



Research Article

A CLINICAL TRIAL OF AROGYA VARDHINI VATI AND LEKHANIYA MAHAKASHAYA IN THE MANAGEMENT OF OBESITY

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ABSTRACT

Obesity is a condition in which there is an excessive accumulation of fat in the body which is a risk to health. The WHO now considers obesity to be a global epidemic and public health problem. Globally an estimated 300 million adults are now obese and many are overweight. A person with a BMI of 30 or more is generally considered obese. The problem is due to calorie imbalance resulting from an excessive food intake coupled with inadequate exercise. It is associated with increased mortality by predisposing to the development of important diseases like diabetes, hypertension, atherosclerosis, heart diseases, arthritis, infertility etc and diminishes the efficacy and happiness of affected. As per Ayurveda, *Acharya charaka* has counted *Sthoulya* under the eight varieties of impediments which are designated as *Ninditapurusha*. As *Chikitsa sutra* of *Sthoulya*, *Lekhan karma* is an important therapeutic measure said by *Acharya charaka*. Moreover, drugs of *Arogya vardhini vati* and *Lekhaniya mahakashaya* are most effective in the management of *Sthoulya*. To assess the effect of *Lekhan karma*, 20 patients were selected for this study from the OPD and IPD of Uttarakhand Ayurved University, Gurukul Campus Hospital, Haridwar. The effect of the therapy was assessed statically based on the performa prepared.

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INTRODUCTION

Acharya charaka has counted *sthoulya* under the eight varieties of impediments which are designated as *Ninditapurusha*.^[1] Obesity is a state in which there is abnormally great amount of neutral fat in the storage depots of the body. It tends to develop in both men and women at middle age, and in women it frequently begins after childbirth.^[2] Obesity is defined as body weight above a desirable standard as a result of lack of physical activities with increased intake of food. A BMI of 25 to 29.9 kg per m² is defined as overweight.^[3] A BMI of 30 kg per m² or more is defined as obesity. The excessive accumulation of fat in the subcutaneous and deep tissues, is due to excessive intake as compared with output of calories.^[4] Although no satisfactory etiological classification of obesity is well defined

but number of factors are known to be associated with its development. Obesity is most prevalent in middle age, but it can occur at any stage of life. It is prevalent in high socio-economic group. Familial tendency exist in many cases. Endocrine factors and imbalance are also responsible for the obesity.^[5]

Obesity is not a new problem it is also described in Ayurvedic literature as well. Causative factors of obesity are lack of exercise, sleeping day time (*Diwa swapa*), excessive eating of *Madhura* (sweet), *Snigdha* (oily), *Sheeta* (cold) food, *Bijadosha* (genetic causes).^[6] Due to these factors fat metabolism of human body get disturbed i.e. *Medo Dhatwagni mandya*, leads to excessive deposition of fat in body leads to obesity. In the past few years there has been a dramatic increase in

obesity and obesity related health hazards. At present in India about 30 million Indians are obese. It is predicted to double in the next 5 years. Easy access to high-calorie packaged foods, consumption of more calories than one can burn out by exercise, lack of exercise, sedentary lifestyles have resulted in almost 70% Indians in megacities such as Mumbai, Delhi, Bangalore or Chennai being overweight or obese.^[7] Obese individuals are at increased risk of morbidity/ mortality from type 2 diabetes, hypertension, coronary artery disease (CAD), cancer (particularly colon, prostate, and breast cancer), sleep apnoea, degenerative joint disease, thromboembolic disorders, and dermatologic disorders.^[8] In modern medicine pharmacological treatment for obesity have side effects^[9,10] like drug interfere with the absorption of fat soluble vitamins like A,D,E,K. Liposuction, bariatric surgery are other treatment measures, which have many side effects and are expensive.^[10] Clinically Ayurvedic medicines are found to be useful in weight reduction. *Arogya vardhini vati* and *Lekhaniya mahakashaya*^[11] consist of properties of reduction of fat without interfering digestion and absorption of vitamins.

Aims and Objective

The aim of study was to assess the effect of *Arogyavardhini vati* and *Lekhaniya mahakashaya* in the management of *Sthoulya*.

Study Design

Total 20 patients were enrolled in this trial. *Arogyavardhini vati* and *Lekhaniya. Kashaya* was given twice a day for 2 months. Clinical assessment of enrolled patients was done at the end of each month.

Drug profile

The *Arogyavardhini vati* described in *Ras Ratna Samuchyaya* contains *Suddha parad, Gandhak, Lauha bhasm, Abhraka bhasma, Tamra bhasma, Haritaki, Bhibhitaka, Amalki, Suddha shilajatu, Suddha gugulu, Chitraka moola* and *Kutki*.

Lekhaniya mahakashaya is described in *Charak Samhita* contains 10 drugs namely- *Mustak, Kustha, Haridra, Daruharidra, Vacha, Ativisha, Kutki, Chitrak, Chirbilva* and *Hemvati*.^[12] Due to unavailability of *Hemvati*, *Shuddh guggulu* was taken in place of *Hemvati* in this trial.

Administration of the drug

Tablet *Arogya vardhini vati* 2 tablets of 250 mg twice a day with lukewarm water after meal and *Lekhaniya mahakashaya* was given in decoction form in the dose of 50 ml BD empty stomach.

Inclusion Criteria

- 1) Men and women of 20 year to 65 year of age.
- 2) Patients with BMI more than 30.
- 3) Measurement of waist circumference -Waist circumference >40 inches (>102 cm) in men and >35 inches (>88 cm) in women.
- 4) Patients who had obesity associated with pain in weight bearing joints.

Exclusion Criteria

- 1) Obesity secondary to hypothyroidism.
- 2) Patients with hypertension, diabetes mellitus, hyperlipidemia or cushing syndrome.
- 3) Any concomitant serious disorder of the liver, kidneys, heart, lungs or other organs.
- 4) Pregnancy and lactation.
- 5) Person undergoing treatment for any other serious illness.

Assessment Criteria

In this project enrolled patients were assessed on the basis of pre-observations and post observations.

Subjective Criteria

Symptoms were taken in to consideration for the assessment of results. Following symptoms were observed before treatment followed by every 15 days and after completion of trial.

1. *Ashkti*
2. *Kshudhra Shwasa*
3. *Trishna*
4. *Atinidra*
5. *Anga Sethilya*
6. *Swedadhikya*
7. *Alap Pranshakti*
8. *Udar Vridhi*
9. *Utsaha Hani*
10. *Bubuksha Vridhi*
11. *Vikrit Sharer Ghatan*
12. *Sharir Bhar Vridhi*

The symptoms were assessed before and after the treatment by using the grade: Grade 0 – Normal, Grade 1 – Mild, Grade 2 – Moderate & Grade 3 – Severe.

Objective Criteria

- BMI (Body mass index)
- Body weight
- Waist circumference
- Waist to Hip ratio

The patient was assessed before and after the treatment on above parameters.

Selection of Patients

For the clinical study 20 clinically diagnosed cases of obesity were selected from OPD of Department of Panchakarma, Gurukul Campus Hospital, UAU, Haridwar. For the subjective assessment of result symptoms were observed before the treatment and after the treatment.

Observation

Details history & clinical examination of cases was done in every 15 days in 60 days of trial.

Duration of Trial

Clinical trial was done for 60 days. In both group patients were advised for light physical exercise like walking, diet restriction like avoidance of excess oily, spicy food & excess sweets.

Table 1: The distribution of patients according to age

Age Group	No. of Patients	Percentage (%)
21 -30 years	6	30
31-40 years	9	45
41-50 years	3	15
51-65 years	2	10
Total	20	100

Table 2: This distribution of patients according to sex

Sex	No. of Patients	Percentage (%)
Male	06	30
Female	14	70
Total	20	100

Table 3: The distribution of patients according to socio- economic status

Income status	No. of Patients	Percentage (%)
Upper class 2	10	50
Middle class	6	30
Lower middle	4	20
Total	20	100

Table 4: The distribution of patients according to *Prakruti*

<i>Dehaprakruti</i>	No. of Patients	Percentage (%)
<i>Kaphaj</i>	16	80
<i>Pittaj</i>	3	15
<i>Vataj</i>	1	5
Total	20	100

Table 5: The distribution of patients according to *Koshtha*

<i>Koshtha</i>	No. of Patients	Percentage (%)
<i>Mradu</i>	4	20
<i>Madhyam</i>	6	30
<i>Krura</i>	10	50
Total	20	100

Table 6: The distribution of patients according to dietary habit

Diet	No. of Patients	Percentage (%)
Veg.	13	65
Non-Veg and Veg	7	35
Total	20	100

RESULT

Table 7: The percentage of relief in symptoms wise observation

Sr. No.	Parameter	N	Score		Mean		% of Relief
			BT	AT	BT	AT	
1	Ashkti	16	26	18	1.62	1.12	69.13
2	Kshudra shwasa	14	24	18	1.71	1.28	74.85
3	Trishna	10	20	14	2.0	1.4	70
4	Atinidra	16	28	20	1.75	1.25	71.42
5	Anga sethilya	12	24	16	2.0	1.33	66.5
6	Swedadhikya	14	26	20	1.85	1.42	76.75
7	Alap pranshakti	12	30	20	2.5	1.66	66.4
8	Udarvridhi	20	40	24	2.0	1.2	60
9	Utsaha hani	20	40	24	2.0	1.2	60
10	Bubuksha vridhi	15	30	22	2.0	1.46	73
11	Vikrit sharir ghatan	20	32	22	1.6	1.1	68.75
12	Sharir bhar vridhi	20	40	24	2.0	1.2	60
13	BMI	20	36	24	1.8	1.2	66.6

Table 8: The effect on weight, BMI and waist circumference

	Mean	SD	SE	T value	Remark
Weight	3.1	1.56	0.49	10.5	Significant 5% level of significance (p<0.05)
BMI	1.63	0.61	0.20	10.68	Significant 5% level of significance (p<0.05)
Waist circumference	1.32	0.65	0.23	6.43	Significant 5% level of significance (p<0.05)

DISCUSSION

Total 20 patients (14 females and 6 males) were enrolled in the project. All male patients had hip waist ratio more than 0.90. Out of 14 enrolled females, 10 females had hip waist ratio more than 0.80 and 4 females had hip waist ratio more than 0.70. Among 20 enrolled patients 12 patients had BMI between 30.0 to 34.9 kg/m², 6 patients had BMI between 35.0 to 39.9m² and 1 patient had BMI between >40 kg/m².

The results obtained by the study show a significant relief in almost all the associated symptoms of obesity. The maximum effect was observed in *Kshudra swasha* (74.85%) and *Swedaadhikya* (76.75%). The objective parameters show significant effect of treatment. The changes observed in BMI, body weight and waist circumference are encouraging.

The formulation *Arogyavardhini vati* contains *Tikta-katu ras* predominance, *Laghu ruksha* and *Sukshma guna* and *Ushna veerya*. That's why it has *Deepan*, *Pachana*, *Shrotosodhana* and *Lekhana* properties. It corrects all three *Agni* specially *Dhatwagni mandhyta* and reduces the *Ama* and *Abadha meda dhatu* deposition. The properties

of *Lekhaniya mahakashaya* are *Katu*, *Tikta*, *Ras* and having *Laghu*, *Ruksha*, *Tikshana*, *Lekhan guna*, *Katu vipak* and *Ushana veerya*, *Kaphavatashamak*. By this *Lekhan* and *Medohara* action, the quantity of *Abadha meda* reduced from the dependable parts of the body, which brought *Laghuta*, and relief in *Chalatva*. Though the *Udipta jatharagni* get pacified, so *Ksudha adhikya* diminished. *Sweda* is the mala of the *Meda*, so reduction of the *Meda* inhibits excess sweating. Due to *Deepan pachan* properties of *Lekhaniya mahakashaya*, nutrients get digested and *Dhatu poshakansha* can easily reach to respective *Dhatu*s enhancing the proper nutrition to all *Dhatu*s.

CONCLUSION

The combination of *Arogyavardhini Vati* and *Lekhneeya Mahakashaya* is an effective treatment of obesity. Both of drugs contain the properties of *Lekhana*, *Pachana* and *Shodhana* which are very helpful in reducing the deposited fat of the body.

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