



## Research Article

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### LEKHANIYA GANA KASHAYA IN THE MANAGEMENT OF OVERWEIGHT (STHOULYA) INDIVIDUALS: A CASE SERIES STUDY

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#### ABSTRACT

Overweight/ obesity is one of the biggest health concerns of communities across the world. It can be correlated to the condition called sthoulya in Ayurveda. Sthoulya is due to vitiation of medo dhatu which is caused either by malfunctioning of medodhatvagni or over supply of medovriddhikara dravyas. Lekhaniya gana kashaya, mentioned in Charaka Samhita, has kapha-medohara and lekhana nature. A case series study has been undertaken to observe the response of individuals with sthoulya and its complications, to lekhaniya gana kashaya. Participants with overweight (sthoulya) were taken in the study. Diagnosis of overweight was done on the basis of body mass index i.e. BMI between 25 and 29.9 kg/m<sup>2</sup>. BMI, waist/hip ratio, body fat %, skeletal muscle % and fatigue based on visual analogue scale, sthoulya problems and medodhatu vitiation were the assessment parameters. Body composition monitor was used to check BMI, skeletal muscle % and body fat % of the participants. Problems associated with sthoulyata and vitiation of medodhatu was assessed on the basis of gradation of symptoms. Lekhaniya gana as phanta kashaya was administered to the participants for 21 days early morning. Phanta kashaya kalpana was preferred since it was easy to prepare. Participants were advised to continue their normal diet and regimen. Outcome: post administration assessments of most of the criteria were found reduced. There was reduction in BMI, waist/hip ratio, body fat % and skeletal muscle % after the intake of the phanta kashaya. There was reduction in fatigue. Discussion: lekhaniya gana kashaya could bring desirable effect in controlling overweight (sthoulya).

**Keywords:** Overweight, Sthoulya, Lekhaniya gana kashaya, BMI

#### INTRODUCTION

Overweight problems in India have reached epidemic proportion in 21<sup>st</sup> century with morbid obesity affecting 5% of the population. According to WHO report 2008, obesity is considered as one among the ten selected health risks. Overweight refers to a condition characterised by an excess of body weight compared to the set of standards<sup>1</sup>. National institute of health identifies overweight as a BMI (body mass index) of 25 to 29.9 kg/m<sup>2</sup>.

Overweight or obesity can be compared to the condition called sthoulya in Ayurveda. Sthoulya is due to vitiation of medodhatu which is caused either by malfunctioning of medodhatvagni<sup>2</sup> or oversupply of medovriddhikara dravyas. It is considered as one of the santarpanotha vikaras in Ayurveda<sup>3</sup>. Sthoulya is one among kapha predominant diseases (sleshma nanatmaja) involving kapha and medas as main dosha and dushya in the pathogenesis. Acharya Charaka has described sthoulya under eight undesirable constitutions (ashtanindita)<sup>4</sup> based on their ugly/ awkward appearance, as they being the victims of public abuse and as they are more prone to develop unmanageable health condition. Sages suggest that sthoulya is a bahudoshaja disease, which further proves that it provides the platform for so many hazards like diabetes, hypertension, heart disease, osteoarthritis, infertility, impotency as well as psychological disorders like stress, anxiety, depression, etc. These indicate the weakening of the various body systems which in turn affects the physiological equilibrium. Sthoulya is a troublesome and problematic disease for both the patient and the physician, despite the researches and developments made in the health care systems. It is one of the yapyaya types of disease; the prolonged prognosis results in exorbitant financial expenses<sup>5</sup>.

Lekhana is a process which results in desiccation of all excess dosha, dhatu and mala by scraping or removal<sup>6</sup>. Lekhaniya gana according to Charaka Samhita is a combination of 10 drugs which have the properties of lekhana and soshana<sup>7</sup>. Researchers have proven the lipolytic action of most of the drugs of this gana.

The authors report five cases of overweight (sthoulya), which was observed by using lekhaniya gana kashaya, as phanta preparation, to analyze its effect in the management of the condition.

#### MATERIALS AND METHODS

##### Diagnostic Criteria

Participants in the age group 18 to 50 years and of both genders were taken into consideration. Diagnosis of overweight was done on the basis of body mass index. Individuals having body mass index (BMI) of 25 to 29.9 kg/m<sup>2</sup> were considered as overweight. BMI, waist/hip ratio, body fat %, skeletal muscle %, fatigue based on visual analogue scale, sthoulya problems and medodhatu vitiation were the assessment parameters. Body composition monitor was used to check the BMI, body fat percentage and skeletal muscle percentage. Problems of sthoulyata were assessed on the basis of gradation of symptoms. Assessment of vitiation of medodhatu was also done based on symptom gradation. Fatigue was assessed by using the visual analogue scale. The scale was 10 mm in length. It was asked to the respondents to place an 'X', representing how they felt at the time, along the visual analogue line that extends between two extremes, i.e. 'from not at all tired' to 'extremely tired'. Waist: hip ratio was calculated by the standard measuring tape, while the patient was standing on a

horizontal plane. Waist circumference is the minimum circumference between the costal margin and iliac crest. Hip circumference is the maximum circumference in the horizontal plane, measured over the buttocks.

**Table 1: Problems Caused By Being Overweight (Sthoulya)**

**Calava of sphik, udara and stana**

Absence of calatva	0
A little visible movement (in above areas) after rapid movement	1
A little visible movement(in above areas) after moderate movement	2
Movement (in the areas ) after mild movement	3
Movement (in the areas) even after changing posture.	4

**Angagandha (bad odour)**

No odour	0
Bad odour but not offensive	1
Strong odour but can be lessened by use of deodorants or perfumes	2
Very strong odour even after using fragrances (use of deodorants or perfumes)	3

**Swedadhikya (perspiration)**

Sweating after heavy work and fast movement or in hot weather	0
Profuse sweating after moderate work and movement.	1
Sweating after alittle work and movement (stepping ladder etc)	2
Profuse sweating after a little work and movement	3
Sweating even at rest or in cold weather	4

**Kshudha-adhikya (increased appetite): (1 meal = about 350 g diet)**

As usual/routine	0
Slightly increased (1 meal extra with routine diet)	1
Moderately increased (2 meals extra with routine diet)	2
Markedly increased (3 meals extra with routine diet)	3

**Pipasa-Adhikya (increased thirst)**

Feeling of thirst (7-8 times/24 hours) and relieved by drinking water	0
Feeling of moderate thirst (>9-11 times/24 hours) and relieved by drinking water	1
Feeling of excess thirst (>11-13 times/24 hours) not relieved by drinking water	2
Feeling of severe thirst (>13 times/24 hours) not relieved by drinking water	3

**Kshudraswasa (exertional dyspnoea)**

No dyspnea even after heavy work	0
Dyspnea after moderate work but relieved later and tolerable; dyspnea by climbing upstairs of 10 steps and time taken will be more than 15 sec	1
Dyspnea after little work but relieved later and tolerable; dyspnea by climbing upstairs of 10 steps and time taken will be more than 25 sec	2
Dyspnea after little work but relieved later and not tolerable; dyspnea by climbing upstairs if 10 steps and time will be taken more than 35 sec	3

**Nidradhikya (increased sleep)**

Normal and sound sleep for 6-8 hrs /24 hrs with feeling of lightness and relaxation in the body and mind	0
Sleep >8-9 hrs /24 hrs with slight heaviness in the body	1
Sleep >9-10 hrs /24 hrs with heaviness in the body associated with jrimbha	2
Sleep >10 hrs /24 hrs with heaviness in the body associated with jrimbha and tandra	3

Table 2: Assessment of vitiation of medodhatu

Criteria	1	2	3
Nature of perspiration	Not much perspiration	Normal perspiration	Increased perspiration even in slight temperature variation
Nature of body odour	No particular unpleasant body odour even after sweating	Body odour present in heavy sweating	Increased body odour in slight sweating
Chest circumference	Men: <95 cm Women: <79 cm	Men: 95-102 cm Women: 79-84 cm	Men: >102 cm Women: >84 cm
Waist circumference	Men: <80cm Women: <75cm	Men: 80-85cm Women: 75-80 cm	Men: >85 cm Women: >80cm
Skin	Dry	Normal skin texture	Extremely oily, prone to acne
Hair	Dry	Normal hair texture	Extremely oily
Eyes	Gets dry very quickly	Normal	Feels heavy and sticky all the time
Face	Dry	Normal	Extremely oily
Tongue	Dry and cracked	Normal	Extremely unctuous with coating
Nails	Dry cracked	Normal	Extremely unctuous
Lips	Dry, cracked	Normal	Extremely unctuous
Subcutaneous vessels	Prominent	Normal	Invisible

### Method of Collection of Data and Analysis

The case sheet proforma was prepared and who comes under the diagnostic criteria were collected based on consecutive sampling and pre and post test assessment were done based on symptom gradation and analysed by applying descriptive statistics. Institutional ethics clearness was obtained from Institutional Ethical Committee, Govt. Ayurveda College, Kannur (E2/4599/2016/ACK dated 25-05-2017)

Among the 5 participants in the study, 4 were female and 1 was male. One of the participants had mild regular exercise, 4 did not have the habit of regular exercise. 3 of the participants had mental strain of professional origin, 1 had physical strain and 1 had sedentary type of profession. The prakriti of 2 of them were predominantly kapha, 1 was predominantly vata prakriti, another 1 was kapha- vata prakriti and yet another 1 was kapha-pitta prakriti.

### Administration of Drug

The participants were prescribed lekhaneya gana kashaya as phanta<sup>8</sup> preparation and they were advised to take the same for 21 days. Among the panchavidha kashaya, phanta kashaya kalpana was preferred since it was easy to prepare. The ten drugs for

kashaya were collected from the local market. The drugs were identified by experts and examined for impurities. Proper shodhana was done for Citraka, Katurohini and Ativisha. After shodhana the drugs were powdered. The dose of drug for single use was 15 g and the participants were instructed to put 15 g of drug into 60 ml of boiled water and to keep it for 5 minutes. After that they were asked to strain and take the medicine early morning before food. The participants were asked to continue their normal diet and regimen.

### Observation and Result

In this study, observation was done before and after the administration of lekhaneya gana phanta kashaya. Post administration assessments, which were performed after 21 days showed that there was reduction of most of the criteria. There was reduction in BMI, waist/ hip ratio, body fat percentage, skeletal muscle percentage in all the participants after the administration of lekhaneya gana kashaya. The problems associated with sthoulya of 4 participants reduced after the intake of lekhaneya gana kashaya. The lakshanas of vitiation of medodhatu of 3 participants were also reduced. There was reduction in fatigue, assessed by visual analogue scale, in 4 participants. Moreover, the administration of lekhaneya gana kashaya did not cause any discomfort to the patients.

Table 3: Parameters before and after administration of lekhaneya gana

S. No.	Age	Sex	BMI		Waist/ Hip		Body Fat %		Skeletal Muscle%		VAS Fatigue (cm)		Sthoulya Problems		Medodhatu vitiation	
			*B.A	*A.A	BA	A.A	B.A	A.A	B.A	A.A	B.A	A.A	B.A	A.A	B.A	A.A
1	40	F	26.6	26.4	0.84	0.83	36.8	36.5	23.4	22.6	4	4	1	1	22	22
2	35	M	29.6	28.5	1.02	0.99	27.7	27.3	30.6	30.4	4	3	8	4	26	23
3	22	F	27.4	27.3	0.88	0.87	37.1	35.1	24.2	23.3	2	2	7	1	28	26
4	27	F	29.6	29.3	0.88	0.87	29.6	29.3	22.6	22.5	4	1	2	1	26	25
5	49	F	29.9	29.2	0.83	0.82	40.4	40.1	20.7	20.6	6	5	5	3	18	18

\*B.A- Before Administration \*A.A- After Administration

### DISCUSSION

Sthoulya is a kapha-vata pradhana tridoshaja vyadhi. In this study the effect obtained by lekhaneya gana kashaya might be due to the predominant rasa of these drugs- katu, tikta and kashaya. Most of the drugs are having ushna veerya, which pacifies the aggravated kapha and medas. Lekhaneya gana not only acts on the symptomatology of sthoulya but also checks its progression by hitting the basic pathology i.e. medovahasrotosanga and medosanchaya.

### CONCLUSION

Sthoulya, a kaphavataja tridoshaja vyadhi, could be effectively managed by lekhaneya gana phantakashaya. The problems associated with sthoulya could also be controlled by the kashaya. Thus it could be observed that the kashaya helped in controlling overweight (sthoulya)

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