

**EFFECT OF LEKHAN BASTI AND VIRECHANA KARMA  
(TRIPHALA CHURNA) IN THE MANAGEMENT OF STHAULYA  
(OBESITY) - A COMPARATIVE STUDY**

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## INTRODUCTION

Ayurveda, the Indian system of medicine can be aptly defined as the “Science of life” or science of healthy living. The origin of Ayurveda can be traced beyond the Vedic period, i.e. about 5000 B.C. The whole philosophy of Ayurveda is based on achieving, maintaining and promoting positive health. The equilibrium of various structural and functional units of the body named as Dosha, Agni, Dhatu, Mala<sup>[1]</sup>, and more important the mind results in health and dis-equilibrium causes disease. Correction of disturbance of milieu interior is the aim of the ayurvedic management. WHO defines health as “a state of complete physical, mental and social and spiritual well being and not merely the absence of disease or infirmity.”<sup>[2]</sup>

Dalhana seems to be more explicit while commenting on a Medo Roga specified that Agni which is involved in pathogenesis of the disease viz. Dhatvagnimandya. In the case of fatty person, other Dhatus doesn't grow to the extent. In

today's fast life incongruous food habit and relatively less exercise can be taken as major cause of Sthaulya.<sup>[3]</sup>

The world population is estimated at about 7.8 billion. In 2016, more than 1.9 billion adults aged 18 years and older were overweight.<sup>[4]</sup> Of these over 650 million adults were obese. In 2016, 39% of adults aged 18 years and over (39% of men and 40% of women) were overweight. Overall, about 13% of the world's adult population (11% of men and 15% of women) were obese in 2016.<sup>[5]</sup> The worldwide prevalence of Sthaulya nearly tripled between 1975 and 2016. This "The World Health Report-2002" represents one of the largest projects ever undertaken by WHO, in collaboration with expert's worldwide.<sup>[6]</sup> Dr. Gro Harlem Brundtland, Director-General of WHO describes this report as "a wakeup call to the Global community".<sup>[7]</sup>

In pathogenesis of Sthaulya, Kledaka Kapha, Samana & Vyana Vayu, Meda (fat /lipid) and Medodhatvagni Mandyata are main responsible factors.<sup>[8]</sup> Sthaulya is a typical obesity involving the Medovridhi with which this study deals with typical obesity, not with the regional adiposity, which is a reflection of endocrine imbalance.<sup>[9]</sup>

### NEED OF THE STUDY

Sthaulya (obesity) is the most common nutritional disorder in the present situation with the possible complications. According to WHO, worldwide approx 2.8 million people die every year from obesity.<sup>[10]</sup> It is not surprising that Sthaulya (obesity) is associated with multiple lifestyle disorders. In Ayurveda, it has been described under the title of Sthaulya (obesity), the obesogenic environment of highly palatable foods with hidden fats and sugars can promote obesity.<sup>[11]</sup> Management of Sthaulya (obesity) continues to be a challenging problem. Sthaulya (obesity) is a leading preventable cause of worldwide death. In the 21st century it is most serious public health problems. An increase in body fat is commonly seen as a result of diet or lack of exercise as the body stores fat. Commonly 60% to 70% obese patients die of cardio vascular disease.<sup>[12]</sup> Sthaulya (obesity) is implicated most strongly in coronary disease. Sthaulya (obesity) also contributes to the development of diabetes, hypertension, elevated blood lipid levels, kidney disorders and gallbladder disorders. Sthaulya (obesity) has been implicated in increased incidence of some types of cancer like colon cancer, pancreas cancer, breast cancer, uterus cancer, kidney cancer and gallbladder cancer.<sup>[13]</sup> Sthaulya (obesity) persons suffer from osteoarthritis that is joint pain which acts as an obstacle in their mobility. In obese ladies there are more chances of hormonal problems leading to menstrual irregularities. Sthaulya (obesity) persons are the common targets of comments & taunts which may damage their psychological health leading to increasing

psychosomatic disorders.<sup>[14]</sup> In Ayurveda, Sthaulya (obesity) was recognized as a health issue and has been dealt in many of the classical texts.

## HYPOTHESIS

To achieve the research objectives the following hypothesis have been formulated like.

- ✓ H0 - There is no significant effect of Lekhana Basti and Virechana Karma with Triphala Churna in the Management of Sthaulya (Obesity).
- ✓ H1 - Lekhana Basti and Virechana Karma with Triphala Churna is having significant effect in the Management of Sthaulya (Obesity).
- ✓ H2 - The hypothesis behind the study is Lekhana Basti is more effective than Virechana Karma with Triphala Churna in the management of Sthaulya (obesity).
- ✓ H3 - The hypothesis behind the study is Virechana Karma with Triphala Churna is more effective than Lekhana Basti in the management of Sthaulya (obesity).

## REVIEW OF LITERATURE

The review of literature has included references from *Ayurvedic* classical Literature, Contemporary *Ayurvedic* Literature, Journals & Websites, articles about the diseased condition, Modern literature & the treatment mentioned in the above will be documented for the intended study. Few of the references are listed below.

- ❖ *Sushruta Samhita, Sutra Sthana*, Chapter 15
- ❖ *Sushruta Samhita, Siddhi Sthana*, Chapter 3
- ❖ *Sushruta Samhita, Chikitsa Sthana*, Chapter 38
- ❖ *Sushruta Samhita, Kalpa Stana*, Chapter 4
- ❖ *Charak Samhita, Sutra Sthana*, Chapter 21
- ❖ *Charak Samhita, Siddhi Sthana*, Chapter 3
- ❖ *Sharangdhara Samhita, Purva khanda*, Chapter 4
- ❖ *Astanga Hridayam, Sutra Sthana*, Chapter 2,14
- ❖ *Yogratnakar*, Chapter 40
- ❖ *Bhavaprakasa*, Chapter 6, 39

## METHODOLOGY

Sthaulya (Obesity) is a most common disease in the society due to the changing life style and dietetic pattern are also being manifested as the increment in the number of patient day by day. Ample amount of research work has been done on the disease Sthaulya. In Ayurvedic

literature, numbers of herbal preparation are described for the management of the disease. Along with this various Panchakarma procedure are also indicated in this disease. Here to assess the efficacy of Virechana with Triphala Churna and Lekhana Basti and to compare the effect of these two therapies a clinical study has been designed. The details of the study are as follows.

In the research of medical science, clinical study is the most vital part and evaluation of any therapeutics is incomplete unless and until they are tried clinically. A small step of research can become a boon to humanity. Hence the present study entitled “**Effect of Lekhan Basti and Virechana Karma (Triphala Churna) in the Management of Sthaulya (Obesity) - A Comparative Study**” has been taken up with the following aims and objectives.

#### **AIMS AND OBJECTIVES OF THE STUDY**

- ✓ Review of literatures regarding Sthaulya (obesity) covering both Ayurvedic and Modern views.
- ✓ To evaluate the efficacy of Lekhana Basti in the management of Sthaulya (obesity).
- ✓ To evaluate the efficacy of Virechana Karma (Triphala Churna) in the management of Sthaulya (obesity).
- ✓ To compare the efficacy of Lekhana Basti and Virechana Karma (Triphala Churna) in the management of Sthaulya (obesity).

#### **Ethical Review (University Ethical Committee)**

The proposal was placed before University Ethical Committee (UEC) of trial centre for getting Approval Letter before the project was initiated. Patient consent form was submitted along with project proposal for approval by UEC.

Ethical clearance was obtained vide letter number- **DBU/RC/5062**

**Patient Consent Form-** Consent by each patient and certificate by investigator was obtained before data collection.

#### **MATERIAL AND METHODS**

80 patients fulfilling the criteria for the diagnosis of the disease were registered for the present study irrespective of their age, sex, religion, etc. No any patients left the treatment before the completion of the therapy. The patients were selected from the **OPD & IPD in the**

**Shri Santan Pal Singh Ayurvedic Medical College & Hospital, Mirzapur, Shahjahanpur, UP, India, 242221.**

**Study Type:** Interventional Study.

**Study / Research Design -** A Comparative Study(Two Groups).

**Sample Size -** 80 No.

**Study Period:** 60 Days.

**Assessment Period:** Done at interval of 30 day.

**Dose:** As mention in Ayurvedic classics.

**Grouping:** The patients were randomly divided into two groups, each group consisting of 40 patients.

1. Lekhana Basti (Group A): Patients of this group were given Lekhana Basti in the format of Kala Basti with Anuvasana of Dashmool Taila by classical method.
2. Virechana Karma (Group B): Patients of this group were given Virechana Karma with Triphala Churna by classical method.

**Diet & Physical Exercise Advice:** Strict recommended schedules on Pathyapathya were prescribed to all. Pathyapathya advocated emphasising on Nidanaparivarjanam. Special attentions like.

- Do's**
- 1.To take normal diet with increased amount of salad (green vegetable).
  - 2.To do some exercise like walking or at least a little walk after meal.

- Don'ts**
- 1.Avoid fatty diet i.e. fried spicy substances etc.
  - 2.Cold drinks, ice creams, chocolates etc.
  - 3.Diwaswapa strictly avoided.

### **Methods of Collection of Data**

**Sample Source:** 80 patients fulfilling the Inclusion and diagnostic criteria were selected from SSPS Ayurvedic Medical College and Hospital, Mirzapur, Shahjahanpur, UP, India, 242221, irrespective of sex, religion, marital status, socio economic status and were divided equally (randomly distributed) into 2 groups, each group consisting of 40 patients.

**Drug Source:** Raw drugs for Lekhana Basti and Virechana Karma will be collected and Prepared in SSPS Ayurvedic Medical College and Hospital, Mirzapur, Shahjahanpur, UP, India, 242221.

**Data Preparation:** It was mainly based on the specially prepared proforma, including all clinical signs and symptoms of the disease in which detailed history was taken and physical examination was done.

Standard height–weight chart was also included (in all anthropometry). Moreover, the value of BMI and Skin Fold thickness were also used as diagnostic criteria.

Patients having classical feature of Sthaulya like Angamarda, Chala, Sphika, Chalaudara, Ayatha Upachaya, Anutsaha, Javoparodha, Kricch Vyavaya, Daurbalya, Daurgandhya, Svedabadha, Kshudra Shwasa, Nidradhikya, Alpaprana, Sarva Kriyasu Asama Rthata, Alpavyavaya, etc. were taken for the present work. The detailed research proforma was prepared incorporating all the signs and symptoms seen in the disease.

**Inclusion Criteria:** Obese patients in the age group from 20 years to 50 years with BMI in between 30- 45 will be included. Patients of both sex (male and female) and coming from different socioeconomic background will be taken into consideration. Sthaulya was diagnosed by Ayurvedic classics and Obesity was diagnosed by modern classics. Patient fit for Virechana and Basti procedure.

**Exclusion Criteria:** Patients of age group below 20 years and above 50 years with BMI 45 will be excluded and will not be considered for study. Patients having cardiac problems (CHD, MI, CAD etc), renal problems, hepatic problems, using long-term steroids, patients with uncontrolled DM, HTN, hypothyroidism, pregnant women, lactating mothers and any systemic illness pt will be excluded from the study.

**Diagnostic Criteria:** Diagnosis of Sthaulya was established by clinical examination (signs and symptoms) mentioned in classical books.

**Assessment Criteria:** To assess the changes patients were examined every 30 days, the suitable scoring pattern and objective signs were recorded. After completion of two-month treatment, the efficacy of the therapy was assessed on the basis of the subjective as well as objective criteria.

- ❖ Laziness or Lack of Enthusiasm (*Alasya or Utsaha Hani*)
- ❖ Dyspnea on Exertion (*Kshudra swash or Ayasena swash*)
- ❖ Flabbiness in Hip, Abdomen and Breast (*Chala Spika Udara Stana*)
- ❖ Excess Sleep (*Nidradhikya*)

- ❖ Excess Sweating (*Swedadhikya*)
- ❖ General Weakness (*Daurbalya/Alpa Vyayam*)
- ❖ Heaviness in the Body (*Anga Gaurava*)
- ❖ Oily Body Luster (*Snigdhangata*)
- ❖ BMI (k.g/m<sup>2</sup>)

**Overall effect of the therapy:** The effect of therapy was marked as follows.

1. Cured: 100% relief in Signs and Symptoms
2. Markedly Improved: 75 to 99% relief in Signs and Symptoms
3. Moderately Improved: 50 to 74% relief in Signs and Symptoms
4. Improved: 25 to 49% relief in Signs and Symptoms
5. Unchanged / Stable: Less than 25% relief in Signs and Symptoms

**Statistical Analysis:** The information gathered on the basis of observation made about various parameters was subjected to statistical analysis in terms of Mean, Standard Deviation and Standard Error (SE). The obtained results was interpreted as- (**Paired 't' test**)

Insignificantn : P>0.05

Significant : P<0.05

Highly Significant : P<0.01, P<0.001

### **RESULT (Effect of Therapies)**

The sample of 80 patients were selected and subdivided into two groups of 40 patients each. Treatment was observed according to plan of study. The results were derived after execution of statistic techniques. The effect of therapy has been presented as follow.

Total 40 patients of Group A (Lekhana Basti) were completed the full course. Out of 40 patients, 25 patients gained improvement 62.50%, while 13 patients moderately improved 32.50%, while 1 patients markedly improved 02.50% and remained 1 patient was found unchanged 02.50%.

Total 40 patients of Group B (Virechana Karma) were completed the full course. Out of 40 patients, 22 patients gained improvement 55.00%, while 12 patients moderately improved 30.00%, while 1 patients markedly improved 02.50% and remained 5 patients was found unchanged 12.50%.

## SUMMARY

Just as after churning the sea, the holy nectar was acquired; similarly after grueling research and toil on a subject what surfaces is the conclusions, which bring new light to understanding concepts and pave the way for further research.

The present work had been planned for further step in the field of Kayachikitsa entitled **“Effect of Lekhan Basti and Virechana Karma (Triphala Churna) in the Management of Sthaulya (Obesity) - A Comparative Study”** comprises multiple parts like Introduction, Review of Literature (Drug Review, Conceptual Study), Methodology, Observation, Result, Discussion, Summary and Conclusion.

The Review of Literature part deals with literary aspect of Sthaulya from Ayurvedic and modern point of view. From historical review of Review of Literature, it is obvious that the disease - Sthaulya is well described in Ayurvedic texts and has been classified under the broad heading of eight most denounced personalities, while Sushruta has explained the pathogenesis of Sthaulya, clearly mentioned the involvement of Medo Dhatu. There are very few diseases, where the involvement of Dushya is more predominant than Dosha, Sthaulya is one of them.

After historical review, review of previous work is given, where it has been mentioned that more scholars have submitted their research works regarding Sthaulya under taking various titles like Sthaulya, Obesity, Medoroga, Hyperlipidaemia etc. Then, brief discussion of pathophysiology of Meda is given from Ayurvedic as well as modern side. Afterwards, aetiological factors for Sthaulya enumerated in Ayurvedic texts have been explained with support of recent modern researches. All the aetiological factors can be classified into four groups.

- 1) Atisampuranat : Excessive indulgence in various diet articles.
- 2) Avyayamat : Less physical activities
- 3) Manasaja : Excessive pleasure, jollyness etc.
- 4) Bijadoshat : Genetic / Hereditary defect.

Thereafter, pathological factors involved in Samprapti of Sthaulya based on Agni Vaishamya, ama Utpatti, Medodhatvagni-mandya etc. along with pathogenesis of Sthaulya (Obesity) are described in details as per Ayurvedic and modern point of view.

Purvarupa (premonitory symptoms), Rupa (signs and symptoms), Diagnosis, Classification, Upadrava (complications), Sadhya-Asadhyata (prognosis) and Chikitsa (management) of Sthaulya have been explained in detail with support of modern science next to it. Next part is focused on Drug review, in which logic behind selection of the drugs/therapy and their detailed pharmacodynamics is mentioned with their rasa panchaka.

Next part entitled Conceptual Study commences with aims and objects of the study and details of the selection of patients along with methods adopted for the present research work. Thereafter, various observations and results obtained with statistical analysis are presented in detail.

**Effect of Lekhana Basti:** 40 patients of Group A (Lekhana Basti Group) were given Lekhana Basti which performed as per clinical method doses varies according to Kosta, Agni and Bala of patients. In Lekhana Basti Group, the highly significant reduction was observed with 4.84% relief in weight and 4.57% relief in B.M.I. ratio. Considering the effect of Lekhana Basti Group on body circumference, it provided highly significant relief with 8.31% in abdomen, 6.76% in hip, 8.40% in mid thigh circumference, whereas reduction in skin-fold thickness were obtained with statistically highly significant relief of 31.51% in biceps, 33.33% in sub-scapular and 51.93% in abdomen skin-fold thickness. The effect of this group on symptomatology, it provided highly significant relief with 44.83% in Sarvanga Medovridhi, 57.46% in Daurbalyata, 57.14% in Alasya, 60.06% in Nidradhikya, 51.16% in Snigdhangha, 54.24% in Atigauravata and 57.74% in Atikshudha. Considering the effect of this group on doshadushti, it provided highly significant relief in Vata dushti (56.82%), Pitta dushti (55.49%) and Kapha dushti (58.76%), while on Srotodushti it provided highly significant relief in Rasavaha srotodushti (54.24%), Medovaha srotodushti (53.47%), Swedavaha srotodushti (56.82%) and Udakavaha srotodushti (52.94%). On biochemical parameters, the effect of Lekhana Basti Group provided significant reduction with 8.89% relief in S. cholesterol and 14.29% relief in S. Triglyceride. The overall effect of Lekhana Basti Group showed improvement 62.50% patients, moderately improvement in 32.50% patients, markedly improvement 2.50% patients and remained 2.50% was found unchanged.

**Effect of Virechana Karma:** 40 patients of Group B (Virechana Group) were given Triphala churna for the duration of 60 days with Anupana – Ushnodaka, before meal. In Virechana Group, the highly significant reduction was observed with 4.85% relief in weight and 5.07% relief in B.M.I. ratio. Considering the effect of Virechana Group on body circumference, it

provided highly significant relief with 6.14% in abdomen, 5.02% in hip, 8.18% in mid thigh circumference, whereas reduction in skin-fold thickness were obtained with statistically highly significant relief of 33.68% in biceps, 32.98% in triceps, 42.79% in sub-scapular and 44.65% in abdomen skin-fold thickness. The effect of Virechana Karma on symptomatology provided highly significant relief with 45.76% in Sarvanga Medovridhi, 45.14% in Daurbalyata, 51.12% in Alasya, 53.47% in Nidradhikya, 51.33% in Snigdha anga, 53.47% in Atigauravata and 53.33% in Atikshudha. Considering the effect of Virechana Karma on doshadushti, it provided highly significant relief in Vata dushti 54%, Pitta dushti 49.86% and Kapha dushti 52.26%, while on Srotodushti it provided highly significant relief in Rasavaha srotodushti 53.04%, Medovaha srotodushti 48.90%, Swedavaha srotodushti 52.47% and Udakavaha srotodushti 54.23%. The effect of Virechana Karma on biochemical parameters provided significant reduction with relief of 8.48% in S. cholesterol and 15.22% in S. triglyceride. The overall effect of Virechana Karma Group showed improvement in 55.00% patients, moderately improvement in 30.00% patients, markedly improvement 2.50% patients and remained 12.50% was found unchanged.

## CONCLUSION

Conclusion in a nutshell is the essence of any study. A scientific discussion on the study gives rise to some fruitful conclusions. Conclusions drawn from the present study are as follows.

- ✓ Excessive indulgence in oily and fatty food, sedentary life style, Manasika factors along with genetic predisposition play a major role in aetiogenesis of Sthaulya.
- ✓ Obesity occurs more in female than male and specially increases after use of M.T.P., sedentary habit, after hysterectomy and in menopausal period.
- ✓ Moreover, as enumerated earlier, Meda as dushya, Kapha & Avrita Vata as dosha and Medodhatvagnimandya are main responsible factors in pathogenesis of Sthaulya. So that type of drug/therapy should be recommended which pacify these factors and it can be accomplished by combination of Tiktarasa pradhana drugs.
- ✓ Virechana Karma was very effective in reducing weight and B.M.I. ratio as well as to provide relief in all signs and symptoms, whereas Lekhana Basti Group administered after, it reduced weight and B.M.I. ratio in a more pronounced way, as well as provided better relief in all signs and symptoms compared to its administration without Virechana, emphasizing the effectiveness of the Virechana as a Shodhana therapy.

- ✓ On the completion of follow up study it was found that weight was slightly regained in Virechana Group.
- ✓ Both therapies decreased S. cholesterol, S. triglyceride level, but they failed to reach statistically significant level in S. triglyceride respectively.
- ✓ On the basis of this study, a better line of treatment can be offered to the patients, if Medohara drugs are administered after shodhana therapy – Virechana and Lekhana Basti.
- ✓ The study is carried out in less number of patients and hence it may be concluded that the result obtained through this work will be having value only after confirmation subsequent large sample study in multi-center.

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