K, Larijani B. A systematic review of the antioxidant, anti-diabetic and anti-obesity effects and safety of triphala herbal formulation. Journal of Medicinal Plants Research. 2013 Jun 15;7(14), pp. 831-844.
21. Asanadi Gana Plus Kashaya - diabetes relief [Internet]. SDP Ayurveda. 2024 [cited 2024 Mar 24]. Available from: <https://shop.sdpayurveda.com/product/asanadi-gana-plus-kashaya/>
22. Deshpande H, Saraganacharya SV. Ayurvedic approach in the management of Sthoulya-A case study. International Journal of Ayurvedic Medicine.;13(1):106-10.
23. Mabire L, Mani R, Liu L, Mulligan H, Baxter D. The influence of age, sex and body mass index on the effectiveness of brisk walking for obesity management in adults: a systematic review and meta-analysis. Journal of Physical Activity and Health. 2017 May 1;14(5):389-407.
24. Mody BS. Acute effects of Surya Namaskar on the cardiovascular & metabolic system. Journal of bodywork and movement therapies. 2011 Jul 1;15(3):343-7.