

**EFFECT OF PIPPALYADI BASTI AND GOMUTRA HARITAKI IN MEDOROGA W.S.R.
TO STHAULYA(OBESITY)-AN EXPERIMENTAL CLINICAL STUDY**

Sonal Wankhede*

India.

Article Received date: 23 April 2024

Article Revised date: 13 May 2024

Article Accepted date: 03 June 2024



*Corresponding Author: Sonal Wankhede
India.

1. INTRODUCTION

India has a very High Burden of Non-communicable diseases and its effects are also specifically observed on the productive workforce aged 35–65 years. Hence, they are landing into so many Health Hazards and can have devastating consequences for an individual, the family, and society. Prevention of these diseases in young people is a nation's responsibility. High risk interventions can only be started once those at high risk have been identified. One such among them is Obesity. Obesity can be defined as abnormal growth of the adipose tissue due to the enlargement of fat cell size (hypertrophic) or fat cell number (hyperplastic) in human body. The distribution of fat in obese individuals is uneven and disproportionate giving rise to a number of several complications like diabetes, Hyperlipidemia, C3421342Radiovascular disorders and many more. It is one the Santarpanjanya Vikaras (i.e diseases due to excessive or inadequate nutrition) in an individual. Hence, it is quite essential to control and prevent the disease to reduce the risk of number of complicatory systemic and chronic disorders such as cardiovascular diseases, Neurological disorders, renal dysfunctions, etc. various neuropathies and so on. In Ayurveda, good health is based on the equilibrium state of Dosha, Agni, Dhatu, and Mala. Furthermore, in Ayurveda there is clear-cut emphasis on maintaining physical, mental, and spiritual well-being. *Medoroga(sthaulya)* is one which disturbs physical, mental as well as social health of an individual. *Sihul purush* as one of the *Ninditpurusha* among the *Ashtaunindita*. Also, *Acharya Sushrut* and *Acharya Vagbhat* adds medicinal and behavioral management of *Sthaulya*. *Sthaulya*(Obesity) is a sign that the bodily humors(*Vata*, *Pitta* and *Kapha*) and systems related to them are out of balance.

2. MATERIALS AND METHODS

2.1 Study Design and Eligibility Criteria

This is a type of a Pre Post Experimental which was conducted at the SMBT Institute of Medical Sciences, Nashik at the OPD of Panchkarma Department. After obtaining approval from the Institutional Ethics Committee of the Institute (IEC Ref No-231/10/2023 Dated). A well-written informed consent was obtained from all the study participants. After explaining them the study protocol and the treatment to be given in their best understandable language, the participants were enrolled in the study using a convenient sampling method and on the basis of pre-set inclusion and exclusion criteria.

The study Participants included any patient in the age group of 25-50 years of age with clinical signs and symptoms of *Medovruddhi* at the sites of Buttock, thighs, arms and joints with *Shwaas* (shortness of breath) on exertion. *Atikshudhapipasa* (Excessive hunger and thirst), *Swedadhikya* (excessive sweating) with unable to

perform daily routine activities was also noted, and a BMI in the range 30-40 kg/m². On the other hand, exclusion criteria included patients with hypothyroidism, Hypertension, Diabetes mellitus, and Cardiac disease, or on long-term steroid/anti-psychotic drugs, or pregnant and lactating women were excluded from the study.

2.2 Sample Size Formulation and Intervention

A total of 32 patients (17 males and 13 females) within an age limit of 25-50 years and diagnosed with the help of the above screening criteria of *Sthaulya*, participated in the study. The participants were allocated to one single group as it was a pre-post experimental study. comprising a total of 32 patients. With their prior written consent and favourability, they were informed and instructed regarding the procedure, an therapeutic intervention before starting the trial.

2.3. Drug Posology

Basti is one of the panchakarma procedures in Ayurveda

and is a process in which an anal dose of medical oil, *kashayam*, fluid is given, and the medications contained in the oil or decoction are absorbed into the gut at the same time. This treatment leads to nourishment of the body and pacification of the associated Vata and doshas. *Pipalyadi Basti* made up of *Madhu*, *Yawakshar*, *Saindhava*, *Triphalataila*, *Shatpushpa*, *Gomutra*, *Kwath* (*Pippali*, *Chitrak*) as mentioned in Ayurvedic texts were used to access their efficacy in patients of Medoroga (Obesity).

PIPPALYADI BASTI

Niruha basti ingredients: Totals of about 685ml

1. *Madhu* - 160gm
2. *Yawakshar* - 5gm
3. *Saindhava* - 10gm
4. *Triphalataila*- 80ml
5. *Shatpushpa* - 30gm
6. *Gomutra* - 80ml
7. *Kwath* (*Pippali*, *Chitrak*) – 320ml

Anuvasana basti ingredients

1. *Tila taila* - 80 ml

Also, *Gomutra Haritaki* is a classical and authentic combination of the two holy and traditional drug *Gomutra* consists of urea, uric acid along with vitamins and minerals and other wastes. These wastes are not digested by the cow but are useful in human physiological digestive mechanism of humans. Also, *Haritaki* is a well known and authentic herb bearing *Deepana*, *Pachana*, *Anulomana* etc. Since, both the medicines are hot (*Ushna veerya*) in nature, the combination effectively metabolises excessive fat gives relief in *kapha* and *meda* related ailments.^[4]

GOMUTRA HARITAKI

1. *Gomutra Ark*(cow urine) - 50ml
2. *Haritaki Churna*(*Terminalia Chebula*) – -10 gm

Thus, the aim of the study was to evaluate the efficacy of *Pippalyadi Basti* and *Gomutra Haritaki* to provide a safe, effective, comprehensive, and rational option for the management of Medoroga.

Table 2.1-Objective Assessment.

Sr. No	Anthropometric Measurements			
1.	Weight in kg			
2.	Body mass Index(kg/m ²)			
3.	Waist Circumference			
	MEN	Score	WOMEN	Score
	Waist <94 cm	0	Waist <80 cm	0
	Waist 95-101 cm	25	Waist 81-87 cm	25
	Waist >102 cm	50	Waist >88 cm	50

2.4. METHODOLOGY

- During first sitting of Basti treatment, 6 doses of Pippalyadi Basti (as Niruha) 560 ml in the morning empty stomach was administered through ano-rectal route and *anuvasan* with *Til-tail* (100 ml) after meal was given on first day, fifth day and last day. On first day (D1), *Anuvasan Basti* was given, then three days consecutively (D2, D3, D4) *Niruha Basti* was given, following which again on the fifth day (D5) *Anuvasan Basti* was administered.
- Thereafter, three days continuous (D6, D7, D8) *pippalyadi niruha* was given and on the last day (D9), *Anuvasan Basti* was conducted. In this manner, a total of 9 *Basti* were administered.
- The same course of *basti* was repeated after a gap of 18 days. Last follow-up was taken after the second *Pariharkaal* (18 days).
- Follow up with patients was done on the 0, 10th, 28th, 38th and 56th days (8 weeks).
- Along with this, *Gomutra Haritaki Churna* in the divided doses of 10 gm BD(5 gm in Single dose) in two divided doses was administered with lukewarm water after meals for consecutive 2 months(60 days)
- The participants followed a regular diet plan as per their interest, but were asked to refrain from consumption of deep-fried oily food items.

2.5 Assessment Criteria

1. A Complete Case record forms (CRF) of the patient was filled with details of the patient, their history, physical examination and pathology investigation.
2. Assessment of objective criteria involved measurement of body weight and BMI, whereas subjective parameter comprised *Alasya* (*Utsahahani*), *Atikshudha*, *Atipipasa*, *Atisweda*, *Dourbalya*, and *Dourgandhya*. The grading of subjective parameters is shown in Table 2.

1. OBJECTIVE ASSESSMENT (Anthropometric criteria)

1. Body weight(in kgs)
2. Body Mass Index(B.M.I in kg/m²)
3. Waist circumference (in cms)

2. 2. SUBJECTIVE ASSESSMENT(Lakshanas with Gradations)

Gradations	<i>Utsahahani/Alasya</i>	<i>Atikshudha</i>	<i>Atipipasa</i>	<i>Atisweda</i>	<i>Daurbalya/Alpavyayam</i>	<i>Daurgandhya</i>
1	No Alasya,(doing work satisfactorily with proper vigour & time)	Normal appatite 2-3 times daily	Normal thirst	Sweating after heavy or fast movement or in hot season	Can do routine exercise	Absence of bad smell
2	Doing work satisfactorily with late initiation	Excess appatite 2-3 times daily	Upto 1 litre excess intake of water	Profuse sweating after moderate work	Can do moderate exercise without difficulty	Occasional bad smell from the body which removed after bathing
3	Doing work unsatisfactorily with mental pressure and takes time	3-4 times daily	1-2 litres excess intake of water	sweating after little work and movement	Can do only mild exercise	Persistent bad smell limited to close areas difficult to suppress with deodorants.
4	Not starting work responsibly and doing little work everyday	4-5 times daily	2-3 litres excess intake of water	Profuse sweating after little work	Can do mild exercise very difficulty	Persistent bad smell felt from long distance and is not suppressed by deodorants.
5	Does not take initiation and does not want to work even after pressure	More than 5 times daily	More than litres excess intake of water	Sweating at rest or even in cold season	Cannot do even mild exercise	Persistent bad smell felt from long distance even tolerable to the patient himself.

3. OBSERVATION AND STATISTICAL ANALYSIS

All Observations were Recorded as per the above assessment Criteria and table 2.1 and 2.2. Statistical analysis of all continuous variables were summarized using the mean and standard deviation. Epi-info software

was used for the statistical analysis of the data. A paired t-test was used for the Pre-post assessment of objective parameters, whereas Wilcoxon rank-sign test was used to assess the score and gradations of subjective parameters. The values and results are summarised below.

Table 3.1 showing Scoring of values by Application of Paired-t test for Objective parameters before and after treatment.

Sr. no	Objective Parameters	BT/AT	Mean	SD	Median	Range	T-value	p-value	Significance
1	Weight in kg	BT	76.5	1.01	18.80	66-93	8.600	<0.000	HS
		AT	73.76	6.37	25.24	62-90			
2	B.M.I(kg/m ²)	BT	28.54	3.12	28.3	23.5-33.7	9.752	<0.000	HS
		AT	27.37	3.11	26.95	34.0-49.0			
3	Waist circumference	BT	105.26	6.51	109	90-116	7.319	<0.000	HS
		AT	103.85	6.90	107	89-115			

Table 3.2 Showing scoring of values by Application of Wilcoxon Rank Signed test to subjective parameters Before and After Treatment.

Sr. no	Subjective parameters	BT/AT	Mean	Median	SD	Range	Z	p-value	Significance
1	Utsahahani (Alasya)	BT	3.06	3	0.45	2-4	4.89	<0.001	HS
		AT	1.60	2	0.50	1-3			
2	Atikshudha (Excess Hunger)	BT	3.36	3	0.64	2-4	4.81	<0.001	HS
		AT	1.86	2	0.68	1-4			
3	Atipipasa (Excess thirst)	BT	3.3	3	0.46	3-4	4.88	<0.001	HS
		AT	1.56	1.5	0.62	3-4			
4	Atisweda (Excess Sweat)	BT	3.36	3	0.55	2-4	4.81	<0.001	HS
		AT	1.70	2	0.59	1-3			
5	Daurbalya	BT	3.0	3	0.52	2-4	4.87	<0.001	HS
		AT	1.46	1	0.50	1-2			

6	Daurgandhya	BT	3.16	3	0.64	1-4	4.89	<0.001	HS
		AT	1.50	1.5	0.50	1-2			
		AT	1.56	2	0.50	1-2			

CASE REPORT

Hereby presenting a case of 40 year male who visited our institute presenting with complaints of Medovruddhi at the sites of Buttock, thighs, arms and joints with Shwaas (shortness of breath) on exertion. Atikshudhapipasa (Excessive hunger and thirst), Swedadhikya (excessive sweating) with unable to perform daily routine activities was also noted. The person was suffering from the problem since past few years and have seeked a couple of other conventional therapies for the same. On proper clinical and anthropometric examinations, the person was found to be systemically alright. However, the remarkable thing noted was the person was found to be in the category of Obese Category 2 II (WHO classification of obesity with weight 90 kgs and B.M.I 31.98kg/m. Also, abdominal circumference 108 cm, chest circumference 104 cm was observed and documented.

Meanwhile, initial and routine blood investigations were sent to the laboratory. These reports include Lipid Profile Essay and the Blood sugar level (BSL). On the basis of clinical and anthropometric examinations, the patient was diagnosed to be suffering from Sthaulya (Obesity). Her treatment protocol was decided after assessing all the pathological reports which showed raised cholesterol levels with increase in the levels of triglycerides. Considering him as Obese due to excessive accumulation of fat in the periphery of the body, the patient was selected for the study.

4. DISCUSSION

An illness known as Sthaulya is characterised by an excess of *Medodhatu* in the body. In the *Santarpanotha vikaar* (a disease caused by over consumption of calories), this is one of the symptoms (Gujarathi et al., 2014). *Pippalyadi basti* execute an important role in hindering the pathogenesis process (*samprapti vighatan*) of *Sthoulya*, which is highly influenced by *Kapha dosha* and *Medadhatu* (fat deposits) (Raina et al., 2018). A *Kapha* physique is physically strong, compact, and broad, with expansive thighs, hips, butts, and chest, with a predisposition to be chronically overweight. Due to the *avarana* (obstruction) of the strotas by *Medadhatu* (fat deposits), there is *vrudhi* (progression) of *koshtagatvata*, which ultimately results in *atibubhuksha* (craving for food). *Basti chikitsa* is used to rectify *tikshna jatharagni* and *manda medodhatvagni*. *Pippalyadi basti* contains *Pippali* and *Chitrak* that has *Ushna veerya* and *Katu vipaka* (Pandey, 2005), thus these have effective role on *kapha dosha* and by their *Ushna veerya*, they possess *vatahar* karma, in that way prime cause of disease, i.e., *kapha* and *vata* are managed.

Pharmacological action of Pippalyadi Basti

Pippalyadi basti comprises mainly *Gomutra*, *Shatpushpa*, *Lavan*, *Honey*, *Yavakshar* that possess *ruksha*, *tikshna guna*, *ushna veerya* and *vata kaphashamak* properties, thus providing a significant effect on most of the symptoms of *sthoulya*. By virtue of *Deepan*, *Pachan* karma of *chitrak* and *Pippali* (Pandey, 2004), this combination works even at the level of *Agni*, and corrects *medodhatu agnimandya*. Also, it checks further progression of disease by preventing the formation of *Meda*.

Pharmacological action of Gomutra Haritaki

Gomutra and *Haritaki*, both the drugs have got the predominance of *Agni* and *Vayu Mahabhuta*. One can see the predominance of *laghu* (light), *Ushna*, *Tikshna* and *Ruksha* (unctous) *Gunas* in both of them. Where as in case of *Sthaulya*, there is abundant increase of *medodhatu* and this *medodhatu* has the predominance of *Prithvi* and *Jala Mahabhuta*. In case of *Sthaulya*, one can see the saturation of *Guru* (heavy), *Sheeta* (cold in potency) and *snigdha* (unctous) *Gunas* in the body. Due to the opposite properties, *Gomutra Haritaki* might have reduced the increased *Medodhatu* in case of *Sthaulya*. Also, as *Sthaulya* is *Medogat dhatwagni janya vikaar* and both the ingredients of the drug act at the *dhatugat* levels, they bear the potential to improve the *Medogat-dhatwagni mandya* which is the principal cause of *sthaulya* (Obesity).

5. CONCLUSION

Medoroga (obesity) is a *Dushya* Dominant *Vyadhi*. Etiological factors of *Medoroga* include dietary, psychological, and lifestyle-related factors, mainly vitiate *Kapha-Meda*. This vitiated *Meda Dhatu* obstructs the path of *Vata Dosha* and causes its *Avarana*, which results in the provocation of *Vata Dosha*. In order to overcome this issue, *Kapha-Vata-Meda Hara* and *Apatarpanakara* can be a line of treatment. In our study, the Combined effect of the *Theraupaetic yog (Pippalyadi Basti)* and *Gomutra Haritaki* formulation is effective and quite beneficial in metabolizing the excessive fat and reducing clinical symptoms of obesity. Also, a significant reduction in the parameters were also observed which included anthropometric (weight, B.M.I, Chest and waist circumferences) both. This study gives a huge hope for such diseases and alternate solution for treatment. But another side of coin is that a single Pre-post experimental study does not establish the hypothetical statement completely, large data is required to test the hypothesis.

The study clarifies that this Trial works at the level of *Medogat-dhatwagni* and is thus useful in *meda* and *shleshma* related ailments. The ingredients are cost effective and easily available throughout the country. Finally, this formulation of Classically Certified herbs

can act as a potent in the management of Sthaulya (Obesity) both as prophylactic and preventive treatment in the near future.

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