



Research Article

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EFFECT OF VAMAN KARMA IN STHAULYA WITH SPECIAL REFERENCE TO HYPERLIPIDEMIA

Siddiqui Md. Anwaar I. ^{1*}, Lekurwade Pawan S. ², Umalkar Suwarna V. ³, Vyas Deepak M. ⁴

¹Associate Professor, Department of Panchakarma, Govt. Ayurved College, Nagpur, India

²Associate Professor, Departments of Kayachikitsa, Shri Ayurved College, Nagpur, India

³Assistant Professor, Department of Kriya Sharir, Govt. Ayurved College, Nagpur, India

⁴Assistant Professor, Department of Kriya Sharir, Jupiter Ayurved College, Nagpur, India

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*Corresponding author

E-mail: dranwar25@gmail.com

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ABSTRACT

Obesity is a disease which is growing rapidly and ranking one of the most common chronic diseases. The prevalence of overweight and obesity in the India makes obesity a leading public health problem because of its prevalence, costs and burdens. The medical fraternity has started lots of efforts are directed towards searching new avenues for Obesity. Ayurveda has its own basic concept regarding the health and disease. In Sthaulya there is excessive production of Meda. This Meda obstructs normal pathway of Vata so Vata get vitiated and stimulates digestive fire causing excessive hunger. Consumption of food again causes burden over Mandagni leads to formation of indigested material called as Ama. This Ama causes abnormal production of Meda, this vicious cycle going on leads to Sthaulya. According to Charaka Vaman Karma is described on treatment of Santarpanjanya Vyadhi on basis of pharmacological action and fundamental principles of Ayurveda like Samanya Vishesh Siddhanta. The present study "A Clinical Study of Vaman Karma on Sthaulya with Special Reference to Hyperlipidemia" aims to evaluate efficacy of Vaman karma in Sthaulya. For this purpose 30 patients were randomly selected irrespective of age, sex, religion, socioeconomic status and educational status. All patients were examined carefully and included in study after evaluation of inclusion and exclusion criteria. The Vaman Karma is effective in Sthaulya. It showed significant changes in Lakshana of Sthaulya. Significant changes in serum cholesterol ($p < 0.05$), LDL ($p < 0.01$) and VLDL ($p < 0.01$)

Keywords: Sthaulya, Vaman, Santarpana, Obesity, Cholesterol

INTRODUCTION

Sthaulya is one of the diseases known to mankind since Vedic era; it has been dealt in great details in Ayurvedic texts. The sign, symptoms and etiological factor of Sthaulya shows very much resemblance with Obesity. Obesity is emerging as an important health problem worldwide. It is world's oldest metabolic disorder¹. It has affected every corner of the world. The WHO now considers obesity to a global epidemic and public health problem. Obesity associated with troublesome problems like Hypertension, Diabetes Mellitus, Osteoarthritis and Hyperlipidemia having a considerable impact on personal and national economy. Ayurveda explained widely the concept of Sthaulya and its management. Charak described Sthoola in Ashtaunindit Purusha².

According to Vagbhata Agnimandhya at Jatharagni and Dhatwagni level is considered as root cause of all disease³. Rasa is the main nutritive pool which carries nutrients of all Dhatu. Similarly the nutrients of Sthayi and Asthayi Meda Dhatu are transported through Rasa Dhatu. So according to Sushruta Rasa are responsible for Sthaulya⁴. According to Bhavprakash a person having heaviness and bulkiness of body due to extensive growth especially in abdominal region is termed as Sthula⁵. Acharya Charak mentioned that a person in whom excessive deposition of Meda Dhatu along with Mamsa Dhatu is result in pendulous appearance of buttocks, belly and breast and whose increased bulk is not matched by a corresponding increase in energy is called as Sthula Purusha⁶.

According to Charak, the main aetio-pathological process of Sthaulya is Meda Dhatu Agnimandya which leads to excessive

production of Meda. Meda Dhatu along with vitiated Kapha Dosha constrains the natural pathway (Strotorodha) so there is obstruction to flow of Vayu due to which it gets aggravated (Prakop). This Prakupita Vayu then stimulates Jathragni causing excessive appetite (Pseudo appetite). Person goes on consuming, this again cause Agnimandya and the vicious cycle goes on repeating finally leads to Sthaulya. The main pathological factor is vitiated Kapha. Sthaulya is counted as a Kapha Nanatmaj Vikar⁷.

Sthaulya can be correlated with Obesity, which is one among the major diseases of Modern era. As far as hyperlipidemia is concerned there is no direct description of Hyperlipidemia as a disease in any Ayurvedic Samhita. But it can be considered as a Santarpanjanya Vyadhi with respect to its causative factors, pathogenesis and complications⁸.

In Panchkarma therapy Vaman is specially indicated for Santarpanjanya and Kapha-Pradhan diseases like Sthaulya⁹. Vaman does the Strotoshudhhi as well as Apatarpana with aggravated Kapha clearance. After Stroto Shudhhi, Jathragni and Dhatwagni become normal, the excess Meda Dhatu gets convert into Asthi, Majja, and Shukra. This effect not only reduces weight but also cures misbalanced cholesterol and lipids i.e. hyperlipidemia. So to evaluate the effect of Vaman present research topic is selected. This study will able to find effect of Vaman karma on Sthaulya and Hyperlipidemia.

Aim

To evaluate effect of Vaman Karma in Sthaulya

MATERIALS AND METHODS

Study type: Open randomized study.

Ethical Clearance: Clearance from ethical committee was taken.

Consent: An informed written consent of all 30 patients included in the study was taken in their own language. Their disease and line of treatment was explained to them.

Present study was carried out in accordance with ethical principles by following International Conference of Harmonization - Good Clinical Practices Guidelines (ICH-GCP).

Subject Recruitment: Patients were selected from O.P.D. and I.P.D. of R. A. Podar Ayurved College and Hospital, Worli, Mumbai.

Therapy Name - Vaman Karma

Purva Karma: If needed Pachan Chikitsa will be carried out for 7 days.

Abhayanter Snehan will be done by Go-Grita in increasing order of 30ml./days starting from 30ml as first dose. It can be adjust as per Koshtha of patient.

Pradhan Karma: Vaman Karma will be done with drugs-

- Madanphala Pippli Churna – 4gm.
- Vacha churna- 2gm.
- Saindhav Lavan – 1gm.
- Madhu- 10gm.

Paschat Karma: Sansarjan Karma is followed according to Charak Samhita.

Number of Patients: 30 patients.

Criteria of Diagnosis

The symptoms of Sthaulya such as Daurbalya, Swedadhikya, Atitishna, Dargandhya, Atishudha, Nidradhikya and Krichra Vyavayata were kept in consideration. Physical examination of all Strotas was done. Laboratory investigations were done. If necessary, ECG readings were noted to exclude cardiac involvement. Weight, Height, BMI, mid arm circumference, waist circumference and waist hip ratio were measured.

Inclusion Criteria

1. Age: 18 to 60 yrs,
2. Gender:- either male or Female
3. Patients with history of Santarpanya Lakshan.
4. Patients having BMI > 24.9 Kg/M² were included in the study
5. Lipid Profile –

Total cholesterol level – 150 to 450 mg/dl

Serum Triglyceride level – 150 to 450 mg/dl

Exclusion Criteria

1. Vaman Karma Ayogya as per Charak Samhita.
2. Pregnant and lactation.
3. Patients suffering from any systemic diseases like Ischemic Heart Disease, Hypertension, Diabetes Mellitus, AIDS, Hypothyroidism, Hyperacidity, Renal diseases, Neurological diseases like stroke.
4. Morbid obesity: BMI > 40 Kg/M²

Assessment Criteria

The diagnosis of Sthaulya and Hyperlipidemia was done on the basis of symptoms as described below and the clinical profile was maintained. Physical examination of all Strotas had been done. If needed E.C.G. reading will be noted to rule out cardiac involvement. Laboratory investigations were carried out before and after treatment. The efficiency of therapy was assessed on the basis of subjective and objective criteria. Gradation had given for decreasing symptoms of Sthaulya.

Clinical Parameters

- a) Signs and symptoms of Sthaulya
- b) Weight (kg.)
- c) Height (M)
- d) Body Mass Index- wt. in kg./Ht. in m²
- e) Mid arm circumference (cm)-
- f) Waist circumference (cm)
- g) Waist Hip ratio

Laboratory Tests

- a. Lipid profile
- b. Blood Glucose: Fasting and post prandial
- c. Liver function test (LFT)
- d. Renal function test (KFT)
- e. Total blood count (CBC) and ESR
- f. HIV
- g. VDRL
- h. Urine analysis.

All above parameter were noted prior to start of treatment. After completion of treatment assessment were carried out. Follow up was done after two. Patients undergoing treatment were examined clinically at every follow up and record was maintained. Some physical examination like weight, BMI, mid arm circumference, waist circumference, and waist hip ratio were carried out at every follow up. However laboratory investigations were carried out before and after treatment. Total effect of therapy was assessed in terms of cured, markedly cured, improved and unchanged.

General Symptoms Score System

The clinical features of Sthaulya were graded into four grade scale (0 to 3) on the basis of its severity and duration of symptoms. Gradation was done on the basis of severity and duration in four grade scale.

Gradation of symptoms

Grade

0 – No Symptoms

1 – Mild

2 – Moderate

3 – Severe

Follow Up

1) **First visit:** Complete systemic examination was done with investigations like routine blood tests and Lipid Profile. Consent was taken and Pachan Chikitsa had been given for 7 days. Patient was asked to visit on 7th day for follow up.

2) **Second Visit:** Snehan Chikitsa was advised as Purvakarma for 3, 5 or 7 days on the basis of Koshth and Samyak Sinigdha Lakshans, after that Vaman karma was done.

3) At the end of Samsarjan karma routine investigation were done with lipid profile. Efficacy of treatment was concluded with the help of subjective & objective parameters as mentioned above.

Assessment of treatment

Assessment of the treatment response was done on the basis of

- Duration of treatment.
- Effect of Vaman on generalized health during the trial
- Changes in physical signs and symptoms
- Changes in laboratory investigations

Analysis of Data

Students t - test was applied to the objective data generated. Significance of the improvement was studied. However

Subjective data of symptoms were evaluated by Wilcoxon Rank Signed Test.

Total Effect of Therapy

The total effect of therapy was concluded on the basis of relief in percentage. All the patients were categorized in following categories according to relief they experienced and the calculated relief from various parameters:

Completely Relieved: The patients experiencing more than 75% relief from their grievances were considered completely relieved.

Markedly Improved: Patients getting relief within a range of 50-75% categorized in this group of markedly improved.

Improved: 25-50% relief from the suffering made the patient to be accepted as improved.

Unchanged: Patients getting no relief or a minimum relief of 25% were considered unchanged.

L.A.M.A. The patients not taking complete treatment or quitting the therapy without completion was declared L.A.M.A. such patients however were not included in the Study further.

RESULTS

30 patients were randomly selected from R.A. Potdar Ayurved Medical College, Warli, Mumbai. These patients were selected as per criteria of diagnosis to which Vaman was given as per procedure prescribed in materials and methods. The selected patients for study were closely observed, detailed history of patients was evaluated as per proforma of case record form mentioned in the ending of materials and methods. All the investigations were carried out before and after treatment.

For the purpose of evaluation of efficacy of Vaman Karma in Sthaulya 30 patients were incorporated in the trial. Demographic details are studied on following heads.

Sex: Out of 30 patients of Sthaulya. 13(43.33%) patients included in the trial were male and remaining 17 (56.66%) patients were female. It can be inferred that Sthaulya occurs more commonly in females.

Age: It was observed that only one patient (3.33%) was found in 15-25 age group, 7 (23.33%) were there in 26-35 age group,

9(30.00%) belonged to 36-45 age group and 13 (43.33%) were there in 46-60 age group.

Economical Status: Socio-economic status has very close impact on health. Out of 30 patients included in trial out of which 6 (20.00%) were rich, 12 (40%) patients were from middle-income group, 6 (20.00%) patients were from poor group and 6 (20.00%) patients were from upper middle group.

Educational Status: Out of 30 patients included, 4 (13.337%) patients were Illiterate. 4 (13.33%) were educated till S.S.C., 6 (19.99%) completed H.S.C., 11 (36.33%) completed their graduation and there were 5 (16.66%) postgraduate patient.

Occupation: The concept of Aahar and Vihar of the patients is very important in Sthaulya as these are the main causative factors. Out of 30 patients included in the study, there were 15 (50.00%) patients were housewives. 10 (33.33%) were doing job and 5 patients were businessmen.

Dietary Habits: Out of 30 patients, 5 (16.67%) were vegetarian and 25 (83.33%) were consuming mixed diet. Consumption of heavy, oily food is causative factor of Sthaulya.

Vyasana (Addictions): Charaka highlights concept of Okasatmya. On long term basis various Vyasanas cause deleterious effect on body so this point taken into consideration. Various addictions were observed in the patients who developed Sthaulya. Especially Tea or Coffee was the commonest addiction found in the working patients. 4 patients were alcohol addicted, 5 patients had an addiction of smoking and 4 were chewing tobacco along with other addictions like tea.

Prakriti: Out of 30 patients of Sthaulya .16 (53.34%) individuals were found with Kapha- Pitta Prakriti. 7(23.33%) patients were with Vata-Kapha Predominance. Individuals having Pitta-Vata predominance were 7 (23.33%) in number.

Koshtha: Koshtha examination was done by asking bowel habits to the patient. 5 (16.66%) patients had Mrudu Koshtha, 17 (56.66%) had Madhya Koshtha and 8 (26.66%) had Kura Koshtha.

Agni: As per Ayurveda Agni Parikshan done with help of Anuman Praman with help of Abhayavaran and Jaran Shakti.6 (20%) were found with Manda Agni, Vishama Agni was found in 13 (43.33%) individuals and there were 11(36.66%) individuals had Tikshna Agni. Statistical Analysis:

Effect of Therapy on Sthaulya Symptoms

Table 1: Effect of Therapy on Symptom Score

Sr.No.	Symptom	Score BT	Score AT	Difference of score	% of relief
1.	Atishudha	40	14	26	65.00
2.	Atitrishna	47	13	34	72.34
3.	Daurbalya	43	17	26	60.46
4.	Daugandhya	41	17	24	58.53
5.	Swedadhikya	51	19	32	62.74
6.	Nidradhikya	51	19	32	62.74
7.	Vyavay kricchata	15	06	09	60.00
Total		288	105	183	63.54

BT: Before Treatment, AT: After Treatment

Assessment of objective Variable: The objective Parameters taken into consideration were Weight, BMI, Waist Circumference, Waist to Hip Ratio and Mid Arm Circumference and hematological parameters Hb., S.G.O.T., S.G.P.T., Sr. Bilirubine, Sr. Creatinine, Sr. Cholesterol, Sr. Triglyceride, HDL, LDL and VLDL.

1. Effect of Therapy on Weight: The effect of therapy on various parameters with the help of paired t test. Weight was found to be decreasing from 81.73±11.76 to 78.775±10.98,

showing remarkable difference of 2.98 ±1.22. The decrease was found statistically highly significant as t was 13.28, P < 0.001

2. Effect of Therapy on BMI: Body Mass Index was found to be decreasing from 31.50 ± 3.55 to 30.38 ± 3.30, showing difference of 1.11 ± 0.47. The descent was found statistically highly significant, as t was 12.88, P < 0.001

3. Effect of Therapy on Waist Hip Ratio: Waist Hip Ratio was found to be 0.94 ± 0.01 B.T.and 0.94 ± 0.02 A.T., showing difference of 0.007 ± 0.01. The descent was found statistically significant, as t was 3.12, P < 0.01

4. Effect of Therapy on Waist Circumference: Waist circumference was found to be decreasing from 92.16 ± 7.32 to 88.3 ± 6.78 , showing difference of 3.86 ± 1.47 . The descent was found statistically highly significant, as t was 14.29, $P < 0.001$

5. Effect of Therapy on Mid Arm Circumference: Mid Arm circumference was found to be decreasing from 32.97 ± 2.55 to 31.20 ± 2.57 , showing difference of 0.77 ± 0.38 . The descent was found statistically highly significant, as t was 10.98, $P < 0.001$.

Effect of Therapy on Hematological Parameters (Table 2):

In the study, all the patients were subjected to investigations at the start and end of the study. Complete Blood Count (Hb%, Total WBC, Total RBC, Differential WBC, ESR), Liver Function Test (SGOT, SGPT, Sr. Protein, Sr. Albumin, Sr. Bilirubin), Renal Function Test (BUN, Sr. Urea, Sr. Creatinine), Lipid Profile (Sr. Cholesterol, Sr. Triglyceride, HDL, LDL, VLDL) was done initially on Day 0 and again after treatment i.e. Vaman Karma. There was no significant change noted in the values of investigations.

Table 2: Effect of Therapy on Hematological Parameters of 30 Patients of Sthaulya

Sr.No.	Hematological Parameter	Mean \pm S.D BT	Mean \pm S.D AT	Diff. of Mean \pm S.D	SE d	t value	P value
1.	Hb	12.45 \pm 1.4	12.29 \pm 1.2	0.16 \pm 0.60	0.11	1.44	P>0.05
2.	SGOT	32.87 \pm 12.2	31.63 \pm 9.97	-0.76 \pm 6.02	1.10	0.68	P>0.05
3.	SGPT	26.36 \pm 10.8	29.1 \pm 10.63	-2.73 \pm 7.89	1.44	1.89	P>0.05
4.	Sr. Bilirubin	0.88 \pm 0.25	0.85 \pm 0.22	0.02 \pm 0.24	0.045	0.58	P>0.05
5.	Sr. Creatinine	0.94 \pm 0.17	0.90 \pm 0.20	0.03 \pm 0.13	0.024	1.51	P>0.05
6	Sr. Cholesterol	194.8 \pm 27.62	185.26 \pm 23.2	9.53 \pm 14.01	2.56	3.72	P<0.001
7	Sr. Triglyceride	125.1 \pm 52.3	114.7 \pm 39.7	10.4 \pm 26.41	4.82	2.15	P<0.05
8	HDL	41.8 \pm 9.71	41.43 \pm 9.67	0.33 \pm 4.95	0.90	0.40	P>0.10
9	LDL	127.83 \pm 33.0	118.5 \pm 28.71	9.26 \pm 17.19	3.14	2.94	P<0.01
10	VLDL	23.53 \pm 8.9	21.8 \pm 7.54	1.73 \pm 3.23	0.59	2.92	P<0.01

BT: Before Treatment, AT: After Treatment

Table 3: Total Effect of Therapy on 30 Patients of Sthaulya

Total Effect of Therapy	Number of Patients	Percentage
Completely relieved	0	0
Markedly Improved	9	30
Improved	18	60
Unchanged	3	10
LAMA	0	0

DISCUSSION

Keeping the limitations and adverse effect of modern treatment in mind, it was decided to work on Sthaulya i.e. Obesity with a detoxification procedure Vaman Karma.

30 patients of Sthaulya were randomly registered in this study. Sthaulya is found more common in Females (56.66%) compared to Males (43.33%) as shown by demographic details in the present study. Peoples from Age group 36-45 yrs (30.00%) and 46-60 yrs (43.33%) shows more prevalence, 56.66% patients were from Hindu religion. 40% patients were from middle-income group.

Most of the patients included in the trial were either educated up to Graduation level (63.33%), some of them also having S.S.C. or H.S.S.C. Housewives (50.00%) and sedentary job holder people are the most sufferer groups from Sthaulya suggest the role of possible inactivity on the part of patient. High percentage of the patients in this trial was taking mixed kind of diet (76.66%) suggesting the probable diet pattern in the society.

Some of the patients were having the Vyasan of Madyapana and excessive intake of tea or coffee (80%) while some of patients were invaded in Tobacco chewing as well as smoking. 60.00% patients were evaluated for Pitta-Kapha type of Prakriti. During Koshtha Prikshan maximum number of patients having Madhyam Koshtha (56.66%). Agni Parikshan reveals dominance of Vishamanagni (43.33%).

Effect on Clinical Features (Subjective Criteria)

Effect of therapy was observed on the symptoms of Sthaulya. To evaluate the effect on symptoms, method of scoring the symptoms was adopted. Effect on all symptoms was observed in terms of percentage of relief. In symptoms score symptoms such as Atishudha, Atitrishna, Daurbalya and Daurgandhya were

relieved by 65.00%, 72.34%, 60.46% and 58.53% respectively. Symptom such as Svedadhikya exhibited 62.74% of relief. The symptom such as Nidradhikya had 62.74% relief. The symptom Vyavay kricchata had 60.00% relief. Overall percentage of relief was found to be 63.54%.

Total Effect of Therapy

No patients are found completely relieved. 9 (30%) patients showed marked improvement. The highest numbers of patients i.e.18 (60%) of Sthaulya treated with Vaman Karma were improved. Only 3(10%) patients have showed very minor improvement considered as unchanged. No any patient found in category of LAMA.

In this study the Vaman Karma not showed any side effects in any of the patients. Complete Hemogram, Liver and Renal functions showed that the Vaman has not produced any toxicity or impairment of function in patients treated. The Vaman Karma is effective in Sthaulya as it showed significant effect on Lakshana of Sthaulya, Anthropometric parameters and on serum cholesterol, serum triglyceride, Low density lipid and very low density lipid. From the above observation it can be concluded that Vaman karma is effective in reducing symptoms of Sthaulya.

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