



## A REVIEW STUDY ON THE EFFICACY OF LEKHANIYA MAHAKASHAYA IN THE MANAGEMENT OF STHAULYA (OBESITY)

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<https://doi.org/10.46607/iamj3811072023>

(Published Online: July 2023)

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Article Received: 11/06/2023 - Peer Reviewed: 07/07/2023 - Accepted for Publication: 19/07/2023.



### ABSTRACT

The 21st century, with its constant altering in life styles, environment, and dietary habits has made man the victim of many diseases; *Sthaulya* (Obesity) is one of them. Obesity has become a major health problem over the world, affecting people of all ages, sex, ethnicities, and races. The incidence of obesity has doubled in the past 30 years. At present in India about 30 million Indians are obese. Currently, medicines available for obesity carry high costs and serious adverse effects. There is a need to create evidence-based awareness regarding the use of *Ayurvedic* medicines in the management of obesity. *Acharya Charaka* has described *Lekhaniya mahakashaya* which helps in reducing excessive fat (*Lekhan karma*) due to its *Ushna, Tikshna, and Ruksha Guna*. So it is useful in obesity as well as Hyperlipidaemia. *Lekhaniya mahakashaya* significantly reduces Weight and BMI. *Santarpana janya vikara* as explained in *Ayurvedic* classics produces *Medo-dushti*, which is a root cause of many diseases. Administration of *Lekhaniya mahakashaya* which is *Tikta-Katu* in *Rasa* (Bitter taste), *Ushna Veerya* (Hot in potency), *Laghu* and *Ruksha* (light and dry qualities); *Katu Vipaka* and is thus *Vata Kaphahara*. These all properties are against *Medo dhatu* which helps to reduce fat in the body. Hence *Lekhaniya mahakashaya* can be effectively used in the management of obesity.

**Keywords:** *Lekhaniya Mahakashaya*, *Sthaulya*, Obesity.

## INTRODUCTION

In the current scenario, as the lifestyle has changed drastically in daily routine, food habits, environmental changes as well as in the presence of nutritional abundance and sedentary lifestyle the bodily system increases adipose energy stores and produces adverse health consequences leading to a rise in population of unhealthy people [1]. Due to this man has become a victim of many diseases. *Sthaulya* (Obesity) is one of them. A person having heaviness and bulkiness of body due to extensive growth, especially in the abdomen region is termed as '*Sthula*' and the state of *Sthula* is called *Sthaulya* (Obesity). *Sthaulya* is a person in whom the excessive and abnormal increase of *Medo dhatu* along with *Mansa dhatu* is found, it results in a pendulous appearance of buttocks, belly, and breasts and whose increase bulk is not matched by a corresponding increase in energy [2]. Obesity can be defined as a state of excess adipose tissue mass. The most widely used method to gauge obesity is the body mass index (BMI) which is equal to weight/height<sup>2</sup> (in kg/m<sup>2</sup>) [3]. The prevalence of obesity among children and adolescents aged 5-19 has risen dramatically from just 4% in 1975 to just over 18% in 2016. The worldwide prevalence of obesity nearly tripled between 1975 and 2016 [4]. Due to the lack of safe and effective remedies in modern science, there's

a need of exploring traditional science. *Ayurveda* can pave the way towards attaining the goal. In *Ayurveda*, *Charaka* has mentioned *Lekhaniya mahakashaya* i.e. (Drugs acting as scraping agents) in the 3<sup>rd</sup> of the 50 *Mahakashaya* described in the 4<sup>th</sup> chapter of *Sutrasthan* [5]. *Acharya Charaka* has described *Sthaulya* among the eight undesirable physical constitutions in the 21<sup>st</sup> chapter of *Sutrasthan* [6].

**Aim and Objective:** To review the properties and actions of *Lekhaniya mahakashaya* in the management of *Sthaulya* (Obesity).

### **Material and Methods :**

- Different research articles from various scientific journals and Internet sources
- were referred to overview research so far conducted on *Lekhaniya mahakashaya* in the management of *Sthaulya* (Obesity). *Ayurvedic samhitas* and modern medical books were also referred to understand the concept of *Sthaulya* (Obesity) and *Lekhaniya Mahakashaya*.
- The pharmacological activities reviewed of the 10 *Lekhaniya mahakashaya*
- and compilation in the form of tabulation which explains *Rasapanchak* and the Useful part of the herbs were compiled from *Nighantus* and the textbook of *Dravyaguna*.

### **Table No. 1 :**

**Ingredients of *Lekhaniya Mahakashaya* are as follows [7]:**

| Sr. no. | Drug name          | Latin name                               | English name     | Family         | Part used         |
|---------|--------------------|--|------------------|----------------|-------------------|
| 1)      | <i>Musta</i>       | <i>Cyperus rotundus</i> Linn.            | Nut grass        | Cyperaceae     | Rhizome           |
| 2)      | <i>Kushtha</i>     | <i>Saussurea lappa</i><br>C.B. Clarke    | Costus           | Asteraceae     | Root              |
| 3)      | <i>Haridra</i>     | <i>Curcuma longa</i> Linn.               | Turmeric         | Zingiberaceae  | Rhizomes          |
| 4)      | <i>Daruharidra</i> | <i>Berberis aristata</i>                 | Indian berberri  | Berberidaceae  | Stem, roots       |
| 5)      | <i>Vacha</i>       | <i>Acorus calamus</i> Linn.              | Sweet flag       | Araceae        | Roots,<br>Rhizome |
| 6)      | <i>Ativisha</i>    | <i>Aconitum heterophyllum</i> Wall       | Indian atees     | Ranunculaceae  | Tuberous root     |
| 7)      | <i>Katurohini</i>  | <i>Pichorrhiza kurroa</i> Royle          | Picrorhiza       | Scropularaceae | Root              |
| 8)      | <i>Chitraka.</i>   | <i>Plumbago zeylanica</i> Linn.          | Ceylon lead wort | Plumbaginacea  | Root Bark         |
| 9)      | <i>Chirabilva</i>  | <i>Holoptelea integrifolia</i><br>Planch | Indian elm       | Ulmaceae       | Stem bark         |

|     |           |                                |           |           |       |
|-----|-----------|--------------------------------|-----------|-----------|-------|
| 10) | Haimavati | <i>Iris versicolor</i><br>Linn | Oris root | Iridaceae | Roots |
|-----|-----------|--------------------------------|-----------|-----------|-------|

**Rogamarga: Bahya**

❖ **Samprapti Ghatak and Lakshana of Sthaulya roga (Obesity)**<sup>[8]</sup>:

**Dosha:** Kapha Pradhana Tridoshaja

**Dushya:** Rasa, Meda

**Agni:** Medodhatwagni Mandhya, Jathragni Vridhi

**Srotas:** Medovaha

**Srotodushhti:** Sanga, Vimargagaman

**Adhithana:** Sarva Sharir (Sphik, Stana, Udara, Nitambha)

**Swabhava:** Chirkaalik

**Sadhya:** Asadhyata: Kashta Sadhya, Yapya

❖ **According to Acharya Charaka, the symptoms of Sthaulya roga are**<sup>[9]</sup>:

- 1) *Ayuhrasa* (Diminution of life span)
- 2) *Javoparodha* (Lack of enthusiasm)
- 3) *Kricchravyavaya* (Difficulties of the sexual act)
- 4) *Daurbalya* (Weakness)
- 5) *Daurgandhya* (Foul smell)
- 6) *Swedavabadha* (Excessive sweating)
- 7) *Kshudita atimatra* (Excessive hunger)
- 8) *Pipasa atiyoga* (Excessive thirst).

**Results and discussion :**

**Table No. 2:**

**Rasapanchak and Pharmacological activities of all ingredients are given below**<sup>[10]</sup>:

| Sr. No | Drug       | Rasa                 | Veerya | Vipaka | Guna                 | Doshagnata                         | Pharmacological activity  |
|--------|------------|----------------------|--------|--------|----------------------|------------------------------------|---|
| 1      | Musta      | Katu, Tikta, Kashaya | Sheeta | Katu   | Laghu, Ruksha        | Kaphapitta shamaka                 | Anti-obesity <sup>[11]</sup> Hypolipidemic effect <sup>[12]</sup>   |
| 2      | Kushtha    | Tikta, Katu-Madhura  | Ushna  | Katu   | Laghu, TikshnaRuksha | Kaphavata shamaka                  | Anti-obesity <sup>[13]</sup> , Hypoglycemic effect <sup>[14]</sup> , Hypolipidemic effect <sup>[15]</sup> . |
| 3      | Haridra    | Katu, Tikta          | Ushna  | Katu   | Laghu, Ruksha        | VataKaphashamaka                   | Anti-inflammatory and Anti-obesity <sup>[16]</sup> Anti-oxidative Hypolipidemic action <sup>[17]</sup>      |
| 4      | Daruharida | Tikta, Kashaya       | Ushna  | Katu   | Laghu, Ruksha        | Kaphapitta shamaka                 | Hypoglycemic effect <sup>[18]</sup> Anti-obesity <sup>[19]</sup>  |
| 5      | Vacha      | Katu, Tikta          | Ushna  | Katu   | Laghu, Tikshna       | Kaphavata shamaka, Pitta-varadhaka | Hypolipidemic effect <sup>[20]</sup>  |
| 6      | Ativisha   | Katu, Tikta          | Ushna  | Katu   | Laghu, Ruksha        | Dipana, Pachana Kaphavata shamaka  | Anti-obesity <sup>[21]</sup> Hypolipidemic <sup>[22]</sup>  |
| 7      | Katurohini | Katu                 | Sheeta | Katu   | Laghu, Ruksha        | Kaphapitta shamaka, Bhedana        | Hepatoprotective [23]   |

|    |                   |                      |              |             |                               |   |                                 |
|----|-------------------|----------------------|--------------|-------------|-------------------------------|---|---------------------------------|
|    |                   |                      |              |             |                               |   | Anti-obesity [24]               |
| 8  | <i>Chitraka</i>   | <i>Katu</i>          | <i>Ushna</i> | <i>Katu</i> | <i>Laghu, Ruksha, Tikshna</i> | <i>Kaphavata shamaka, Pittavardhaka</i> | Anti-oxidant [25]               |
| 9  | <i>Chirabilva</i> | <i>Tikta Kashaya</i> | <i>Ushna</i> | <i>Katu</i> | <i>Laghu, Ruksha,</i>         | <i>Kaphavatahara Tridosahara</i>        | Hypoglycemic effect [26]        |
| 10 | <i>Haimavati</i>  | <i>Katu, Tikta</i>   | <i>Ushna</i> | <i>Katu</i> | <i>Laghu, Tikshna</i>         | <i>Kaphavata shamaka</i>                | Works on liver and spleen both. |

❖ **Pathophysiology of Obesity according to Ayurveda** [27]:

“ मेदसा आवृतमार्गत्वाद्वायुःकोष्ठे विशेषतः । चरण संधुक्षयत्यग्निमाहारं शोषयत्यपि ॥ ५ ॥ तस्मात् स शीघ्रं जरयत्यहारं चातिकांक्षति । विचारार्णश्चुते घोरान् कांशीचत्कालव्यतिक्रमात् ” ॥ ६ ॥ (च/सु/२१/५-९)

Nidan sevan (*Ati sampurnaad, Guru, Madhur, Sheeta, Snigdha-aahar*)

This leads to obstruction of the passage by the Fat/*Meda dhatu*

Due to this movement of *Vata* is confined to *Koshtha* (Abd. Viscera) resulting in the stimulation of digestive fire (*Agni*) and absorption of food.

This results in quick digestion of food and the patient crave food exceedingly

Leading to excessive eating of food which causes more production of *Rasa dhatu*

Eventually leads to the overgrowth of *Meda dhatu* which develops *Sthaulyaroga*.

## DISCUSSION

The *Panchbhautik* constituents of *Meda Dhatu* are *Prithvi* and *Jala Mahabhuta* having *Guru, Snigdha,* and *Sheeta Guna* similar to *Kapha Dosha*. In the pathogenesis of *Sthaulya* both *Kapha* and *Vata* are vitiated along with *Medodhatavagnimandya* and *Strotorodha*. Hence drugs possessing *Vata-Kaphaghna, Deepana-Pachana,* and *Strotoshodhan* properties are indicated in *Sthaulya*. Ingredients of

*Lekhianiya Mahakashaya* have *Katu, Tikta, Kashaya Rasa; Laghu, Tikshna, Ruksha Guna; Ushna Veerya; Katu Vipaka* and *Kaphavaatshamak* properties which all have opposite action on *Kapha Dosha* and *Meda Dhatu*.

**Possible Mode of action on Dosha, Dushya, and Agni:**

As *Kapha Dosha* is the main vitiated *Dosha* in *Sthaulya Roga*. *Katu Rasa* is dominant in *Lekhianiya Mahakashaya* and it has *Ruksha, Ushna, and Laghu*

*Guna* [28] which act opposite the *Snigdha*, *Guru*, *Sheeta*, and *Manda Guna* of *Kapha Dosha*. Thereby helping to reduce excess of *Kapha* and *Meda* hence proving effective in *Sthaulya Roga* (Obesity) by its *karma* of *Bhuktam-shoshyati* (Absorbs food), *Mansam-vilikhati* (Scrapes muscles), *Maargaan-vivrunoti* (Expands the channels) and *Shleshmanam-shamyati* (Pacifies *Kapha*).

Whereas *Tikta rasa* by its *Ruksha* and *Laghu Guna* which are opposite to *Snigdha* and *Guru guna* of *Kapha dosha* and also by its *Lekhana* (*Making thin*) and *Shoshan karma* (Absorbs); it helps to reduce the vitiated *Kapha-Mansa-Meda* thereby proving effective in *Sthaulya Roga* [29].

Whereas *Kashaya rasa* is effective on *Kapha dosha* by its *Ruksha Guna* and due to its *Kledasoshak karma* (*Absorbs moisture*) it is effective on *Sthaulya roga* [30].

❖ **Karmukatva of *Lekhaniya Mahakashaya* acting opposite on *Dosha* and *Dhatu* as per *Gunas* :**

| <i>Kapha Dosha and Meda dhatu Guna</i> | <i>Lekhaniya Mahakashaya Guna</i> |
|--|-----------------------------------|
| <i>Snigdha</i>                         | <i>Ruksha</i>                     |
| <i>Guru</i>                            | <i>Laghu</i>                      |
| <i>Sheeta</i>                          | <i>Ushna</i>                      |
| <i>Manda</i>                           | <i>Tikshna</i>                    |

*Katu Rasa* being *Laghu*, *Ushna*, and *Ruksha* reduces vitiation of *Aam*, *Kapha*, and *Medodushti*. *Tikta rasa* having *Laghu*, *Ruksha* also reduces the Vitiation of *Kapha* and *Meda* along with neutralization of *Amavisha* through its *Deepaniya*, *Pachniya*, and *Vishaghna* activities. Whereas *Kashaya Rasa* is most *Ruksha*, *Laghu* helps in *Kledasoshan* [31]

## CONCLUSION

As mentioned by *Acharya Charaka*, all the *dravyas* of *Lekhaniya Mahakashaya* possess *Katu*, *Tikta*, and *Kashaya Rasa* prominently. *Lekhaniya dravya* does scraping of *Meda dhatu* and *Kapha* from obstructed channels. Also, *Lekhaniya Mahakashaya* has got Hypolipidemic, Hypoglycemic, and Hepatoprotective effects as per studies. Hence this review study is a sincere effort to bring to notice the *Lekhaniya mahakashaya* from *Charaka Samhita* as a safe and effective remedy for *Sthaulya*.

*Ushna Veerya* of *Lekhaniya Mahakashaya* works on the *Sheeta Guna* of *Kapha dosha*.

Considering *Meda* as the main *Dushya*, *Katu Rasa* possesses *Sneha-Sveda-Kleda Shoshana karma* (*Absorbs uncton, sweating, moisture*) whereas *Tikta Rasa* contains *Kleda-Meda-Vasa-Majja shoshana karma* (*Absorbs moisture, reduces fat, muscle fat, marrow*) and *Kashaya rasa* has *Kleda Shoshana karma* (*Absorbs moisture*). All these combined properties act as a cohesive unit to neutralize *Dushya Meda*.

As the majority of drugs of *Lekhaniya Mahakashaya* possess *Deepan*, *Pachan Karma* is highlighted by its *Ushna Veerya* property which is effective in improving *Medodhatavagnimandya*.

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**Source of Support: Nil**

**Conflict of Interest: None Declared**

How to cite this URL: Suman N. Lal et al: A review study on the efficacy of Lekhaniya Mahakashaya in the management of Sthaulya (Obesity). International Ayurvedic Medical Journal {online} 2023 {cited July 2023} Available from: [http://www.iamj.in/posts/images/upload/1708\\_1714.pdf](http://www.iamj.in/posts/images/upload/1708_1714.pdf)