



Role of Shamana Chikitsa in The Management of Sthaulya (Obesity) -A Review

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Abstract: *Sthaulya* is *Medovaha Strotodusthijanya Vyadhi*, which includes abnormal and excessive accumulation of *Medodhatu* in the body. It is caused by *Kapha* and *Meda* aggravating factors like excess intake of *Madhur*, *Snigdha*, *Guru*, *Abhishyandi Ahar*, and lack of physical activity, and daytime sleep. This results in the aggravation of *Kapha* and *Meda Dhatu* leading to *Sthaulya*. It can be compared with obesity which is a metabolic disorder. According to WHO, rates of overweight and obesity are increasing in both developed and developing countries around the world. Obesity is an illness that can lead to a variety of health problems, including hypertension, coronary artery disease, diabetes mellitus, osteoarthritis, and psychological issues such as stress, anxiety, and depression. In Modern medicine lifestyle modification, Antiobesity drugs and bariatric surgery is indicated as per BMI of patient. All these have some limitations. As most of the individuals are following the proper lifestyle due to busy schedule. Antiobesity drugs and surgery are associated with adverse effects and expensive. Hence in such scenario Ayurveda formulations can be safely used. So this review is conducted with the aim to study various formulations described in Ayurveda as a *Shaman Chikitsa* in *Sthaulya*. The various research articles searched from Google scholar, Ayush Portal on Ayurvedic management of *Sthaulya* from 2010-2020 were searched and collected. A total of ten research studies were included in this review. In most of the studies *Guggul*, *Triphala*, *Guduchi*, *Musta*, *Vidanga* having *Katu*, *Tikta*, *Rasa*, *Ruksha Guna*, *Kaphamedohar* and *Lekhana* properties are used for the management of *Sthaulya*. The assessment was done on the basis of BMI, Anthropometric measurement and lipid levels before and after treatment. Significant improvement was found in most of the studies. *Sthaulya* can be managed effectively with *Shamana Chikitsa* having *Kapha* and *Medanashaka* property.

Keywords: *Sthaulya*, *Kapha*, *Meda*, *Shaman Chikitsa*, Obesity.

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I. INTRODUCTION

The disease *Sthaulya* (Obesity) is described as *Medorogain* Ayurveda caused as a result of dysfunction of *Medadhatvagni* (metabolism at tissue level) of *Meda dhatu* (fat). As per Acharya Charaka, there are eight *Ninditiya Prakrutis* based on the constitution of the body. *Atisthula* is considered one of them. It is a *Santarpanjanya Vyadhi*. Causative factors mainly include physical inactivity, sleeping daytime (*diwaswapa*), intake of sweet, oily, and cold food items, and *Bijadosha* (hereditary cause). All of these cause an increase of *Kapha*, the final product of metabolism to become abnormally sweet, causing *Meda* to rise. This *Meda* obstructs the nutrient channels of remaining tissues so prevents nutrition and the undigested fat gets accumulated excessively which causes the inability to do routine activities resulting in *Sthaulya*.¹ It can be correlated with Obesity due to the similarity of symptoms. As a complication of the modernization of technology incidence of lifestyle diseases is most common in today's era, one such disease is *Obesity*. Obesity is considered as an unusual or too much deposition of fat in the body that may affect health. Weight of the body higher than expected for a particular age and sex is referred to as "obesity". Obesity is becoming a public health problem in India. It is considered a disease as well as a risk factor for other diseases.² The major reason for obesity is an imbalance of energy intake and energy expenditure that leads to excess fat accumulation in the body.³ In 2016, more than 1.9 billion persons aged 18 and older were overweight, according to a WHO fact sheet on obesity. Over 650 million adults were obese among them. According to WHO, rates of overweight and obesity are increasing in both developed and developing countries around the world.⁴ During 1975 and 2016, the global prevalence of obesity nearly tripled. In India, the standardized incidence of obesity [Body mass index (BMI) > 30] has risen by 22% in 4 years (2010-2014). According to Global Nutrition Report 2017, the prevalence of obesity among children under-five years is 2% and among adolescents, overweight and obese is 13%. Among adult males, 18% are overweight and 2% are obese while among females, 22% are overweight and 5% are obese.

I.1 Nirukti

When a person experiences substantial growth, particularly in the Udaradi region, they are referred to as "*Sthula*," and the state (Bhava) of *Sthula* is referred to as "*Sthaulya*".⁵ The word *Obesity* is derived from Latin term '*Obesus*' which means fat.

I.2 Definition

A person who possesses pendulous *Sphika* (Hip), *Udara* (Abdomen), and *Stana* (Chest) as a result of an excessive accumulation of fat (*Meda Dhatu*) and flesh (*Mamsa Dhatu*), as well as a lack of zest for life, is referred to as an *Atisthula*.⁶ According to modern science, Obesity is an abnormal growth of adipose tissue due to an enlargement of fat cell size (Hypertrophic obesity) or increase in fat cell number (Hyperplastic obesity) or a combination of both.⁷

I.3 Classification

Sthaulya was categorised by Acharya Vagbhata as *Adhika*, *Madhyama*, and *Hina Sthaulya* in the context of the *Langhana*

Upakrama indicators.⁸ Correlation between Vagbhata's classification and modern science outlined below.

1. *Hina Sthaulya* (Overweight- (B.M.I. 25-30 kg/m²)- Without any more illness or complications Less than a year
2. *Madhyam Sthaulya* (Obesity class I & 2- (B.M.I. 30-40 kg./m²)- Duration of 1 to 5 years without any subsequent disease but with the fewest complications.
3. *Adhika Sthaulya* (Severe Obese- B.M.I. > 40 kg./m²)- Greater than five-year duration accompanied with complications and subsequent illness.

I.4 Types of Obesity

I.4.1 According to Fat distribution

I.4.2 Android obesity

Fat collected mostly in the abdomen (above the waist i.e., apple shaped abdomen). Android obesity is also called as Central obesity or abdominal obesity. There is an increased risk of metabolic complications such as Coronary Heart Disease, Diabetes Mellitus, Hypertension, and Dyslipidemia in Android obesity.

I.4.3 Gynoid Obesity

Fat collected mostly on the hips and buttocks (below the waist or gluteo-femoral i.e. pear-shaped bodies). It makes the person more prone to mechanical disorder such as varicose veins and disorders of joints

I.5 On the basis of BMI

- Overweight 25–29 Kg/m²
- Class I Obesity-30–34.9 Kg/m²
- Class-II Obesity-35–39.9 Kg/m²
- Class-III Severe or morbid obesity > 40 kg/m²

I.6 Etiopathogenesis

I.6.1 According to Ayurveda

I.6.2 Nidana

Absence of physical activity, daytime sleeping and intake of *Kapha* aggravating food lead to the formation of *Madhur Aharras* which causes an excessive increase in *Sneha* and *Meda* (Fat).⁹

I.7 According to modern Science

Obesity is a multi-factorial condition. Etiological factors playing a major role in eating and weight control include: Genetic, Cultural, Socioeconomic, Behavioural, Situational, Metabolic and Physiological. Causative factors divided into two groups.

I.8 Primary Factors

In Primary obesity there is no obvious cause exists other than an imbalance in energy intake and energy expenditure. Weight gain occur when energy intake is more than expenditure.

1.9 Secondary Factors

It includes endocrine diseases (Cushing's syndrome, Hypothyroidism and Hypogonadism), Genetic Alterations, Drugs and Neurological Disorders

1.10 Symptoms¹⁰

- *Kshudrashwas* (dyspnoea on exertion)
- *Trishnadhikya* (excessive thirst)

- *Moha* (delusion)
- *Swapnadhikya* (excessive sleep)
- *Krathana* (sudden obstruction to respiration)
- *Saad* (exhaustion) *Kshudha Atimatrata* (excessive hunger)
- *Sweda Daurgandha* (foul smelling of the body)
- *Alpayu* (decreased life expectancy)
- *Alpamaithuna* (decreased sexual potency)

Cardinal Symptoms and Eight *Doshas* of *Atisthula* as shown in table no.1.¹¹

Table No. 1 shows Cardinal Symptoms and Eight <i>Doshas</i> of <i>Atisthula</i>	
Cardinal Symptoms of <i>Sthaulya</i>	Eight <i>Doshas</i> of <i>Atisthula</i>
• <i>Medomamsaativruddhi</i> (excessive accumulation of <i>Meda</i> and <i>Mamsa</i>)	1. <i>Ayushorhasa</i> (diminution of lifespan)
• <i>Chalasphik, Udara, Stana</i> (flabby buttocks, abdomen, breasts due to excessive fat deposition)	2. <i>Javoparodha</i> (lack of enthusiasm)
• <i>Ayathopachaya-anutsaha</i> (improperly formed <i>Medodhatu</i> causes <i>Utsahahani</i> in the individual)	3. <i>Kricchavyavaya</i> (difficulty in sexual act)
	4. <i>Daurbalya</i> (debility)
	5. <i>Daurgandhya</i> (foul smelling of the body)
	6. <i>Swedabadha</i> (excessive sweating)
	7. <i>Kshudhatimatrata</i> (excessive hunger)
	8. <i>Pipasatiyoga</i> (excessive thirst)

1.11 Samprapti (Pathogenesis)

1.11.1 Samprapti Ghatak

1. Dosh

All three *Doshas* are vitiated in the pathophysiology of *Sthaulya*.

a) Vata

In this illness, *Avrita* in *Kostha* has been linked to *Vata*, which causes *Agnivaishmya* and ultimately raises the urge for food. *Agni Sandhukshana's* proof of *Samana Vayu's* involvement, along with the inappropriate distribution of fat throughout the body, provide for a clear postulation of this theory.¹²

b) Pitta

The symptoms *Atikshudha*, *Atipipasa*, *Swedadhikya*, and *Daurgandhya* have also been listed in *Pitta Vriddhi* and *Sthaulya*. The primary factor in the aetiopathogenesis of the illness is *Pachaka Pitta*.¹³

c) Kapha

In the pathophysiology of *Kaphadosha*, excessive use of *Ahara* (such as *Guru, Snigdha, Madhura, Sheeta, and Picchila*) and *Vihara* (such as *Avyayama, Divaswapna*, etc.) is involved. The majority of *Sthaulya* symptoms are classified as *Kapha Vriddhi (Prakopa)*. These include *Nidradhikya, Angagaurava, Gatrasedana, and Alasya*. The *Sthaulya Rogi* typically belongs to the *Kapha Prakriti*, which can cause slow, drowsy physical activity with *Sthula Anga* by nature as well as more pleasure

and less tension and anxiety. As a result, *Kapha Prakriti* people are more likely to become obese (*Sthula*).

2. Dusya

Sthaulya is a *Dusya* dominating condition, according to *Acharya Sushruta*, and it is evidently characterised by excessive creation of aberrant *Meda Dhatu*. In *Meda*, next to other *Dhatus*, is *Kapha*. In *Sthaulya*, excessive consumption of *Guru Snigdha* and a diet high in *Madhuradi Guna* led to an increase in the buildup of *Medodhatu*.

3. Srotasa

Along with the presence of other *Srotasa*, *Medovaha Srotasa's* contribution is the primary element in the *Sthoulya*. *Avyayama, Divaswapa's* excessive use of *Madhura Dravyas* and *Varuni*, in accordance with *Acharya Charaka*, are the causes of *Medovahastrotodushti*. It shows that *Rasavahasrotasa* and *Medovahasrotasa* were both clearly involved. *Swedavahasrotasa's* involvement is shown by *Atisweda* and *Daurgandhya*. *Atipipasa's* presence suggests that *Udakavahasrotasa* is involved. Increased fat deposition inside the muscle (*Vasa*) is a sign that *Mamsavahasrotasa* is involved in the pathophysiology of *Sthaulya*.

4. Ama and Agn

Mandagni is identified by *Vagbhata*¹⁴ as the cause of all sickness. *Ama* is formed as a result of *Mandagni*. *Dhatvagni's* disarray leads to *Sthaulya*. Due to the restriction of *Meda* in *Sthaulya*, *Tikshnagni* is a noticeable characteristic. In the stage of *Tikshnagni*, people repeatedly choose *Adhyashana* and *Kalavyatitaharasevana*, which causes disturbance in *Agni* and may ultimately result in the formation of *Ama*, according to *Chakrapani* and *Dalhana*. *Dalhana* went on to clarify that the

creation of Ama in the *Sthaulya* is more a result of the decline of *Medodhatvagni* than *Jatharagni*. According to the "Dhatu Parinama idea," *Vridhhi* of the preceding *Dhatu* and *Kshaya* of the following *Dhatu* occur at the *Dhatvagni* level. When *Guru*, *Madhura*, and *Snigdha* diets are consumed in excess, it leads to excessive and inferior *Medodhatu Poshaka Annarasa*, which results in *Medodhatvagnimandya*. Therefore, in the condition of *Medodhatvagnimandya*, *Medodhatu*, grow, and further/*Uttaradhatu*, such as *Asthi*, *Majja*, and *Shukra*, decrease.

1.12 Chikitsa

1.12.1 Chikitsa of Sthoulya includes

- *Guru* and *Apatarpana Chikitsa*.
- *Vata*, *Kapha*, and *Medanashak Anna Pana*.
- Use of *Ruksha*, *Ushna* and *Tikshna Basti (Lekhan Basti) & Ruksha Udvartana*.
- *Ratrijagaran*, *Vyavaya*, *Vyayama* and *Chinta* are considered as beneficial in *Sthoulya*. It should be increased gradually which helps in *Lekhana* of *Medadhatu*.

Table No. 2 Diet chart for Sthaulya	
10 AM	Fruit/ vegetable Salad / Puffed Rice
11.00 AM	Yush/ Saktu/ Soup
12.30 PM	Lunch-
	Roti- barley(yava)/ Bajra/ Jwari/ Ragi Vegetable Chutney, Butter Milk Pickle, Amla/kumara (Aloe vera)/ Bittergourd (Karvelak)
4 PM	Snacks- Puffed jowar, puffed rice, puffed rajgira, murmura
7 PM	Dinner - Daliya, Krushara,

Table No.3: Vegetables						
Name	Rasa	Veerya	Vipaka	Guna	Doshaghnata	Roghagnata
Bottol Guard	Katu,Tikta	Ushna	Madhur	Snigdha, Laghu	Tridoshaghna	Deepan, Pachan,Ruchya
Ridge Guard	Tikta	Ushna	Katu	Tikshna,;Laghu, Ruksha	Kaphapittahar	Deepan, Vamaka
Green Gram	Madhur,Kashaya			Vishad, Laghu	Kaphapittahar	Medoghna, Jwaroghna
Carreot	Madhur, Katu,Tikta	Ushna	Katu	Tikshna,;Laghu,	Kaphavatahara	Deepan. Rukshaya

Table No. 4: Sthaulyahara capsule and Medicated Water						
Name	Rasa	Veerya	Vipaka	Guna	Doshaghnata	Roghagnata
Amalaki	Pacharasa	Sheeta	Madhur	Ruksha, Guru, Sheet	Tridoshaghna	Rasayan, Pramehaghna, Jwaroghna,
Haritaki	Pacharasa	Ushna	Madhur	Laghu, Ruksha	Tridoshaghna	Rasayan, Kushtaghna, Jwaroghna
Bibhitaki	Kashaya	Ushna	Madhur	Laghu, Ruksha	Tridoshaghna	Raktastambhaka, Jwaroghna
Chitrak	Katu	Ushna	Katu	Laghu, Ruksha Tikshna,	Kaphavatahara	Shothahar Jwaroghna, Kanthya
Haridra	Tikta,Katu,	Ushna	Katu	Laghu, Ruksha	Kaphavatashamak Pittavardhaka	Vishaghna, Kushtaghna,
Katu jirak	Katu	Ushna	Katu	Laghu, Ruksha	Kaphavatashamak Pittavardhaka	Deepan,Pachan, Pramehaghna
Methika	Katu	Ushna	Katu	Laghu, Snigdha	Vatashamaka	Deepan, Pachan, Anulomana
Ushira	Madhur, Tikta	Sheeta	Katu	Laghu, Ruksha	Pittashamaka	Stambhana, Trishnanigrahana

1.13 Pathyapathya

Pathyapathya plays an important role in *Sthoulya* categorized in *Aharaja* and *Viharaja Pathyapathya* as per table no.5 and 6.¹⁵

Table No. 5: - Showing Aharaja Pathyapathya		
Ahara Varga	Pathya	Apathya
Shuka Dhanya	Yava, Kodrava	Godhuma, Navanna, Shali
Shami Dhanya	Mudga, Rajamasha, Kulatha, Chanaka	Masha, Tila
Shaka Varga	Patola, Vrunthaka	Madhura phala
Dravya	Takra, Madhu, Ushnodaka, Sarshapa Taila, Arishta, Asava, Jeerna Madya	Dugdha, Draksha, Navaneeta, Goghrita, Dadhi
Mamsa	Rohita Matsya	Anupa, Gramya

Table No.6 - Showing Viharaja Pathyapathya			
Pathya		Apathya	
Shrama	Jagarana	Divaswapna	Avyayama
Vyayam	Chintan	Avyavaya	Sukha Shayya
Shoka	Krodha	Nitya Harsha	Achintana
Nitya Bhramana	Sheet Jalapana		

Various formulations having single herbs, lekhaniya drugs, and compound preparations as per table no. 6 are described which can be used in the treatment of *Sthaulya*.¹⁶

Table No.7 - Single Herbs, Lekhaniya Mahakshaya, and Compound preparations ¹⁷					
Single Herbs		Lekhaniya Mahakshaya		Compound preparations	
Guduchi	Shunthi	Musataka	Kusta	Navaka Gugulu	Loha Arishta
Triphala	Trikatu	Haridra	Daruharidra	Amrutadi Gugulu	Triphaladi Tail
Vidanga	Aguru lepa	Vacha	Ativisha	Dashang Gugulu	Chavayadi Sattu
Bilvadi panchmoola	Loha basma	Katurohini	Chiktraka	Trayushanadi Gugulu	Mahasugandhi Tail
Agnimantha	Shilajita	Chirbilva	Haimvati	Vidangadi Churna	Haritakiadi Lepa
				Vidandadi Loha	Vyoshadi Sattu
Kshara				Medohara Lepa	Loha Rasayana

1.14 Treatment according to modern science-

1. Diet therapy
2. Exercise
3. Behavior therapy
4. Pharmacotherapy
5. Surgery

In grade I and grade II obesity oral medications like orlistat and sibutramine are indicated. Orlistat helps in reducing fat absorption from the intestine by inhibiting pancreatic lipase. sibutramine has an action on neurotransmitters thus reducing appetite. But long-term use has many side effects for grade III obesity Bariatric surgery is the best treatment. But all these have limitations due to associated side effects.

1.15 Complications

- Bhagandara (fistula)
- Arsha (piles)
- Visarpa (erysipelas)
- Atisara (diarrhea)
- Shlipada (filariasis)
- Apachi
- Jwara (fever)
- Prameha (diabetes)
- Kamala (jaundice)

3. RESULTS

1.16 Consequences of obesity

Obesity is a substantial risk factor for a variety of noncommunicable diseases, including cardiovascular disease, musculoskeletal disorders, particularly osteoarthritis of the joints (often knee joints), and several malignancies.¹⁹

1.17 Aim and Objectives

In Modern medicine lifestyle modification, Antiobesity drugs and bariatric surgery is indicated as per BMI of patient. All these have some limitations. As most of the individuals need to following the proper lifestyle due to busy schedule. Antiobesity drugs and surgery are associated with adverse effects and expensive. Hence in such scenario Ayurveda formulations can be safely used. So this review is conducted with the aim to study various formulations described in Ayurveda as a *Shaman Chikitsa in Sthaulya*.

2. MATERIALS AND METHODS

The various research articles searched by Google scholar on the Ayurvedic management of *Sthaulya* from 2010-2020 were selected for review as shown in table no.8. This study adopted a narrative approach instead of a quantitative approach as used in meta-analysis. Hence no statistical analysis was carried out in this review.

Table no. 8 -Research studies conducted on *Sthaulya*

Sr. No	Author, Journal/ year	Title of study	Methodology	Results and conclusion
1.	M.A.pandit,et.al., Journal of pharmaceutical andBio Sci., 2 ⁰¹³ . ²⁰	“Clinical evaluation of <i>Guduchyadi Yoga</i> and its combination with <i>Udvardana</i> by <i>Haritaki</i> in the management of <i>Sthaulya</i> with special reference to obesity	Group A (3 ⁰): Powder of <i>Guduchi</i> + <i>Musta</i> and <i>Triphala</i> 5g., before food twice a day with Honey Group B (3 ⁰): Powder of <i>Guduchi</i> + <i>Musta</i> + <i>Triphala</i> 5g., before food twice a day with Honey along with <i>Udvardana</i> by <i>Haritaki Churna</i> . Duration- 6 ⁰ days	Results showed significant results in subjective (<i>Atikshudha</i> , <i>Atipipasa</i> , <i>Kshudrashwasa</i> , etc) as well as objective criteria like BMI, Waist hip ratio and lipid profile. Group B treated with <i>Udvardana</i> showed better results than Group A.
2.	S.A.U.S.K. Jayasiri,S.M.S.Samarkoon, Indian Journal of Ancient Medicine and Yoga,Vol.7 (1) Jan.Mar. 2 ⁰¹⁴ . ²¹	A Comparative Clinical Study on the Efficacy of <i>NavakaGuggulu</i> and <i>Amritadya Guggulu</i> in the Management of <i>Sthaulya</i> (Overweight and Obesity)	Group A (15): <i>Navaka Guggulu</i> 1 g two times a day <i>Anupana</i> -Warm water Group B(15): <i>Amritadya Guggulu</i> 1 g two times a day <i>Anupana</i> - Warm water Duration-2 months	The study showed a statistically highly significant reduction in mean body weight, BMI, abdomen circumference, mid-thighcircumference, andmid-arm circumference and improvement in excessive thirst, drowsiness, and digestive capacity in both groups.Thus, they advocated that both drugs possess ingredients having <i>Lekhana</i> property and hence both are equally effective in <i>Sthaulya</i> .
3.	Dr.JainSapan B, et.al., IJMRPS, 2 ⁰¹⁴ ²²	“Clinical evaluation of <i>Medohar Guggul</i> & <i>Triphala Guggul</i> in the management of obesity”	Group A (3 ⁰): <i>Medohar Guggul</i> 5 ⁰⁰ mg TDS Group B (3 ⁰): <i>Triphala Guggul</i> 5 ⁰⁰ mg TDS <i>Anupana</i> -Lukewarm water Duration- 6 ⁰ days	Both groups showed improvement in <i>Sthaulya</i> symptoms but <i>MedoharGuggul</i> is better than <i>Triphala guggul</i> in <i>Sthaulya</i> management.
4.	Chhabra Shaily IJAHM, 5(6), 2 ⁰¹⁵ ²³	A Comparative Clinical Study of the Efficacy of <i>Amritadya Guggulu</i> with <i>TriphalaKwatha</i> and with <i>Madhudak</i> in the Management of <i>Medoroga</i> (Obesity)	Group A (2 ⁰) <i>AmritadyaGuggulu</i> 1 gm Twice a day <i>Anupana</i> - honey mixed with lukewarm water Group B (2 ⁰): <i>Amritadya Guggulu</i> : <i>Anupana</i> - <i>Triphala Kwatha</i> mixed with honey Duration- for 6 ⁰ days	<i>Amritadya Guggulu</i> with two different <i>Anupanas</i> - showed significant results in both groups, but more improvementwas found in Group B with <i>TriphalaKwathAnupana</i> .

5.	Rakesh Parashar,et.al., IJAR, 2015;1(9):PP 636- 63924	“A clinical evaluation and comparative study of <i>Loharasayana</i> and <i>Tryushanadya Loha</i> in the management of <i>Sthaulya</i> (obesity)”	Group A (3 ⁰): <i>Loharasayana</i> in the <i>Awaleha</i> form 5 gm two times a day with milk Group B (3 ⁰): <i>Tryushanadya Loha</i> 5 ⁰⁰ mg capsule two times a day with unequal parts of honey and ghee	Results showed symptomatic relief and average percentage relief more in group A hence they confirmed that <i>Loharasayana</i> is more effective than <i>Tryushanadya Loha</i> in <i>Sthaulya</i> .
6.	Mandalkar Pramod Patel Falguni,Wankhade Rajesh Mantri Kiran, International Ayurvedic Medical Journal Volume 3;Issue ¹¹ ;November 2 ⁰¹⁵ ²⁵	A clinical study of <i>TryushnadhyalauhaVati</i> in the management of <i>Sthaulya</i> w.s.r. to obesity	Group A (¹⁰): <i>TryushnadhyalauhaVati</i> 2 gm two times a day with <i>Madhoodaka</i> (Honey water) Group B (¹⁰): <i>NavakaGuggulu</i> 2 gm two times a day with <i>Madhoodaka</i> for 8 weeks	Statistically significant relief with just similar improvement in all subjective and objective criteria in both groups but in comparison, <i>TryushnadhyalauhaVati</i> showed better improvement than <i>Navaka Guggulu</i> .
7.	Deepak Kumar,S. Gupta IAMJ;Volume 4;Issue ⁰⁵ ;May 2 ⁰¹⁶ ²⁶	A clinical study of <i>Lekhana Karma</i> of <i>Varunadi Kashaya</i> in comparison with <i>Medohara Guggul</i> in the management of <i>Sthaulya</i>	Group A (3 ⁰): <i>Varunadi Kashaya</i> for 3 tsp two times a day before meal Group B (3 ⁰): <i>Medohar Guggul</i> 5 ⁰⁰ mg two times a day after food for 8 weeks.	The efficacy of <i>Varunadi Kashaya</i> was remarkably better than <i>Medohar Guggulin Sthaulya</i> disease.
8.	Dr.RashmiGurao,Dr.NakulKhode,Dr.Subhas h Chandra and Dr.Omprakash Dadhich, Word Journal of Pharmaceutical Research Vol 6,Issue 8, 2 ⁰¹⁷ ²⁷	To study the efficacy of <i>Vidangadi Churna</i> in <i>Sthaulya</i> w.s.r to obesity	Single Group (3 ⁰): <i>VidangadiChurna</i> 3 gm two times a day with Honey before the meal Duration-for 3 ⁰ days Follow up-After 3 ⁰ days	Results showed that <i>Vidangadi Churna</i> revealed statistically significant effects on objective parameters like weight, BMI, and Waist to Hip ratio except for Mid Arm circumference. They stated that most of the drugs of <i>VidangadiChurna</i> having <i>Dipana</i> , <i>Pachana</i> , <i>Kaphaghna</i> , <i>ShothaharaLekhana</i> , and <i>Vatakaphahara</i> properties which help in correcting the pathogenesis of Obesity.
9.	V.B. Kumawat,AYUSHDHARA 2 ⁰¹⁸ , 5(4) ²⁸	“A clinical trial of <i>ArogyavardhiniVati</i> and <i>LekhaniyaMahakashaya</i> in the management of obesity”	Single Group (n=2 ⁰): Tablet <i>ArogyavardhiniVati</i> 5 ⁰⁰ mg twice a day with <i>KoshnaJala</i> after the meal and <i>Lekhaniya Mahakashaya</i> 5 ⁰ ml two times a day empty stomach Duration-for 6 ⁰ days.	The resultsshowed a significant relief in all the subjective as well as objective parameters of obesity. Hence, they proved that <i>ArogyavardhiniVati</i> along with <i>LekhaniyaMahakashaya</i> showed better results in Obesity.

10.	Uday Raj Saroj,RatnaParaste,Binod Kumar Singh IJAPR June 2020 Vol 8 Issue 6. 29	“Clinical evaluation of efficacy of NavakaGuggulu and TriphalaKwatha in the Management of Medoroga with special reference to obesity”	<div>Group A (n=10):NavakaGuggulu 1 gm thrice a day with Koshnajala</div> <div>Duration- 30 days</div> <div>Group B (10): TriphalaKwatha 50 ml two times a day for 30 days</div> <div>Group C (n=10):NavakaGuggulu 1 gm Three times a day with Triphala Kwatha 50 ml two times a day for 30 days</div> <div>Significant improvement in subjective and objective parameters as well as lab. parameters.Result showed that both drugs are effective in Medoroga but Group C treated with both formulations showed better results than those used individually.</div>
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4. DISCUSSION

Deranged Agni (digestive power) leads to the production of Ama (undigested food), which disturbs Medodhatvagni and blocks the proper formation of further Dhatu. Improperly formed Meda Dhatu accumulates in the body causing SthaulyaRoga. Accumulated Meda causes disturbance to the movement of Vata. The Vayu moves to the Koshta and enhances digestive fire. This increased digestive fire leads to faster digestion of the food in the body. This increases hunger and an individual consumes more food, and this cycle continues. The excessive improperly formed Medo Dhatu gave rise to various symptoms. Sthaulya is a Santarpaniya Vyadhi hence Guru and Apatarpana chikitsa is advised in it. According to Acharya Charaka Vataghna, Kaphahara and Medonashaka chikitsa is considered as an ideal Sanshamana therapy for Sthaulya causing Apatarpana.³⁰ In this review various research studies conducted on Sthaulya with Shamana chikitsa are included shown in table no. 8. The studies mainly consist of Gudduchyadi Yoga, Navaka Guggul, Amritadi Guggul, Triphala Kwatha, Medohar Guggul, Triphala Guggul, Loharasayana, Tryushanadya Loha, Varunadi Kashaya, Vidangadi Churna, Arogyavardhini Vati and Lekhaniyamahakashaya. Guduchyadi Yoga contains Guduchi (*Tinospora cordifolia*), Musta (*Cyperus rotundus*) and Triphala. It helps in alleviation of Vata and Kapha Dosha due to Katu, Kashaya-Rasa and Ushna-Virya. Katu Rasa causes Medo-Kleda-Shoshana, the main cause of Sthaulya. Ushna-Virya too helps in vilayana of Kleda and Meda. Katu-Rasa, Ushna-Virya enhances and corrects Dhatvagnimandya which help in Amapachana. Ultimately act as medohar and breaks the Samprapti of Sthaulya. Guduchi (*Tinospora cordifolia*) has Tikta and Kashaya Rasa due to which it causes Agni Deepan and helps in the digestion of Ama produced during the Samprapti of Medoroga. Tikta Rasa due to its Lekhana and Srotoshodhak Karma causes Lekhana of Meda to accumulate in Medovaha Strotas.^{31,32} Musta possesses Laghu, Ruksha Guna, Tikta, Kashaya, Katu Rasa, Sheeta Veerya and Katu Vipaka. It has Deepan, Pachana, and Lekhana properties; thereby it helps in reducing the formation of Apachit Meda and balances Kapha, Vata, and Pitta Dosha.³³ It helps in reducing excess Meda and Kapha. Musta showing its antiobesity, hypolipidemic, and antioxidant action in various studies.³⁴⁻³⁶ Triphala (Amalaki+Haritaki+Bibhitaki) possesses Tridoshashamaka, Dipana, Pachana, Lekhana and Rasayana properties. Tannins, gallic acid, chebulinic acid, ellagic acid, and other bioactive substances such as flavonoids,

saponins, anthraquinones, amino acids, fatty acids, and different carbohydrates are found in Triphala. Due to which it has anti-obesity (Gallic acid), hypolipidemic, hypocholesterolemia, hypoglycemic, antihyperglycemic, insulin-releasing, anti-stress, antioxidant, and immunomodulatory activities. was identified in Triphala in a prior study. Gallic acid is an anti-obesity substance. Amalaki has the highest concentration of gallic acid (*Embllica Officinalis*), thus it helps in reducing excessively accumulated Meda Dhatu.^{37,38} Triphala having HMG-CoA reductase inhibitory action. The enzymes HMG-Co A and HMGR are primarily responsible for maintaining cholesterol production in the body.³⁹ Udvartana is the process of rubbing dry powder on the body which helps in reducing excessive Meda. Ruksha drugs like Vacha, Musta, and Haritaki are used for Udvartana in Sthaulya. During Udvartana the friction of the drug on the skin increases local temperature and causes vasodilatation. It enhances circulation and also helps in the elimination of waste products. It also helps in reducing subcutaneous fat and fatty tissue. Thus, it is effective in weight reduction.⁴⁰ Navaka Guggul contains Shunthi (*Zingiber Officinalis*), Maricha (*Piper nigrum*), pippali, (*Piper longum*), Chitrakmoola (*Plumbago zeylanica*), Haritaki (*Terminalia chebula*), Vibhitaki (*Terminalia bellirica*), Amalaki, Musta (*Cyperus rotundus*), Vidanga (*Embeliaribes*), and Shuddha Guggul, (*Commiphoramukul*). Navaka Guggul contains ingredients having Katu Rasa, Ruksha, Tikshna Guna, Ushna, Virya, Vatakaphahara, Deepana, Pachana and Lekhana properties.⁴¹ These properties help in alleviating Vata Kaphadosha. It helps in correcting Agnimandya and also reduces accumulated Meda by lekhan property. Thus, it helps in breaking Samprapti of Sthaulya and reduces symptoms, and thereby Sthaulya is improved.⁴²

Amritadi Guggul contains Guduchi, Ela (*Elettaria cardemomum*), Vidanga, Kutaj (*Holarrhena antidysenterica*), Haritaki, Vibhitaki, and Amalki. The ingredients possess Katu, Tikta Rasa, Laghu, Ruksha Guna, Tridoshaghna, Medanashaka, Deepana, and Lekhana properties. Kapha is the main Dosha, and Meda is the main Dushya, in the formation of Sthaulya with Dhatvagnimandya at the Medodhatvagni level. So Amritadi Guggul has efficacy to correct the function of Medodhatvagnimandya and Kaphamedohar properties are effective in controlling Sthaulya.⁴³ Medohar Guggul contains Shunthi, Maricha (*Piper nigrum*), pippali, (*Piper longum*) Chitrakmoola (*Plumbago zeylanica*), Haritaki (*Terminalia chebula*), Vibhitaki (*Terminalia bellirica*), Amalaki, Musta (*Cyperus rotundus*), Vidanga (*Embelia ribes*), Shuddha Guggul

(*Commiphora mukul*), having the same content as in *Navaka Guggul*. *Triphala Guggul* contains *Haritaki*, *Vibhitaki*, *Amlaki*, *Pippali*, and *Shudha Guggul*. Hence both *Guggul* preparations have *Kaphamedahar*, *Deepana*, *Pachana*, *Srotoshodhaka*, and *Lekhana* properties which help in breaking *Samprapti* and reducing symptoms of *Sthaulya*.⁴⁴ *Madhu* has *Kashaya*, *Madhura Rasa*, *Ruksha*, *Sandhan*, *Chedana*, *Kaphanashaka* properties. It is also given as *Anupana* in *Sthaulya* to enhance the action of other drugs. Due to *Chedana Guna*, it helps to reduce *Kapha*, and *Meda*. Hence useful in *Sthaulya*.⁴⁵ *Loharasayana* contains *Guggul*, *Talmooli* (*Curculigo orchoides*), *Triphala*, *Khadir* (*Acacia Catechu*), *Vasa* (*Adhatoda vesica*), *Trivruta* (*Operculina trapethum*), *Gorakhmundi* (*Spharanthus indicus*), *Shunthi*, *Nirgundi* (*Vitex negundo*), *Chitrak* (*Plumbago zeylanica*), *Kantloha bhasma*, *Sheelajeeta* (*Asphaltum*), *Ela*, *Maricha*, *Tvak* (*Cinnamomum zeylanica*), *Vidanga*, *Pippali*, *Daruharidra* (*Berberis aristata*), *Kasis* (*Ferrous Sulphate*). Most of the ingredients having *Tikta*, *Kashaya Ras*, *Katu Vipaka*, *Ushna Veerya* and *Laghu*, *Ruksha guna*. *Tikta* and *Kashaya Ras* acts as *Grahi*, *Sarvahr* and *Stambhaka*, *Ushna veerya* acts as *Medohara* and *Laghu*, *ruksha Guna* alleviates vitiated *Kapha*. *Guggulu* possesses Pharmacological activities like *Antiobesity*, *antihypercholesteremic* which helps in reducing excessive fat.⁴⁶ *Tryushanadya Loha* contains *Shunthi*, *Maricha* (*Piper nigrum*), *Pippali*, *Triphala*, *Chavya* (*Piper retrofractum*), *Chitrak*, *Bakuchi* (*Psoralea corylifolia*), *Sauvarchal Lavana* (Black salt), *Saindhavilavan* (Rock salt), *Aoudbhid salt*, *Vidhavan* (*Ammonium Chloride*), *Lohbhasm* in equal quantity. Both *Loharasayana* and *Tryushanadya Loha* have *Katu Rasa*, *Laghu*, *Ruksha Guna*, *Ushna Virya* with *Dipana*, and *Pachana*, *Kaphaghna*, *Meda-Sneha*, *Kledashoshaka* and perform *Srotorodhanivaraka Karma*. All have opposite actions on properties of *Kapha Dosha* and *Meda Dhatu* so they are effective in the management of *Sthaulya*. *Varunadi Kashaya* contains *Varuna* (*Crataeva nurvala*), *Shatavari* (*Asparagus racemosus*), *Chitrak* (*Plumbago zeylanica*), *Sahijan* (*Moringa oleifera*), *Sairyaka* (*Strobilanthes ciliatus*), *Moorva* (*Chonemorpha fragrans*), *Karanja* (*Pongamia glabra*), *Bilva* (*Aegle marmelos*), *Brihati* (*Solanum melongena*), *Bhadra* (*Aerulana*), *Pootikaranja* (*Caesalpinia bonducella*), *Jaya* (*Premnac orymbosa*), *Haritaki*, *Kusha-Darbha* (*Desmostachya bipinnata*), and *Agnimukhi* (*Semecarpus anacardium*). *Acharya Vagbhata* and *Sushruta* mentioned that *Varunadi Gana* has *Kaphaghna* and *Medoghna* properties. Hence it is useful for doing *Lekhana karma* in *Sthaulya*. The main ingredients of *Vidangadi Churna* are *Vidanga*, *Shunthi*, *Amalaki*, *Yava*, *Yavakshara*, and *Lauhabhasma*. *Yava* has *Kashaya Rasa*, *Ruksha Guna*, *Sheet Virya*, and *Kaphavikarnashaka* properties. The pharmacodynamics of this preparation is though contradictory, *Acharya Chakrapani* has simply stated that it is useful in the disease by the virtue of its *Gaurava Nirapeksha Prabhava*. *Gangadhara* further elaborated that the preparation of *Vidangadi Churna* is devoid of *Guruta* i.e., it possesses *Laghu Guna* due to *Prabhava* and thus has *Sthaulya Karshana Karma*. *Prabhava* concedes all the other factors like *Rasa*, *Virya*, etc. of the contents of *Vidangadi Churna*.⁴⁷ The formulation *Arogyavardhini Vati* contains *Shudha Parad*, *Gandhak*, *Lauhabhasm*, *Tamrabhasma*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Shudha Shilajit*, *Shudha Guggul*, *Chitrakamoola*, and *Kutki* (*Picrorhiza kurroa*). Most of the contents have *Tikta-Katu Rasa* predominance, *Laghu*, *Ruksha*, *Sukshma Guna*, and *Ushna Virya*. Due to this, it has *Deepan*, *Pachana*, *Srotoshodhana*, and *Lekhana* properties hence effective in *Sthaulya*. *Lekhaniya Mahakashaya* is described in *Charak Samhita* and contains *Musta*, *Kustha*, *Haridra* (*Curcuma longa*), *Daruharidra*, *Vacha*

(*Acorus calamus*), *Ativisha* (*Aconitum heterophyllum*), *Kutki*, *Chitrak*, *Chirbilva* (*Holoptelia integrifolia*), and *Hemvati* (*Leptadenia reticulata*). *Lekhaniya Mahakashaya* has *Katu*, *Tikta Rasa Laghu*, *Ruksha*, *Tikshna*, *Lekhana Guna*, *Katu Vipak* and *Ushna Virya*. It has *Kaphavatshamak*, *Deepana*, *Pachana*, *Lekhana*, and *Medohara* action. It enhances digestive power and helps in providing nutrition to the body. *Triphala Kwatha* contains *Haritaki*, *Vibhitaki*, and *Amalaki* hence useful in *Sthaulya*. *Triphala* has *Deepana*, *Pachana*, *Tridoshashamak*, and *Lekhana* properties. It has mild purgative action which causes *Vata anulomana*, therefore it helps in normalizing vitiated *Vata*. *Ama Pachana*, property helps in the digestion of *Ama* which intern removes *Srotorodha* and helps in breaking *Samprapti* by improving digestion. *Triphala* is a good *Rasayana* hence it helps in enhancing immunity.⁴⁸ In this review total of ten research studies were included, in which eight studies are comparative and only two studies are of a single arm. All above-mentioned studies were conducted for the duration of 6⁰ days except in one study treatment was given for 3⁰ days. Almost in all studies, the *Pathyapathya* was advised to the patients during the treatment period. In these studies, lukewarm water, *Madhudaka*, and *Triphala Kwatha* are used as *Anupana*. In herbomineral preparations, milk and ghee are used as *Anupana*. All the above-mentioned formulations showed a significant reduction in subjective parameters like *Atikshudha*, *Atipipasa*, *Kshudrashwasa*, *Daurgandhya*, and *Swedadhikya*. Also, it showed a reduction in anthropometric measurements and improvement in serum lipid levels. Serum lipid levels are assessed only in a few studies mentioned above as the drugs used have *Lekhana* property which helps in correcting blood lipid levels.

5. CONCLUSION

Sthaulya can be treated effectively by *Nidanparivarjana* as well as *Shamana Chikitsa*. For *Shamana chikitsa* various formulations having *Katu*, *Kashaya Rasa*, *Guru*, *Ruksha Guna*, *Vata kaphaghna*, *Medohar*, and *Lekhana* properties can be used effectively. These all properties of drugs help in breaking *Samprapti* and thus reduce symptoms. Some of the drugs also help in the correction of deranged serum lipid levels mainly drugs of *Lekhaniya Mahakashaya*, *Guduchi*, *Musta*, *Vidanga*, *Guggul*, *Triphala*, *Trikatu*, and *Varun* can be used effectively in *Sthaulya*. All having *Lekhana* and *Apatarpaka* properties so single or in combination, they are beneficial in reducing symptoms without any side effects. More studies with different combinations of formulations can be studied in *Sthaulya* to prove its efficacy and synergistic action.

6. AUTHOR CONTRIBUTION STATEMENT

Dr Ashvini Padhekar gathered all data for this review. Dr. Sadhana Misar Wajpey and Dr. Shashank Gotarkar helped in designing and constructing the manuscript. All authors contributed in preparation of final manuscript.

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8. CONFLICT OF INTEREST

Conflict of interest declared none.

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