International Journal of Applied Ayurved Research ISSN: 2347- 6362

TITLE OF THE ARTICLE 'EFFICACY OF LEKHANIYA KASHAYA IN OBESITY'

Damle Neena[1]

[1]Assistant Professor, Kayachikitsa Department D.Y.Patil college of Ayurveda and Research Institute,Nerul,Navi Mumbai, Maharashtra India.

ABSTRACT:

Obesity is a disease characterized by excessive body fat. People who are medically obese usually are affected by behavior, genetic and environmental factors. In this trial 10 patients (Men and Women) of 18 year to 65 year of age who were having BMI more than 30 were enrolled. Waist circumference >40 inches (>102 cm) in men and >35 inches (>88 cm) in women were enrolled in this trial. Both apple shaped as well as pear shaped obsessed patients were included. 20 ml of Lekhaniya Kashaya was given twice daily before food for 2 months. Regular check-up of their weight, BMI, waist circumference and examination of other associated symptoms was done monthly. In this Trial Lekhaniya kashaya found useful in obesity. During this Trial Patients reduced almost 3 kg weight per month. Lekhaniya kashaya significantly reduced weight, BMI and waist circumference at 5% level of significance ($p < 0.05$).

Key Words: BMI-Body Mass Index,Lekhaniya Kashaya, Medovahastrotas,Waist to Hip ratio

INTRODUCTION: A BMI of 25 to 29.9 kg per m2 is defined as overweight. A BMI of 30 kg per m2 or more is defined as obesity. These conditions result from a problem of imbalance between energy intake and expenditure. Obesity is not a new problem it is also described in Ayurvedic literature as well.[1] [2] [3].According to Ayurveda it is described as medovaha srotas vitiation (i.e. disturbance in fat metabolism of the body causes obesity). 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) [2] .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 mega- cities such as Mumbai, Delhi, Bangalore or Chennai being overweight or obese. 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 apnea, degenerative joint disease, thromboembolic disorders, and dermatologic disorders [4].

In modern medicine Pharmacological treatment for obesity are having side effects [5] [6] like drug interfere with the absorption of fat soluble vitamins like A,D,E,K. Other treatments such as Liposuction, Bariatric surgery, which are costly and with many risk factors[6]. Clinically Ayurvedic medicines are found

to be useful in weight reduction. Patients suffering from obesity blindly use Ayurvedic tablets, Herbal tea like products marketed on TV sky shops, News paper and magazine advertisements, without doctor's consultation. These medicines may prove harmful for their health.

Lekhaniya kashaya[7] is collection of Herbs having properties which are useful for reduction of fat without interfering digestion and absorption of vitamins .Lekhaniya Kashaya also improve overall digestion as well as fat metabolism of patient due to its penetrating hot properties (ushna tikshna guna).

AIMS: To assess efficacy of Lekhaniya Kashaya in Obesity.

To prevent patients from obesity and obesity related health hazards.

Study Design:

Total 10 patients were enrolled in this trial .Freshly prepared Lekhaniya Kashaya was given twice a day before food for 2 months.Clinical and statistical assessment of enrolled patients was done monthly, for two months.

Inclusion Criteria:

1) Men and Women of 18 year to 65 year of age were enrolled in the project.

2) Patients with BMI more than 30 were enrolled in the project

BMI values can categorize patients into three classes of obesity:

BMI is calculated by using formula =Body Weight (kg)/ Height $(m)^2$

Overweight BMI = 25 - 29.9

Class I (mild obesity) BMI = 30.0 to 34.9 kg/m2

Class II (moderate obesity) BMI = 35.0 to 39.9 kg/m2

Class III (severe obesity) BMI ≥ 40 kg/m2

3) Measurement of waist circumference -- waist circumference >40 inches (>102 cm) in men and >35 inches (>88 cm) in women were enrolled in this project.

4) In this trial apple shaped as well as pear shaped obsessed patients were enrolled.

To decide patient was having which type of obesity following formula was used.

$$\text{Waist to Hip ratio} = \frac{\text{Measurement of waist narrowest point}}{\text{Measurement of Hip circumference at widest point}}$$

Hip waist ratio more than 0.90 in male and more than 0.80 in females is associated with increased risk of heart disease, Diabetes Mellitus. So health risks of overweight and obesity are associated with excess abdominal fat i.e. apple shaped obesity.

	Healthywaist-to-hip ratio
Women	0.8orless
Men	0.9orless

5) Patients who had obesity associated with Hypothyroidism were in inclusion of the project with required dose of thyroxin.

6) Patients who had obesity associated with both weight bearing joint pain were also included in the project.

7) Patients who had obesity with k/c/o Hyperlipidemia were also included in the project.

8) Patients who had obesity with k/c/o Non-Insulin dependent Diabetes Mellitus were in inclusion of the project with required dose of hypoglycemic drugs.

Exclusion Criteria:

1) Patients with k/c/o Cushing's syndrome,
2) Patients on corticosteroids
3) Bedridden or wheelchair confined patients
4) History of gastrointestinal bleeding.
5) Patients with history of gastric and Duodenal ulcer
6) Patients with acid peptic disease
7) Pregnant or nursing women

Assessment criteria:

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

Objective criteria:

- BMI of the patient before and after treatment
- Patient's weight before and after treatment.
- Waist circumference of patients before and after treatment.
- Waist to Hip ratio of patients.

Methods and Material: Lekhaniyakashaya described in Charak Samhita[3]. Dravyas of Lekhaniya kashaya (Herbs) are Tikta (bitter), Katu (pungent) rasatmaka, Ushna (hot), Tikshna (sharp), ruksha (dry) gunatmaka (these herbs are having hot and dry properties) &ushnaviryatmaka (hot in potency) ,and KatuVipaki (KatuVipaka means at the end of digestion these herbs are pungent) These herbs are found useful to reduce weight by improving fat metabolism of body .

Preparation method of Decoction: 20 gms of bharad (coarse powder form) of above mixed medicines was soaked in 4 cups of water for 4 hours. Then decoction was prepared by heating and reducing it till it remains one forth. After straining, decoction was consumed by the patients twice daily.

Period: 20 ml Lekhaniya Kashaya twice daily before food was prescribed to 10 patients for 2 months.

Pathyaahar: suggested (food indicated in obese person) yava (barley), godhum (whole wheat) roti ,ragi seeds mudga (green gram), kulatha (horse gram),Masura (lentil) Fenugreek leaves, spinach, Shepu (dill leaves).Increased intake of salads in diet like carrots, cucumber, beet root, boiled or roasted corns.

ApathyaAhar: for Patients (food contraindicated in obese person) Sweets, chocolates, cakes ,cookies, Ice-creams, fried food,refined wheat flour recipes, potatoes, Sabudana (sago), nuts, Anupmansa (Beef ,pork meat etc),Jaliyamansa (meat of fishes, crabs,squids).

PathyaVihar: (indicated exercise)

Yoga: Suryanamaskar, Pashchimottanasana, Pawanmuktasana.Daily at least 30 minutes brisk walk in morning. Relaxation movements during office work.

Data Recording: With the interval of 30 days data was regularly recorded at D.Y.PatilAyurvedic Hospital.

Statistical Analysis:

H01: No significant effect of the treatment i.e. LEKHANIYA KASHAYA in weight reduction

H11: Significant effect of the treatment in weight reduction.

Decision Criterion: Reject H01 if t cal>t tab at 5% l.o.s.

As t cal = 10.60 > t tab =2.26, we reject H01 and say that the treatment is effective in weight reduction.

H02: No significant effect of the treatment i.e. LEKHANIYA KASHAYA in BMI reduction

H12: Significant effect of the treatment in BMI reduction.

Decision Criterion: Reject H02 if t cal> t tab at 5% l.o.s.

As t cal = 10.77 > t tab =2.26, we reject H02 and say that the treatment is effective in BMIReduction.

H03: No significant effect of the treatment i.e. LEKHANIYA KASHAYA in WAIST CIRCUMFERENCE reduction

H13: Significant effect of the treatment in WAIST CIRCUMFERENCE reduction.

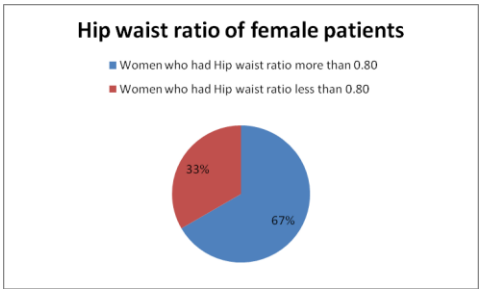
Decision Criterion: Reject H03 if t cal> t tab at 5% l.o.s.

As t cal = 6.38 > t tab =2.26, we reject H03 and say that the treatment is effective in BMIreduction.

Statistical Observations:

	Mean	SD	SE	T	Remarks
Weight	5	1.49	0.47	10.6	Significantat5%levelof significance(p<0.05)
BMI	2.04	0.6	0.19	10.77	Significantat5%levelof significance(p<0.05)
Waist circumference	1.35	0.67	0.21	6.38	Significantat5%levelof significance(p<0.05)

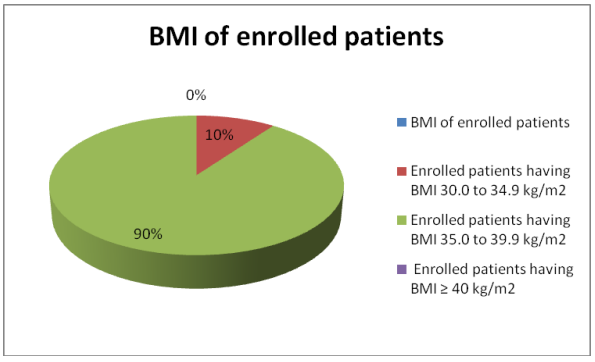
Total 10 numbers of patients (9 female and 1 male patients) were enrolled in the project. Male patient had Hip waist ratio more than 0.90. Out of 9 enrolled females, 6 had Hip waist ratio more than 0.80 (60% females had Hip waist ratio more than 0.80) and 3 females had Hip waist ratio less than 0.80.(30% females had Hip waist ratio less than 0.80)



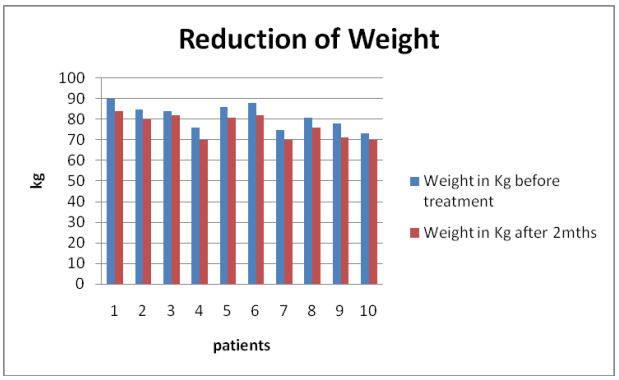
BMI of enrolled patients

Among 10 enrolled patients 1 patient had BMI between 30.0 to 34.9 kg/m2,

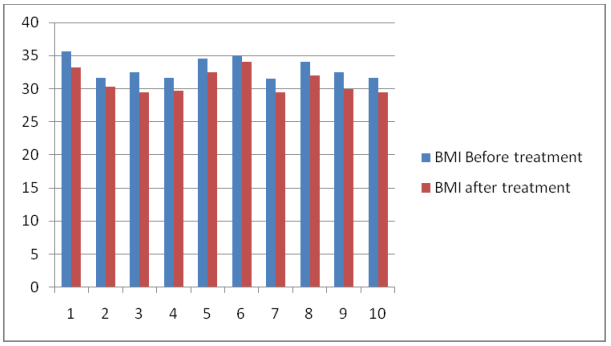
9 patients had BMI between 35.0 to 39.9 kg/m2 and not a single patient had BMI ≥ 40 kg/m2.



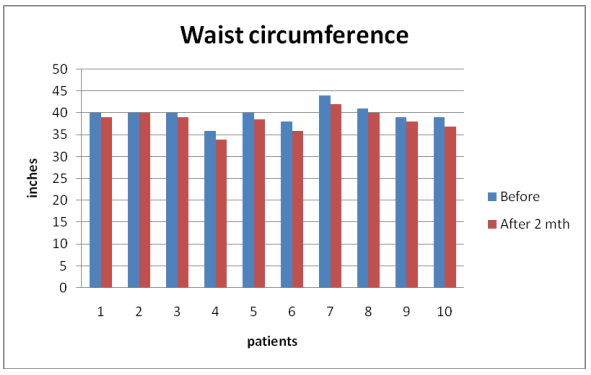
Changes seen in weight before and after treatment:



Changes seen in BMI of patients before and after treatment:



Changes seen in waist circumference before and after treatment:



Other Observations:

- All 100% patients enrolled in the trail were consuming mixed diet.
- 20% of total enrolled patients were having obesity with Hypothyroidism.
- 70% of total enrolled patients were having obesity with both knee joint pain (weight bearing joint pain due to excessive weight)
- 20% of total enrolled patients were having obesity with Hyperlipidemia.
- Total 50% of all enrolled patients were having symptom Dyspnoea on exertion.

Observations of Other benefits which patients developed after 2 months therapy.

- Lightness in body
- Reduction in lethargy
- Reduction in edema
- Reduction in LDL,VLDL total Cholesterol levels (20% of total enrolled patients who was k/c/o obesity with Hyperlipidemia reduced their LDL, VLDL, Triglaeceride level up to 25% in 2 months)
- Improvement in HDL cholesterol level (20% of total enrolled patients who was k/c/o obesity with Hyperlipidemia

improved their HDL cholesterol level up to 30% in 2 months)

- Reduction in weight bearing joint (Knee joint) pain-70 % of total enrolled patients who was having obesity with both knee joint pain (weight bearing joint pain due to excessive weight) showed 50% improvement in knee joint pain on VAS scale (Visual analog scale) and 30% improvement on WOMAC scale (Western Ontario and McMaster Universities OA Index) after 2 months of treatment.
- Patients with known cases of obesity with hypothyroidism showed 25% improvement in levels of thyroid hormone. Also showed 50% improvement in reduction of symptoms like facial puffiness, agnimandya (loss of appetite), and menstrual disturbances, lethargy.

Conclusion: Lekhaniya kashaya is doing lekhan of excessive fat (reducing excessive fat) due to its ushna, tikshna, lekhan (penetrating hot) properties. So it is useful in obesity. Lekhaniyakashaya is significantly reducing weight, BMI and waist circumference at 5% level of significance ($p < 0.05$).

Lekhaniya Kashaya didn't develop any major side effects in patients after 2 months of therapy. In this project only 2 months therapy was given, but we can continue Lekhaniya Kashaya for extra period for more weight reduction, which is the further scope of study.

During trial it was observed that Lekhaniya Kashaya was beneficial in reducing total cholesterol level, LDL levels, and VLDL levels. It also showed benefits like improvement in thyroid hormone levels and reduction in symptoms of Hypothyroidism. It showed good improvement in menstrual disturbances. So further scope of study is to check efficacy of Lekhaniya kashaya in Hyperlipidaemia, Type II DM, Hypothyroidism.

References:

1.Charak Samhita based on ChakrapaniDatta's Ayurveda Dipika ,Auther name Dr.RamKaram Sharma and Vaidya Bhagwan Dash, Reprint edition 2007,Published by ChaukhambaSanskrita Series ,Volume II, CharakVimansthan Chapter 5 –SrotoViman, Shloka number 16,page number 178

2.Charak Samhita based on ChakrapaniDatta's Ayurveda Dipika,Auther name Dr.RamKaram Sharma and Vaidya Bhagwan Dash, Reprint edition 2007,Published by ChaukhambaSanskrita Series ,Volume I,CharakSutrasthan Chapter 21 – Astauniditiyayhyaya, Shloka number 4,page number 375

3.MadhavNidan by Vijayaraksita and Shrikanthadattaand extracts from Atankadarpana by Vachaspati Vaidya, Edited by Vaidya YadavjiTricumji Acharya, Publisher ChaukhambaOrientalia, Reprint edition 2010 Chapter 34 MedorogaNidanam,page no 226,shloka no 1,2)

4. Ferries Clinical Adviser Instant Diagnosis and Treatment , 2009 edition, Author FRED F. FERRI —Printed in United States of America, ISBN No-978-0-323- 04134-8, e-library copy, Website – www.mdconsult.com., Section- I Disease and Disorders,Chaper name Obesity.

5. ACP Medicine ((American college of Physicians Medicine) by David C. Dale and Daniel D. Federman ,3rd edition 2007,Section III--Chapter no. 10 , e- copy, Website -www.acpmedicine.com

6. API Textbook of medicine –7th edition, Published by the Association of Physicians

of India, Section VIII-Metabolism – Chapter 06 Disorders of Adipose tissue and Obesity chapter written by Dr.Shashank Joshi, page number 264
7. Charak Samhita based on ChakrapaniDatta's Ayurveda Dipika ,Author name Dr.Ram Karam Sharma and Vaidya BhagwanDash,Reprint edition 2007,Published by Chaukhamba Sanskrita Series,VolumeI,CharakSutrasthan Chapter 4–Sadvirechanasatasritiyadhya, Shloka number 8,page number 88

Corresponding Author: Damle Neena
Assistant Professor, Kayachikitsa Department D.Y.Patil college of Ayurveda and Research Institute,Nerul,Navi Mumbai, Maharashtra India.
Email: drneena.damle@gmail.com

Source of support: Nil
Conflict of interest: None Declared