



## Research Article

### “CLINICAL STUDY OF KULATTHADI BASTI IN THE MANAGEMENT OF STHAULYA(OBESITY).”

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#### ABSTRACT

**Background:** Obesity is one of the major lifestyle disorder of present era which is responsible for many other non-communicable diseases. Globally Obesity rates have more than doubled since 1980. This report is further evidence of the dramatic increase in this condition that triggers heart diseases, diabetes and more chronic complications particularly in low and middle income countries. In the Ayurvedic Management of *Sthaulya* along with *shaman* line of treatment, *Lekhan Basti* is very popular among the *Vaidya* community, but it is not tolerated or accepted by some patients due to religious customs or sensitive bowel, etc. In this concern, *Kulatthadi Basti* can be the alternative option of treatment.

**KEYWORDS:** *Sthaulya*, Obesity, *Kulatthadi Basti*

#### INTRODUCTION

Globally Obesity rates have more than doubled since 1980<sup>1</sup>. According to World Health Statistics (2012), one in every six adults is obese. This report is further evidence of the dramatic increase in this condition that triggers heart diseases, diabetes and more chronic complications particularly in low and middle income countries.

India belongs to the south-east Asia region where 300000 people die of overweight/ Obesity. In total population of India, Adult risk factor of Obesity associated with Non-communicable Diseases is 1.9%<sup>2</sup>.

In Ayurvedic literature, Charak Samhita has described this disorder as *Sthaulya*<sup>3</sup> (Obesity). Along with the pathophysiology of *Sthaulya*, Charak has described the basic line of treatment<sup>4</sup> of *Sthaulya* & specific dietary regime<sup>5</sup>. It can be appreciated that all classical texts have given emphasis on *Shodhan* type of basic line of management of *Sthaulya*<sup>6-8</sup>. Acharya Charak has mentioned the application of ‘*Ushna-Tikshna Basti*’ for the management of *Sthaulya*<sup>4</sup>. Sushruta mentioned the application of *Lekhan basti* for management of *Sthaulya* & also classified four basic types of the *Niruh Basti* (decoction enema) as *Shodhan*, *Lekhan*, *Snehan* & *Brihan*<sup>9</sup>. Now-a-days, *Lekhan Basti*, *Gomutra Basti* are practiced all over the India by *vaidya* community for management of

*Sthaulya*. Several clinical trials have proven it's different aspects as well<sup>10</sup>. But due to additional scrapping effect & Use of Cow urine & *UshakadiGana*, it is least tolerated or accepted by some patients. *Kulatthadikashay* can be used as a substitute to *Gomutra*, as there is prevalence of leptospirosis infection through cow's urine<sup>11</sup>. No work has been done to prove the efficacy of *Kulatthadi Basti* in *Sthaulya*.

### AIMS AND OBJECTIVES

The objective of the trial was to study the efficacy of *Kulatthadi Basti* the parameters of Obesity so that an alternative option could be provided for the management of *Sthaulya*.

### MATERIAL AND METHOD

**Study design:** It was open clinical single armed study conducted on 30 patients of Obesity after obtaining the approval from Institutional ethics committee.

#### Inclusion Criteria:

1. Age : 18 to 60 years
2. Sex : Male and Female
3. BMI : 25-30 Kg/m<sup>2</sup>
4. Patients of *Sthaulya* with *BastiArhata*<sup>13</sup> (Indication of Basti).

#### Exclusion Criteria

1. Obesity secondary to or associated with Hypothyroidism, Hypertension, Diabetes, or Cushing's Syndrome or any other major systemic disorder.
2. Patients with any drug allergy, Malignancy, Autoimmune disease.
3. Lactating mothers, Pregnancy.
4. Person undergoing treatment for any other serious illness.
5. *BastiAnarhata*<sup>12</sup>. (Contraindications of Basti)

Total 30 patients according to inclusive criteria were recruited from the OPD of M.A.Podar medical Hospital(Ayu) Worli, Mumbai. for the trial. Standardized *Kulatthadi Basti* (*Yogbastikrama*) was given to patients. Standardized Pre-operative, Operative & postoperative procedures of Basti were administered on every Patient as indicated in *Bastiupakrama*<sup>13</sup>. 480 ml. of *Niruha Basti* was given. 120 ml. of Til tail was given for *Anuvasanbasti*.

**Duration:** 1 set of *Kulatthadi Basti* was conducted for the duration of 8 days. *Anuvasan Basti* was given on 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> & 8<sup>th</sup> day & *Niruha* on 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup> day. 8 days gap was maintained in consecutive sets. Total 4 sets of *Kulatthadi Basti* were conducted.

#### Contents of *Kulatthadi Basti*

1. <i>Kulatthakwath</i>	240ml.
2. Honey	80ml.
3. <i>Til oil</i>	120ml
4. <i>Saindhavlawan</i>	5 gm.
5. <i>Kalka</i>	35gm

***Niruha Total* - 480 ml**

Til tail for *Anuvasan Basti* . - **120 ml.**

Patients undergoing trial were examined clinically before commencing the treatment & at every follow-up to maintain a case record form. Investigations like CBC, BSL, and other blood profiles were done of every patient before starting the treatment & after completion of the Trial to rule out any systemic disease. Help of 'THE GUIDELINES FOR CLINICAL RESEARCH METHODOLOGY IN AYURVEDA 2011' developed by collaboration of WHO & Gujarat Ayurveda University was taken for gradation & scoring system of subjective parameters.

#### Qualitative Parameters:

- a) Deficient energy
- b) Hampered movements
- c) Debility
- d) Foul smell
- e) Over sweating
- f) Excessive hunger
- g) Excessive thirst

#### Quantitative Parameters :

- a) Body mass index
- b) Gross body weight
- c) Chest circumference
- d) Waist circumference.
- e) Abdominal girth.

**Statistical analysis:** Data obtained in the study were subjected to statistical analysis.  $P < 0.05$  was taken as level of significance.

To study the efficacy of KulathadiBasti:

1. For Qualitative parameters: **Wilcoxon matched pair signed rank test.**
2. For Quantitative parameters: **Paired t test.**

**Demographic observations:** Majority of Patients were from the age group 18-32yrs. Nearly equal male (51.67%) and female (48.33%) patient were there in the trial. It is supported by **WHO statistics**<sup>14</sup>. Most of the Patients were from middle and Upper Middle Class. Incidence of family History of *sthaulya* was observed in 53.33%. While no such history was noted in 46.67% of patients. Most of the patients (61.67%) has mixed-diet Habit. Most of the patients work was of sedentary type causing *sthaulya*.

Most of the Patients were preferably fond of *Vihar* like *Asyasukh*, *Swapnasukh*, *Chankramandwasha* (lack of physical activities) Most of the Patients are of *Kapha* predominant *prakriti*.

All patients were residing at *Anup Desha* for a long period. *Meda* & *Mansa Dhatudushti* were seen markedly in all the patients. *Medovaha*, *Mansavah*, *Udakvaha* & *Swedavaha Srotas* were vitiated remarkably in all the patients.

#### Statistical Analysis:

**Table: 1** showing Comparison between before and after treatment differences with respect to symptoms score by **Wilcoxon matched pair signed rank test.**

Sr. no	Decrease in Parameter	Mean ± SD	SE	P value
1	Deficient energy			<0.001
	BT	3.167±0.6477	0.1183	
	AT	1.333±0.5467	0.9981	
2	Hampered movements			<0.001
	BT	2.600 ± 0.4983	0.0909	
	AT	1.267 ± 0.4498	0.0821	
3	Debility			<0.05
	BT	2.967 ± 0.5561	0.1015	
	AT	1.233 ± 0.4302	0.0785	
4	Foul smell			<0.05
	BT	1.333±0.4795	0.08754	
	AT	1.767±0.6789	0.1240	
5	Over sweating			<0.05
	BT	3.033 ±0.6687	0.1221	
	AT	1.267± 0.4498	0.0821	
6	Excessive hunger			<0.001
	BT	2.633 ± 0.5561	0.1015	
	AT	1.267 ± 0.4498	0.0821	
7.	Excessive thirst			<0.001
	BT	2.467 ± 0.5713	0.1043	
	AT	1.200 ± 0.4068	0.0742	

SD-Standard deviation, SE- Standard error, p – probability value, BT- before treatment, AT- after treatment.

**Table:2 showing comparison between two groups of Quantitative data by paired ‘t’ test:**

	Decrease in Parameter	Mean±SD	SE	T value	P Value
1	<b>Weight</b>				
	BT AT	74.967 ± 6.283 67.633 ± 6.267	1.174 1.144	28.734	<0.0001
2	<b>BMI</b>				
	BT AT	28.445 ± 0.976 25.655 ± 0.892	0.1782 0.1629	26.758	<0.0001
3	<b>Chest Circumference</b>				
	BT AT	97.30 ± 2.168 94.133 ± 2.417	0.3958 0.4413	11.483	<0.0001
4	<b>Waist Circumference</b>				
	BT AT	101.40 ±3.223 98.367±3.337	0.5884 0.6093	14.715	<0.0001
5	<b>Abdominal girth</b>				
	BT AT	109.43 ± 4.516 101.43 ± 5.488	0.8245 1.002	18.539	<0.0001

**Role of Kulatthadi Bastion Weight (Bharvridhi):-**

As per conclusions of previous study, phytochemicals of the basti do get absorbed in systemic circulation the concentration & rate of absorption is depend upon its constituents like *prakshepa* etc&by “scrapping effect”<sup>16</sup>.Kulatthadi Basti similar to *lekhanbasti* is *Sanshodhan*<sup>17</sup> type of *upakrama*, *kledashoshak* by its *tikt-kashayRasatmakDravyas*, it works on *Asthirguna* of vitiated *kapha*&*Apachitmedodhatu*.*Kledovishoshan* results in reduction in *asthirguna*.*Kulattha* has *ashmarihara*&*Shtaulyahara* properties due to which it reduces *guruta* of *kaphadosha*&*meda dhatu*.

**Role of Kulatthadi Bastion deficient energy, debility & hampered movements:-**

*Kulatthadi Basti* possess ability to reach in minute channels. Content of *Kulatthadi Basti* are mostly *tikta-kashayrasatmak*, with *laghu*, *ruksha* property. This combination of *Basti* is *UshnaTikshna* in Nature, facilitates *sukshmasrotoshodhan*, reduces *Medadhatwagnimandya*&*vikrutupachaya*. With the *prakrut* functioning of *vata* all *dhatu* gets proper nourishment, So symptoms like deficient energy, debility & hampered movements were reduced.

**Role of Kulatthadi Bastion over sweating, foul smell, excessive hunger, excessive thirst:**

*Kled-vidhruti* is the normal function of *sweda*. But excess production of *kleda* in the body during the pathogenesis of *Sthaulya* results in oversweating&oversweating causes *Dehadaurgandhya*.As both *Kulatthadi Basti* is *Sanshodhan* type of *upakrama*, *kledashoshak* in action works on *Asthirguna* of vitiated *kapha*&*medadhatu*, due to which *kledoshoshan* is achieved. As *Dhatushaithilya* is reduced effectively, over sweating also get reduced by improving *Meda- Dhatwagni-Swedapravrutti* (Mala) and ultimately *faul odour* is reduced.*Kulatthadi Basti* (given in *yogbasti krama*) is *srotoshodhak*, *kaph-meda-kledshoshak* by *laghu*, *ruksha*, *ushna* properties clears the *avarana* on *koshtasthavayu*, Due to which pathological excessive hunger & Excessive thirst were reduced.

**EFFECT OF THERAPIES ON B.M.I. and Circumferences :**

Weight is correlated with *Bharvruddhi* and Role of *Kulatthadi Basti* is described earlier.

**B.M.I:**

As study was done on patients having age >18 yrs, Height remained constant so B.M.I. was directly proportional to weight. So as per discussion about Weight, *Kulatthadi Basti* reduced BMI effectively.

**Role of Kulatthadi Basti on chest Circumference, Waist circumference & abdominal girth:**

*Kulatthadi Basti* is *Sanshodhan* type of *upakrama*, *kledashoshak* by its *tikt - katu*, *ushna*, *RasatmakDravyas*, works on *Asthirguna* of vitiated *kapha*&*medadhatu*. Due to *laghu*&*ruksha* property, it reduces deposited adipose tissues & fats.

*Kulatthadi Basti* was effective in reduction of all the Qualitative & Quantitative parameters of *Sthaulya* (Obesity) statistically and clinically. The complications associated with the *Lekhan Basti* like inflammatory colitis or transmission of leptospirosis infection through *Gomutra Basti* can be avoided considering *Kulatthadi Basti* as an alternative.

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