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## An Open Clinical Trial of Chavyadi Saktu in the Management of Sthaulya with special reference to Obesity.

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**Abstract:** In today's era as the world is moving towards modernization the human beings have been blessed with benefits of technology at the same time cursed with diseases. Obesity is perhaps the most prevalent form of malnutrition as a chronic disease prevalent in both developing and developed countries. According to Ayurveda sthaulya is caused due to excess deposition of dhatu in the body. Chakradatta has mentioned Chavyadi Saktu in sthaulya chikitsa adhikar for the management of Sthaulya. **Objectives:** To study the efficacy of Chavyadi Saktu in the management of sthaulya with special reference to obesity. **Methods:** Patients presenting the symptoms of sthaulya between 20 to 60 years were selected from OPD of study center. *Chavyadi saktu 2 pala* i.e. 96 ml given in *Prataha kala* i.e in morning at empty stomach 45 Days. **Discussion & Conclusion:** *Chavyadi Saktu* due to its *medohar* effects serves all this purpose and plays important role in management of *Sthaulya*. Body weight and BMI showed significant reduction. Slight reduction was seen in WHR .

**Keywords:** *Chavyadi Saktu, Prataha, Sthaulya, body mass index.*

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**INTRODUCTION:**

Ayurveda, the ancient science of life has evolved over thousands of years which aims on maintaining the health of healthy individuals and to relieve the diseased from the sufferings.<sup>1</sup> In today's era as the world is moving towards modernization the human beings have been blessed with benefits of technology at the same time cursed with diseases. The changed lifestyle, wrong eating habits, use of inorganic and preserved food, changed sleeping patterns have given rise to lifestyle diseases like Obesity, DM, Cancer, HTN, Thyroid disorders etc. The health of an individual is dependent on the food he eats. The proper healthy diet leads to health whereas the unhealthy food cause diseases. This highlights us the importance of food on our health.<sup>2</sup> The WHO response in this regard was adoption of "WHO global strategy on diet, physical activity and health" by the World Health Assembly in 2004 that describes the actions needed to support healthy diets and regular physical activity. In this regard food industry can play an important role by promoting healthy diets which ensure healthy and nutritive choices available and affordable to all consumers.<sup>4</sup> *Chakradatta* has mentioned *Chavyadi Saktu* in *sthaulya chikitsa adhikar* for the management of *sthaulya*. *Yoga Ratnakar* and *Bhav Prakash* have also mentioned it in the management of *sthaulya*. Accordingly, my present study was planned to evaluate the role of *Chavyadi Saktu* in management of *Sthaulya* with special reference to obesity.

**OBJECTIVES**

1. To study the efficacy of *Chavyadi Saktu* in the management of *sthaulya* with special reference to obesity.
2. To study the effect of *Chavyadi Saktu* on Body Mass Index, waist circumference-Waist Hip Ratio.

**MATERIAL & METHODS****MATERIAL:-**

The present study aims at an open label clinical trial of *Chavyadi Saktu* in the management of *sthaulya* with special reference to obesity.

**Study Centre:** R.A. Podar Ayurved Medical College, Mumbai.

**Sample Size:** Total no. of samples- 30

**Written Consent :** A written consent was taken from all patients included in the study in the best language they understand, Similarly Ethics committee approval was taken.

**A) INCLUSION CRITERIA :**

1. Age group – Age between 20 to 60 yrs.
2. Both sexes.
3. BMI 25 -29.9 kg per square meter (pre obese)  
BMI 30 -34.9 kg per square meter (obese class 1)
4. Subjects showing classical signs and symptoms of *sthaulya*.
5. Subjects ready to abide by trial procedure & to give informed consent.

**B) EXCLUSION CRITERIA :**

1. Subjects having endocrinological disorders like thyroid, PCOD.etc
2. Drug induced obesity e.g. steroids, antipsychotic etc.

3. Patients with known major systemic disorders.
4. Known cases of DM.
5. Pregnant & lactating mothers.
6. Patients who discontinue to take the treatment.

#### Subject Selection :

Patients presenting the symptoms of sthauya were selected from OPD of study center. Primary detailed systemic examination was carried out in each subject for the observation of illness as well as medical history was taken to rule out any existing disease. In order to include the subjects having overweight, examination like BMI, WHR was carried out. Before including them, each of them was informed regarding the disease and the trial drug (*Chavyadi saktu*).

**Study Duration:** 45 Days

**TIME :** *Prataha kala* i.e in morning at empty stomach.

**DOSE:** 2 *pala* i.e 96 ml .

#### Contents of *Chavyadi Saktu* :

1. *Chavya* (*Piper chaba*)
2. *Vyosha* (*shunthi-Zingiber officinale*, *Marich-Piper nigrum*, *pimpali-Piper longum*)

3. *Hingu* (*shodhit*) (*Ferula narthex*)
4. *Sauvarchal*
5. *Chitrak* (*shodhit*) (*Plumbago zeylanica*)
6. *Jeerak* (*Cuminum cyminum*)
7. Roasted *yava powder* (*Hordeum vulgare* Linn.)
8. *Go-Ghrita*
9. *Mastu*

#### Procedure to Prepare *Chavyadi Saktu* :

Total 30 subjects were selected by inclusion criteria., the subjects were provided *chavyadi saktu*. The method to make *chavyadi saktu* was given in written to patients as per the Ayurveda texts. It was prepared according to classical preparation of *mantha*<sup>128</sup>. The above drugs were taken in *churna* form each 1/2 gms i.e total 4 gms and roasted *yava powder* was taken 20 gms. The total *dravyas* were 24 gms i.e 1/2 *pala*. During administration 96ml water (4 times) was added to the above *dravyas* with 10 gms *Go-ghrita*. This whole mixture was churned properly and 10 ml *mastu* was added to this mixture.

**Follow Up:** Day 0, Day 15, Day 30 and Day 45

## RESULTS:

**Table no.1 Effect of Therapy On Objective Parameters**

SR NO	SYMPTOMS	SCORE BT	SCORE AT	DIFFERENCE OF SCORE	% OF RELIEF
1	Weight	2346.5	2278	68.5	2.919241
2	BMI	917.6	891.4	26.2	2.855275
3	Waist circumference	3091.7	3023.6	68.1	2.202672
4	Waist Hip Ratio	27.752	27.4651	0.2869	1.033799

**Effect of Therapy on Objective Parameters**

- 1) **On Weight** – The before treatment score was 2346.5 and after treatment was 2278. The difference was 68.5. The percentage of relief was 2.91.
- 2) **On BMI** – The before treatment score was 917.6 and after treatment score was 891.4. This difference was 26.2. The percentage of relief was 2.855.
- 3) **On Waist Circumference** – The before treatment score was 3091.7 and after treatment score was 3023.6. The difference between it was 68.1. The percentage of relief was 2.20.
- 4) **On Waist Hip Ratio WHR** – The before treatment score was 27.75 and after treatment score was 27.46. The difference was 0.28. The percentage of relief was 1.03.

**Table no.2 .Statistical Analysis of Subjective parameters by using Wilcoxon Sign Rank test:**

Sr No	Symptoms	Mean			SD			SEd	P
		BT	AT	DIF F	BT	AT	DIFF		
1	Daurbalya	1.933	0.9667	0.9667	0.6915	0.6149	0.5561	0.5561	<0.001
2	Swedaatipravruti	1.867	0.9000	0.9667	0.7303	0.6618	0.5561	0.1015	<0.001
3	Daurgandhya	1.567	1.000	0.5667	0.5683	0.5872	0.5040	0.0920	<0.001
4	Nidradhikya	1.867	0.6333	1.233	0.8193	0.6149	0.5683	0.1038	<0.001

**Table No.3 Assessment of Objective Parameters by using Paired t Test**

Sr. No	Parameter	Mean±S.D BT	Mean±S.D. AT	Difference of Mean±S.D	SEd	T Value	P Value
1	Weight	78.217 ±9.860	75.933 ±10.075	2.283 ±1.264	0.2308	9.893	<0.0001
2	Body Mass Index	30.587 ±2.687	29.713 ±2.824	0.8733 ±0.5186	0.09468	9.224	<0.0001
3	Waist Circumference	103.06 ±8.372	100.79 ±8.406	2.270 ±0.8518	0.1555	14.596	<0.0001
4	Waist Hip Ratio	0.9251 ±0.05878	0.9155 ±0.06059	0.0095 ±0.007282	0.00133	7.193	<0.0001

**Table no.4 Total Effect of Therapy on Signs and Symptoms in 30 Patients Of Sthaulya:**

SR NO	TOTAL EFFECT OF THERAPY	NO. OF PATIENTS	PERCENTAGE
1	CURED	0	0
2	MARKEDLY IMPROVED	0	0
3	IMPROVED	19	63.33
4	UNCHANGED	11	36.66
5	LAMA	0	0

**DISCUSSION :**

Obesity as a chronic disease, prevalent in both developed and developing countries and affecting the young and adults equally. It is a metabolic disorder involving an excessive amount of body fat. Obesity is not just a cosmetic concern. It increases your risk of diseases and health problems such as heart disease, diabetes and high blood pressure. Thus the patients suffering from obesity have to face the problems that affect their quality of personal, social and professional life. Ayurveda has widely explained Sthaulya and its management. Diet, exercise and behavioral changes are important factors in the management of sthauilya. In last 5-10 years the craze for taking green tea, diet food, weight loss diets has increased tremendously amongst the people. In the *samprapti* of Sthaulya, Meda Dhatu and Kapha dosha play an important role. To break down this *samprapti* of sthauilya, the drug having properties like *Deepan*, *Pachan*, *Kaphaghna*, *Medoghna*, *Lekhana*, *Ruksha*, *Laghu* and *Apatarpana Guna* must be used. *Chavyadi Saktu* from Chakradatta Sthaulya Chikitsa Adhikar has all these properties. Taking into consideration the ill effects of modern treatment for obesity and all such weight loss

food items available in market, it was decided to work on *aahariya kalpana* mentioned in ayurvedic texts for sthauilya.

**Sex:** In the study, 36.66% patients were males and the majority was of 63.33% females. Thus, it is inferred that obesity occurs irrespective of sex but females are more prone to obesity due to the tendency to develop fatty mass. This can be due to hetu like *avyaayaam*. Modern research also proves that female gain weight due to pregnancies. Also women are more concerned about their looks and so more patients enrolled for the study were female.

**Age:** The age group for study was 20 to 60 years. It was observed that only 4(13.33%) patients were found in 20-30 age group, 4 patients (13.33%) were there in 31-40 age group and most of the patients that is 11 patients (36.66%) belonged to 41-50 age group and 11 patients (36.66%) were there in 51-60 age group. This may be due to decreased physical activities and *divaswapa*. Obesity occurs at any age and generally increases with age.

**Subjective Parameters :**

All subjective parameters were evaluated statistically before treatment and

after treatment by applying Wilcoxon sign rank test.

- 1) **Daurbalya** – Before treatment mean was 1.933 and after treatment mean was 0.9667, while before treatment SD was 0.724 and after treatment was 0.9667 and the p value obtained is <0.0001 which was extremely significant.
- 2) **Swedaatipravrutti** – Before treatment mean was 1.867 and after treatment was 0.900, while before treatment SD was 0.7303 and after treatment SD was 0.6618 and the p value obtained is < 0.0001 which was extremely significant.
- 3) **Daurgandhya** – Before treatment mean was 1.567 and after treatment mean was 1.000. The before treatment SD was 0.5683 and after treatment was 0.5872 while the p value obtained is <0.0001 which was extremely significant.
- 4) **Nidraadhikya** – Before treatment mean was 1.867 and after treatment mean was 0.6333. The before treatment SD was 0.81 and after treatment was 0.61 with p value obtained < 0.0001 which was extremely significant.

#### Objective Parameters :

The effect of therapy on objective parameters is evaluated with the help of paired t test.

#### 1. Effect of Therapy on Weight:

Weight was found to be decreasing from  $78.217 \pm 9.860$  to  $75.933 \pm 10.075$ , showing remarkable difference of  $2.283 \pm 1.264$ . The

decrease was found statistically extremely significant as t was 9.893,  $P < 0.0001$

#### 2. Effect of Therapy on BMI:

Body Mass Index was found to be decreasing from  $30.587 \pm 2.687$  to  $29.713 \pm 2.824$ , showing difference of  $0.8733 \pm 0.5186$ . The descent was found statistically extremely significant as t was 9.224,  $P < 0.0001$ .

#### 3. Effect of Therapy on Waist Circumference:

Waist circumference was found to be decreasing from  $103.06 \pm 8.372$  to  $100.79 \pm 8.406$ , showing difference of  $2.270 \pm 0.8518$ . The descent was found statistically extremely significant as t was 14.596,  $P < 0.0001$ .

#### 4. Effect of Therapy on Waist Hip Ratio:

Waist Hip Ratio was found to be  $0.9251 \pm 0.05878$  before treatment and  $0.9155 \pm 0.06059$  after Treatment, showing difference of  $0.009563 \pm 0.007282$ . The descent was found statistically extremely significant t was 7.193,  $P < 0.0001$ .

#### Total Effect of Therapy:

Total effect of therapy has been evaluated in terms of Cured, Markedly improved, Improved and Unchanged. In this study 19(63.33%) patients were improved, 11(36.66%) patients were unchanged.

#### Action of Chavyadi Saktu in management of sthaulya.

*Sthaulya vyadhi* is caused due to excess deposition of *meda dhatu* in the body. *Medadhatvagni mandya, kapha dosha, strotorodha* and *meda dhatu* play a vital role in the *samprapti* of *sthaulya*. The drug having properties like *lekhan, deepan, pachan, ruksha, strotorodhanashak* are beneficial in

the management of *sthaulya*. *Chavyadi Saktu* contains *chavya*, *chitrak*, *sauvarchal*, *hingu*, *jeerak*, *vyosha* and *hingu* given along with *dadhi mastu* and *ghrita* have the property of *deepan*, *pachan*, *strotovishodhan* and *lekhan*. *Chavya* due to its *pachak guna* helps to break the *samprapti* of *sthaulya*. *Chitrak* has *agnideepan guna* and has *gamitva* i.e. affinity towards *meda dhatu*, thus correcting the impaired *medadhatvagni*. *Hingu* is *ushna veerya* and *kapha nissarak*. *Vyosha* collectively due to *katu rasa* and *ushna veerya* helps to reduce *meda dhatu*. *Jeerak* has *pachan guna* that helps to digest the *ama rasa* produced by excessive eating. *Sauvarchal* being *agnideepak* works on *medadhatvagnimandya*. *Mastu* has the property of *strotovishodhan* that removes the *strotorodha* in all strotas. *Go ghrita* is *agnivardhak* which is beneficial on correcting *dhatvagni mandya*. *Yava Saktu* has *ruksha*, *lekhan*, *agnideepan guna* which are *medoghna* and thus beneficial in management of *sthaulya*.

#### CONCLUSION:

*Sthaulya* occurs irrespective of sex but female is more prone to obesity. Today's changed lifestyle that includes sedentary work, unhealthy eating habits lead to obesity. The food we eat nourishes our body. Excessive food intake, *medo dhatwagni mandya* cause obesity. Thus, the food which helps to treat the obesity and maintain our health should be consumed. In today's era there is increase trend for zero calorie breakfast food items, green tea for weight loss. *Chavyadi Saktu* due to its *medohar* effects serves all this purpose and plays

important role in management of *Sthaulya*. The major effect of *Chavyadi Saktu* was seen on symptoms in the order *Nidraadhikya*, *Swedaatipravrutti*, *Daurbalya* and *Daugandhya*. The patients who had tendency to gain weight after eating high calorie food showed constant weight and also felt light weighted during the therapy. Body weight and BMI showed significant reduction. Slight reduction was seen in WHR .

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