

Unveiling the Effect of *Virechana* by *Trivrutta-Haritaki Yoga* in the Management of *Sthaulya* w.s.r to Obesity: A Case Series

Case Report

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Abstract

Introduction: The ancient system of Ayurveda has long recognised the importance of detoxification therapies for maintaining holistic health. *Virechana Karma*, a prominent purification procedure, is vital in Ayurveda therapeutic interventions. This article explores the efficacy of *Virechan karma*, illuminating its role in cleansing the body and addressing various health concerns, such as *Sthaulya*, through the use of *Trivrutta-Haritaki Yoga*. Obesity is the most common metabolic disorder and is one of the oldest documented diseases. It is an increasing problem worldwide as lifestyle changes and fast food chains gain popularity. Obesity in India has reached epidemic proportions in the 21st century, affecting 5% of the country's population as numerous are to be accounted for. As per a study by ICMR-INDIAB held in 2015, the prevalence rate of obesity and central obesity were 11.8%- 31.3% and 16.9%-36.3%, respectively. **Materials and methods:** In this study, 10 patients are diagnosed as *Sthaulya* with classical signs and symptoms. A treatment protocol is applied to them, including *Rukshana*, *Snehapana* with *Goghrita*, *Virechana* by *Trivrutta-Haritaki yoga*, and *Sansarjana karma* with follow-up. The assessment was done before *Rukshana* and after the *Sansarjana Karma* in terms of weight, body mass index, circumference of the chest, abdomen, mid-thigh, and waist-hip ratio. **Result and discussion:** A significant reduction is seen in body weight, body mass index, the circumference of the chest, abdomen, and mid-thigh, and waist-hip ratio. **Conclusion:** *Trivrutta-Haritaki yoga* showed a significant weight reduction, BMI, Circumference of Chest, abdomen mid-thigh, and WHR.

Keywords: *Sthaulya*, *Trivrutta-Haritaki Yoga*, *Virechana*, Panchakarma.

Introduction

Obesity is the oldest non-communicable and metabolic disease in the world. Obesity is characterized by the excessive accumulation of body fat, which impacts health. Obesity is measured in terms of BMI (basal metabolic index), where above 25kg/m² is considered obese. Anthropometrically, if a person has a waist-to-hip ratio of 0.90 in men and 0.80 in women, it is called obese. (1) Obesity is a strong risk factor for cardiovascular disease, hypertension, type 2 diabetes mellitus, hyperlipidemia, metabolic syndrome, non-alcoholic fatty liver disease, obstructive sleep apnea, chronic kidney disease, osteoarthritis, and depression. (2) It is a life-affecting disorder that can hamper an individual physically, socially, as well as psychologically.

Non-communicable disease rates are rapidly increasing in India. More than 135 million individuals are affected by obesity. A national cross-sectional study by the ICMR-INDIAB-17 (Indian Council of Medical Research India Diabetes) mentioned that the prevalence

rate of generalized obesity in India is 28.6 %, and for abdominal obesity, it is 39.5%. (3) According to the report, the prevalence of generalized obesity (BMI ≥ 25 kg/m²) in urban India is 39.6%, while in rural India, it is 23.1%. The prevalence of Abdominal obesity (waist-hip ratio ≥ 90 cm in Males, ≥ 80 cm in Females) is 51.6% in urban areas, whereas it is 33.5% in rural areas.³ State-wise, the prevalence of generalized obesity in Maharashtra is on the high side 24.9% with other states like Gujrat, Rajasthan, Madhya Pradesh, and Uttar Pradesh. (4) According to the National Family Health Survey-5 (2019-21), the growth prevalence rate of obesity in women has risen from 24% to 33.2% in rural areas in India in comparison to Men (from 19.3% to 29.8%). (5)

The principal treatment of obesity is through dietary management and lifestyle modifications, but not very effective alone. Oral medications like Orlistat, Liraglutide, Phentermine, and Gelesis are available but have chances of gastrointestinal side effects for long-term use. Bariatric surgery is the most effective management at present, but high cost and associated risks. So, there is a need for safer and more effective management in complementary and traditional science. In Panchakarma, *shodhana* therapy like *Lekhana basti* is indicated in the treatment of *Sthaulya*. In other Panchakarma like *Virechana* and *Vamana*, local procedures like *udvartana* and *Ruksha Tikshna Basti* are prescribed for *medoroga*. (6)

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In Ayurveda, *Sthaulya* is the term used to describe obesity or excessive weight gain. It is considered a disorder that arises from an imbalance in the *Kapha* and *Meda*. This article explores the potential of the traditional Ayurveda formulation, *Trivruttha-Haritaki* yoga, in the therapeutic practice of *Virechan Karma* for the effective management of *Sthaulya*, or obesity. This investigation seeks to unravel the intricate mechanisms by which *Trivruttha-Haritaki* yoga, with its primary ingredient *Haritaki*, contributes to the process of *Virechana* for its role in eliminating excess *Doshas* and accumulating toxins from the body.

Here, it aims to provide valuable insights into Ayurveda's holistic approach to obesity management, paving the way for evidence-based recommendations in clinical practice. By exploring *Trivruttha-Haritaki* yoga's potential, this article aims to contribute to the evolving discourse on Ayurveda interventions for lifestyle disorders, emphasizing personalized and holistic strategies for optimal health.

Materials and Methods

For this study, we took the 10 cases diagnosed as *Sthaulya* with classical signs and symptoms. These patients were selected according to inclusion and exclusion criteria with prior written informed consent from OPD and IPD of the Panchakarma department of R A Podar Medical College Mumbai. They were treated with a specially designed treatment protocol *Rukshana*, *Snehapana* with *Goghrita*, and *Virechana* by *Trivruttha-Haritaki* yoga followed by *Sansarjana karma* (table no 2). Assessment is done before and after the treatment, followed by a follow-up.

Inclusion Criteria

Patients of any gender, between ages 20-55 years, having BMI between 25 to 40 kg/m² with classical signs and symptoms of *sthaulya* like *Chala-sphika* *udar stana vriddhi*, *Medo-mansa ativriddhi*, *ayatha upachaya* and *anutsaha*. Patients willing to participate in the study and Patients fit for *Virechana* like *Vatrakta*(gout), *Kustha* (skin disease), *Prameha* (controlled diabetes), etc.

Exclusion criteria

Patients diagnosed with carcinoma, tuberculosis, HIV positive, or any other life-threatening condition, Patients having any anorectal diseases like fistula, fissure-in-ano, hemorrhoids, Pregnant and lactating women and Patients not fit for *Virechana* like *Subhag*(tender anus), *Durbala*(weak), *Navajwara*(acute fever), *Atisara*(diarrhea) *Adhoga raktapitta*(bleeding from lower orifices) *kshataguda* (anal injury) were excluded.

Assessment Criteria

- **Weight-** Body weight in kilograms measured by a calibrated weighing scale machine.
- **BMI-** Body mass index is the body weight in kilograms divided by the height in meters squared (wt/ht²) used as a practical marker to assess obesity. BMI (Body mass index-Kg/m²) WHO criteria for screening obesity for Asian population (7).

Underweight	18.5
Normal	18.5- 22.9
Overweight	23.0- 24.9
Obesity class I	25.0- 29.9
Obesity class II	30.0- 34.9
Obesity class III	35.0- 39.9

- **Circumference of Abdomen-** At the naval level, the midpoint between the lower border of the rib cage and the iliac crest.
- **Circumference of Chest-** the measurement at the nipple level while relaxing the arms and breathing normally.
- **Circumference of Mid-Thigh-** perpendicular to the long axis of the thigh at the midpoint between the inguinal increase and the proximal border of the patella.
- **Waist to Hip Ratio-** Just above the uppermost lateral border of the right iliac crest and horizontal plane around the abdomen. Waist-Hip Ratio (WHO criteria for screening obesity for Asian population) (8)

	Men	Women
Waist circumference WC in cm	85 cm	80 cm
Waist-Hip ratio WHR	0.90	0.80

Table 1: Case description

Case report	Past illness
(Case-1)- A 49-year-old female visited M.A Podar Hospital Panchakarma Department with the following complaints - <i>Sharir bharvruddhi</i> (weight gain), <i>Arohana shwasa kashata</i> (dyspnea) <i>Shirashula</i> (headache), <i>Amla Udgara</i> (sour bleching) - From 1 year	K/C/O – Diabetes mellitus, Hypertension (3 years) H/O – TB (in 2008) S/H/O – Hysterectomy (1year ago) No drug allergy No, any addiction Menopause (6 years ago)
(CASE – 2)- A 22-year-old female visited M.A Podar Hospital Panchakarma Department with the following complaints - <i>Sharir bharvruddhi</i> (weight gain), <i>Vamjanusandhi shula</i> (left knee joint pain), <i>Vampindikaudveshthna</i> (cramps in left calf muscles) From 3 years	N/H/O – DM/HTN/TB/Thyroid No surgical illness No drug allergy No, any addiction Menstrual History – Regular, Painful, Clotted, and Scanty
(CASE-3)- A 33-year-old female visited M.A Podar Hospital Panchakarma Department with the following complaints: - <i>Aniyamit Rajpravrutti</i> (irregular menstrual cycle), <i>Sharir bharvruddhi</i> (weight gain), <i>Anga gauravta</i> (heaviness), <i>Aadhman</i> (bloating), <i>Chankarman Swashvridhhi</i> -(dyspnea)	N/H/O – DM/HTN/TB/Thyroid No surgical illness No drug allergy No, any addiction Menstrual History – Irregular (2-2.5 months), mildly painful,

(CASE – 4)- A 39yr female visited M.A Podar Hospital Panchakarma Department with the following complaints- <i>Sharir bharvrudhhi</i> (weight gain), <i>Ubhay Pindika Shula</i> (pain in calf muscles), <i>Swed Aadhikya</i> (excessive sweating), <i>Aalsya</i>	N/H/O –DM/HTN/TB/Thyroid Surgical history – TL (10 years ago) No drug allergy No, any addiction
(CASE-5)- A 24yr female visited M.A. Podar Hospital Panchakarma Department with the following complaints- <i>Sharir bharvrudhhi</i> (weight gain), <i>Kshuda adhikya</i> (excessive hunger), <i>Aarohan swash kashtta</i> (dyspnea), <i>Aalsya & Tandra</i> (laziness), <i>Prushtha Shool</i> (back ache), <i>Swed adhikya</i>	N/H/O – DM/HTN/TB/Thyroid No surgical illness No drug allergy No, any addiction Menstrual History – Regular, Painless, Heavy bleeding
(CASE-6)- A 44-year-old female visited M.A. Podar Hospital Panchakarma Department with the following complaints- <i>Bharvrudhhi</i> (weight gain), <i>Aarohan swash kashata</i> (dyspnea), <i>Swed adhikya</i> (excessive sweating)- From 1 year	N/H/O – DM/HTN/TB/Thyroid No surgical illness No drug allergy No, any addiction Menstrual History – Regular, Painless, Heavy bleeding
(CASE-7)- A 20-year-old female visited M.A. Podar Hospital Panchakarma Department with the following complaints- <i>Bharvrudhhi</i> (weight gain) <i>Swed adhikya</i> (excessive sweating)- From 2 years	N/H/O – DM/HTN/TB/Thyroid No surgical illness No drug allergy No, any addiction Menstrual History – Irregular (2-2.5 months), mildly painful,
(CASE-8)- A 39-year-old male visited M.A. Podar Hospital Panchakarma Department with the following complaints- <i>Bharvrudhhi</i> (weight gain), <i>Malavshambh</i> (constipation)-From 10 years	N/H/O –DM/HTN/TB/Thyroid No surgical history No drug allergy Alcohol addiction (7-8 years)
(CASE-9)- A 50-year-old male visited M.A Podar Hospital Panchakarma Department with the following complaints: <i>bharvrudhhi</i> (weight gain), <i>Anga gauravta</i> (heaviness), <i>Malabdhata</i> (constipation), <i>Adhman</i> (bloating), <i>Chankarman</i>	N/H/O –DM/HTN/TB/Thyroid No surgical history No drug allergy Alcohol addiction (7-8 years)
(CASE-10)- A 22-year-old female visited M.A Podar Hospital Panchakarma Department with the following complaints- <i>Aniyamit Rajpravrutti</i> (irregular menstrual cycle), <i>Sharir bharvrudhhi</i> (weight gain), <i>Anga gauravta</i> (heaviness), <i>Ubhay parshani shula</i> (heal pain)– From 2 years	N/H/O – DM/HTN/TB/Thyroid No surgical illness No drug allergy No, any addiction Menstrual History – Irregular (2-2.5 months), mildly painful,

Purvakarma: For the pre-therapeutic measures, the patients were given the following *dravya* with the given dose (table no 2)

Table 2: Purvakarma

Cases	Rukshna	F/b Snehapana with Goghruta	f/b Snehana and Swedana
Case 1	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>vidanga</i> (1gm)	for 5 days, starting with 30ml to 150ml	3 Days
Case 2	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>vidanga</i> (1gm)	for 5 days, starting with 30ml to 150ml	3 Days
Case 3	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Guduchi</i> (1gm)	for 7 days, starting with 30ml to 240ml	3 Days
Case 4	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Shunthi</i> (1gm)	for 6 days, starting with 30ml to 180ml	3 Days
Case 5	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Shunthi</i> (1gm)	for 7 days, starting with 30ml to 240ml	3 Days
Case 6	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Shunthi</i> (1gm)	for 7 days, starting with 30ml to 240ml	3 Days
Case 7	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>vidanga</i> (1gm)	for 7 days, starting with 30ml to 240ml	3 Days
Case 8	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Shunthi</i> (1gm)	for 7 days, starting with 30ml to 230ml	3 Days
Case 9	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Guduchi</i> (1gm)	for 7 days, starting with 30ml to 240ml	3 Days
Case 10	Given for 8 days with – <i>Triphla</i> (2gm) + <i>Musta</i> (1gm) + <i>Shunthi</i> (1gm)	for 7 days, starting with 30ml to 240ml	3 Days

Pradhan karma: After achieving proper *samyak snehapana lakshana*, a three-day gap was given, and *snehana* and *swedana* were done. The patients were administered *Trivrutta-Haritaki yoga* 30 gm as the main *Virechan dravya* in

the morning with warm water on an empty stomach. Observed for *vega* and *samyaka virechana lakshana*, followed by *Sansarjana krama* (*Peyadi krama peya*, *vilepi*, *akruta* and *kurta yusha*, *krushra* and *samanya bhojana* in sequential manner) of 5 days.

Table 3: Pharmacodynamics of Trivruttha-Haritaki Yoga (9)

Sr	Drug	Latin name	Part	Quantity taken	Rasa	Virya	Vipaka	Guna	Karma
1	Trivruttha (9)	<i>Operculina terpenanthum</i> (L.) Silva	Root	6 gm	Katu, Kashaya, Madhur;	Ushna	Katu	Ruksha	Pitta shamana
2	Haritaki(10)	<i>Terminalia chebula</i> Retz.	Fruit	6 gm	Madhur, Amla, Tikta,	Ushna	Madhur	Ruksha	Tridhosh hara
3	Sita	Sugar		12 gm	Madhur	Sheeta	Madhur	Snigdha	Vatapittashamaka
4	Ghrita	Ghee		6 gm as per requirement	Madhur	Sheeta	Madhur	Guru Snigdha	Vatapittashamana

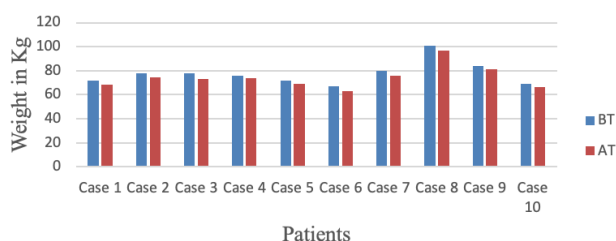
Observations

Demographic evaluation

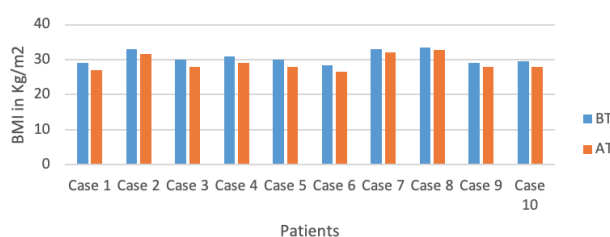
- Age All patients were from the 20-50 years age group in 40% of patients were from 20-25 years of age. It indicates that the rise in sedentary lifestyles has led to a surge in obesity rates among young people.
- Sex: about 80% were female, which indicates obesity hampers the health of women due to a sedentary lifestyle as well as lack of nutritional guidance.

- Effect of *Virechana*: Marked weight reduction along with the BMI, Circumference of the chest, abdomen, mid-thighs, and waist-to-hip ratio was seen by understanding and appreciating the nuances of this purification therapy. Subjective improvement in symptoms of *sthaulya* was also seen but here primarily focuses on improvement in objective criteria.

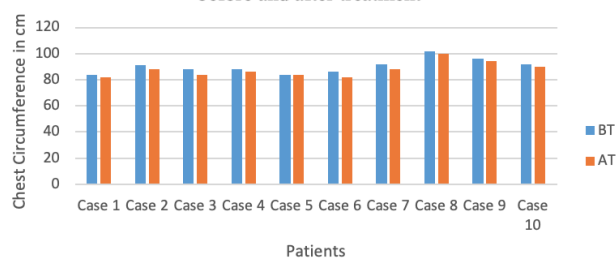
Graph 1: Showing mean difference between weight in kg before and after treatment



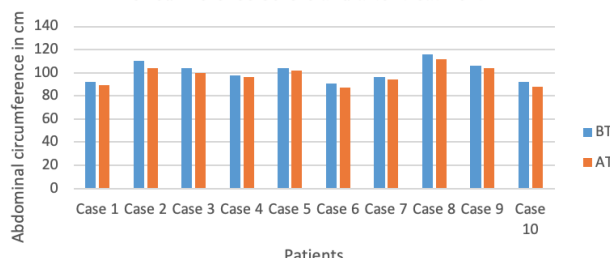
Graph 2: Showing mean difference between BMI before and after treatment



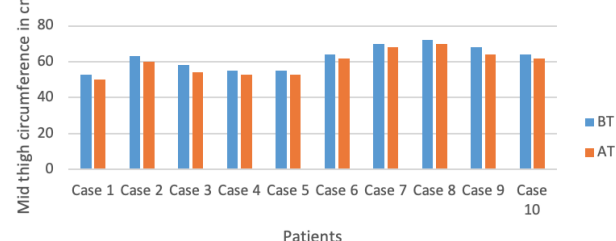
Graph 3: Showing mean difference in chest circumference before and after treatment



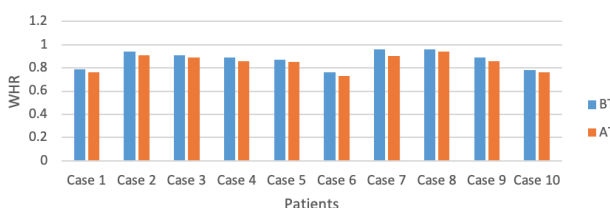
Graph 4: Showing mean difference in Abdomen circumference before and after treatment



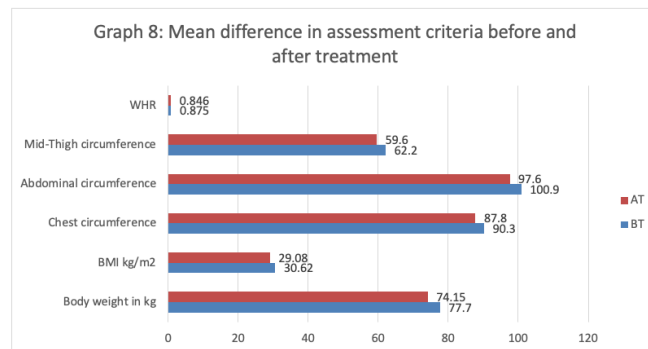
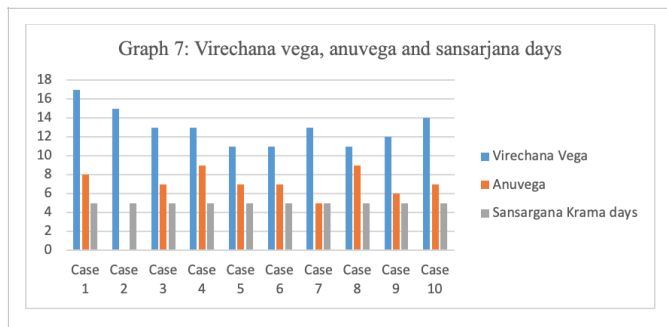
Graph 5: Showing mean difference in Mid thigh circumference before and after treatment



Graph 6: Showing mean difference in WHR before and after treatment



Result and Discussion



1) Body weight

Table 4: Showing paired t-test on BT and AT score of body weight

	n	Mean	SD	Mean difference	SE	T value	P value
BT	10	77.7	9.69593271	3.55	0.262996	13.49832654	<0.0001
AT	10	74.15	9.597598079				

Effect of *Virechana* on body weight- As shown in table no 4, as p value is <0.0001 their id highly significant different found in BT and AT value of body weight of subject.

2) BMI

Table 5: Showing paired t-test on BT and AT score of BMI

	n	Mean	SD	Mean difference	SE	T value	P value
BT	10	30.62	1.881271	1.54	0.155063	9.931466	<0.0001
AT	10	29.08	2.176542				

Effect of *Virechana* on body weight- As shown in table no 5, as p value is <0.0001 their id highly significant different found in BT and AT value of BMI of subject.

3) Chest Circumference

Table 6: Showing paired t-test on BT and AT score of chest circumference

	n	Mean	SD	Mean difference	SE	T value	P value
BT	10	90.3	5.618422	2.5	0.401386	6.228411	0.000151
AT	10	87.8	5.6921				

Effect of *Virechana* on circumference of chest- As shown in table no 6, as p value is <0.0001 their id highly significant different found in BT and AT value of chest circumference of subject.

4) Abdominal circumference

Table 7: Showing paired t-test on BT and AT score of abdominal circumference

	n	Mean	SD	Mean difference	SE	T value	P value
BT	10	100.9	8.46496	3.3	0.422953	7.802293	<0.0001
AT	10	97.6	8.221922				

As shown in table no 7, as p value is <0.0001 their id highly significant different found in BT and AT value of abdominal circumference of subject.

5) Mid-thigh Circumference

Table 8: Showing paired t-test on BT and AT score of Mid-thigh circumference

	n	Mean	SD	Mean difference	SE	T value	P value
BT	10	62.2	6.696599	2.6	0.266667	9.757.802293	<0.0001
AT	10	59.6	6.834553				

As shown in table no 8, as p value is <0.0001 their id highly significant different found in BT and AT value of mid-thigh circumference of subject.

6) Waist-hip ratio

Table 9: Showing paired t-test on BT and AT score of waist-hip ratio

	n	Mean	SD	Mean difference	SE	T value	P value
BT	10	0.875	0.074424	0.029	0.003786	7.659923	<0.0001
AT	10	0.846	0.071833				

Effect of *Virechana* on waist-hip ratio- As shown in table no 9, as the p-value is <0.0001, their id is highly significantly different found in BT and AT value of waist-hip ratio of subject.

The efficiency of *Virechana Karma* lies in its ability to address physical imbalances and also to harmonize mental and emotional well-being. *Virechana* supports the restoration of Agni (digestive fire) and enhances the assimilation of nutrients, thereby promoting overall metabolic balance. *Trivrutta* (*Operculena turpenthum*) is *rechaka* (purgative), *lekha* (scraping property), and *Bhedana* (discernment) and pacifies *Kapha* and *Pitta*. By promoting increased bowel movement and faster transit time of food through the digestive system, it may lead to reduced absorption of fats from the intestine. (12) *Haritaki* (*Terminalia chebula*) is *tridosahara*, mild *rechaka*, and *strotas shodhaka* (cleans the channels). (13) This combination eliminates the accumulated *kapha* and *meda dhatu* and helps to attain the metabolism properly. Thus acts as *sthaulyahara*.

Conclusion

As the above findings it can be concluded that *Trivrutta- Haritaki virechana yoga* shows a significant reduction in the context of Weight, BMI, and other anthropometric measurements in obesity. It is cost-effective, easy-to-use *yoga* in *virechana*.

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Conflict of Interest

The author declares they have no conflict of interest.

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