

HOLISTIC MANAGEMENT OF STHOULYA – A CLINICAL STUDY

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ABSTRACT

Obesity is the world's oldest metabolic disorder. The WHO now considers obesity to be a Global epidemic and a public health problem. Globally an estimated 300 million adults are now obese and many are overweight. *Sthoulya* (obesity) is a disease of *medovaha srotas*, and comes under *kaphaja nanatmaja vyadhis*. *kapha* and *meda* are having *ashrayashrayi bhava* and *Vata* is considered as *upadravakaraka* in *sthoulya*. In Ayurveda, *Sthoulya* (obesity) has been dealt by different Acharyas regarding its causes, signs and symptoms, complications, prognosis and management. While Sushruta considers *Sthoola* (obese) as *sadatura*. And in this condition regular management with medicine, diet and exercise is advised. Ayurveda being a medical science constitutes preventive aspects as well as treatment aspects of the disease *Sthoulya*. The preventive aspects have been dealt under the heading Swasthavritta. In present study holistic aspect in management of *sthoulya* is considered comprising diet, medicine and exercise as described in the treatment of *sthoulya* in charaka samhita sutrasthana adhyaya 21. Duration of treatment is 10 days. Encouraging results were observed.

Keywords: *Sthoulya*, Holistic, Diet, *Ashtanindita*, Exercise.

INTRODUCTION

Prevalence of chronic non- communicable diseases is increasing among the adult population due to changes in life style and behavioural patterns of the people which are favourable for the occurrences of chronic non communicable diseases ((51.1%). Diabetes mellitus, hypertension, cancer, ischemic heart disease, atherosclerosis, varicose veins etc. are recognized as major non communicable diseases for

which *sthoulya* (obesity) is traced to be a major risk factor. *Sthoulya* influences morbidity and mortality primarily through different complications affecting various systems of the body. In Ayurveda also *sthoulya* is described as disease and *sthoula* (obese) person is considered as *sadatura*.

NEED OF STUDY:

WHO survey shows that obesity is increasing problem, in 2015 approximately 2.3 billion adults will be overweight and more than 700 million will be obese. Management of obesity (*sthoulya*) continues to be a challenging problem for healthcare professionals, patients and their families. Intervention efforts have included a diversity of approaches including genetic, pharmacological, diet, lifestyle counselling and behavioural therapy for patients and their families. Till date a universally indicated or successful solution for control of *sthoulya* could not be obtained.

Since *sthoulya* are *sadatura*, they need regular management. The selected option must be safe, economical, easily available, easy to administer and can be practised for longer durations.

Sthoulya (obesity) being a disease of faulty lifestyle origin a correctional approach for its prevention and treatment is needed. *Acharya charaka* described it as one among the *Ashtanindita* (eight despicable persons) and mentioned different principals for its management. In *charaka samhita* many *sthoulyahara dravyas* (*nityasevaniya* as well as medicinal) are mentioned.

In Yogic science different types of yogic postures are described for controlling weight and increasing flexibility. Again in yogic *shatakarmas* (purification procedures) are advised to be practice for weight management. *Kapalbhati* is one among them.

(*bhasravloharasya rechpurou ssambhrama* , *kapalbhattrvikhyata kafadoshavishoshani*)

Present study is an effort to find a solution in the form of an holistic approach for the management of *sthoulya*.

AIM AND OBJECTIVES:

As the study is a holistic approach the aims and objectives are considered as follows.

- To assess the effect of *Pathya-ahara* (advised diet) specially mentioned for *sthoulya* in classical texts of Ayurveda.
- To observe the role of exercise in the management of *sthoulya*.

- To observe the role of *yogasanas* and *kapalbhati* in the management of *sthoulya*.
- To evaluate the effect of *medohara* herbal medicinal preparations in the management of *sthoulya*.

MATERIALS AND METHODS

Equipments needed for anthropometrical measurement-

1. Measuring tape
2. Weighing machine
3. Body fat analyser
4. Height scale

PLAN OF WORK:

TYPE OF STUDY: Prospective single group open clinical study.

CENTRE OF STUDY: Swasthyrakshan OPD of Dr. D.Y. Patil College of Ayurved and Research Centre, Pimpri, Pune 18

INFORMED CONSENT: Informed consent was taken in English as well as in vernacular language.

SAMPLE SIZE: Number of patients included- 26

DURATION OF STUDY: 10 days

SCHEDULE DETAILS OF THE THERAPY:

All the patients were administered following plan of treatment:

- Entire diet comprising medicated water, salads, Yushas or soups, Roti, subji (vegetable), chutney or pickle, and butter milk was given as per the scheduled timings.
- *Medohara* (*sthoulyahara*) herbal preparation in *churna* form filled in capsule was given : Dose of *churna* 500mg two times in a day
- Exercise schedule: 30 minutes comprising 5 minutes warm up exercises, treadmill 10 Minutes, static cycle 10 minutes, 5 minutes hip march
- Yoga session: 1 hr comprising *sukshma Vyayama*, 12 *surya namaskars*, yogic postures in sitting, standing, lying down, lying on abdomen were conducted.
- *Kapalbhati* session of 1 minute and deep breathing for 1 minute was performed.

METHODOLOGY:

INCLUSION CRITERIA:

- Patients complaining of symptoms of *sthoulya* selected for the study
- Patients between age group of 20 – 65 years.
- Patients of either sex with BMI of 25 and above
- Patients having Total cholesterol > 200 mg/dl / Triglycerides>150mg/dl
- Duration of illness up to 5 years

EXCLUSION CRITERIA:

- Obese patients associated with DM, Hypertension and any systemic diseases
- Obesity due to secondary causes.

ASSESSMENT CRITERIA:

- Efficacy of intervention was assessed based on improvement achieved in 6 selected subjective parameters and the objective parameters.
- Following features of *sthoulya* were accorded with appropriate grading for recording

SUBJECTIVE PARAMETERS:

- *Ayata upachaya, utsaha hani*(sluggish movement of body)
- *Swedadhikyata* (Excess sweating)
- *Ayasen shwasa* (dyspnoea on exertion)

- *Anga sithilata* (flabbiness of body)
- *Gatrasada* (fatigue)
- *Adhika kshudha* (excessive hunger) All the above symptoms were recorded in grades 0 to 4 before and after study.

OBJECTIVE PARAMETERS:

- Body weight
- BMI
- Fat percentage
- Chest circumference
- Abdomen circumference
- Hip circumference
- Mid arm circumference
- Mid thigh circumference
- Mid calf circumference

TREATMENT PLAN:

- Diet schedule given for 10 days.
- In morning at 9 am *siddhajala* prepared from *Methi* (fenugreek), *krishnajeerak*.10mg each in 50 ml water was given.
- At 2 PM *siddha jala* prepared from *ajwayan* and *jeerak* 10mg each in 50ml water was given.

TABLE #1: DIET CHART

TIME	NAME	CONTENTS
At 10AM	Salad	Vegetable/Fruit/puffed rice
At 11AM	Soup	Vegetable/ <i>Yush/Saktu</i>
At 12.30PM	Lunch	Roti –Barley(<i>yava</i>)/Bajra/Jwari/Ragi. Vegetable Chutney Butter Milk Pickle-Amla/kumara(<i>Aloevera</i>)/Bittergourd(<i>Karvelak</i>)
At 4PM	Snack	Puffed rice,murmura, puffed rajgira,puffed jowar
At 7PM	Dinner	<i>Krushara,daliya.</i>

TABLE #2: VEGETABLES

NAME	RASA	VEERYA	VIPAKA	GUNA	DOSHAGHNATA	ROG-GHNATA
Bottol gourd	<i>Madhur</i>	<i>Sheet</i>	<i>Madhur</i>	<i>Guru, ruksha</i>	<i>Pittakaphaghna</i>	<i>Aruchi, mutral, klam</i>
Snake gourd	<i>Katu, tikta</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Laghu, snigdha</i>	<i>Tridoshghna</i>	<i>Deepan, pachan, ruchya</i>
Gherkins	<i>Madhur</i>	<i>Sheet</i>	<i>Madhur</i>	<i>Laghu, snighdha</i>	<i>Tridoshghna</i>	<i>Lekhan,ruchya</i>

Ridge gourd	Madhur, tikta	Sheet	-	-	Kaphavatahar ,pittaghna	Deepan, jwar, klam
Bitter gourd	Tikta, katu	Sheet	Katu	Bhedi, laghu	Pittakaphaghna, Vatakar	Prameh, jwar, deepan
Green gram	Madhur, kashay	Sheet	Katu	Ruksha, grahi, laghu, vishad	Kaphapittahar	Kaphna, medoghna ,jwaraghna
Horse gram	Madhur, kashay	Ushna	Amla	Ruksha, laghu	Vatapittakar,kaphahar	Medovikar, mutral
Carrot	Madhur, katu, tikta	Ushna	Katu	Laghu, tikshna, ruksha	Kaphavataghna, Pittakar	Deepan, vidahi ,hrudhya
Drum stick	Madhur, katu, tikta	Ushna	Katu	Deepan, laghu, Tikshna, ruksh	Kaphavataghna, pittakar	Medohar, shukral
Cabbage	Madhur, tikta	Sheet	Katu	Laghu	Vatakar, pittahar	Deepan, pachan, hridya

TABLE #3: STHOULYAHARA CAPSULES AND MEDICATED WATER

DRAVYA\	RASA	VIRYA	VI-PAKA	GUNA	DOSHA-GHNATA	ROG-GAGHNATA
Amalaki Phyllanthus Officinalis	Panchrasa, lavanvarjit	Sheet	Madhur	Ruksha Sara, hima	Tridoshaghna	Jwaraghna
Haritaki Terminalia- chebula	Panchrasa, lavanvarjit	Ushna	Madhur	Laghu, ruksha	Tridoshag-hn, vatashamak	Rasayan, grahani, malavsh- tambh, jwar, arsha
Bibhitak Terminalia- beleria	Kashay	Ushna	Madhur	Laghu, ruksha	Tridoshaghna kaphahara	Shwas, kass, jwaraghna
Chitrak Plumbagozey- lanica	Katu	Ushna	Katu	Laghu, Ruksha, tikshna	Kaphavatashamak, pitta- vardhak, lekhan	Arsha, udar, agnimandya, skin diseases
Haridra Curcuma longa	Tikta, katu	Ushna	Katu	Ruksha, Laghu	Kaphavata- shamak,pittavardhak	Skindisease, raktadushti, pandu, prameh
Vijajsar Pterocarpus Marsupium	Kashay, tikta	Sheet	Katu	Ruksha, Laghu	Kaphashamak, pittahar	Prameh, ,krumi
Ajavayan	Katu, tikta	Ushna	Katu	Tikshna,Laghu	Kapha-vatashamak, Pitta- vardhak	Anaha, gulma, pliha, krumi
Musta	Tikta, katu, Kashay	Sheet	Katu	Laghu,ruksha	Kapha-pitta shamak,	Sangrahani, pittaj, jwara, Atisaar

Katujeere	Tikta, katu,	Ushna	Katu	Ruksha, tikshna, Laghu	Kapha-vatahara,pitta-shamak	Deepan, Pachan, Prame-haghn,
Methika	Katu	Ushna	Katu	Ruksha,laghu	Vata-shamak, Shleshmaghna	Diptikar, jwara-nashak, shothaghna, anuloman
Ushir	Tikta, mad-hur,	Sheet	Katu	Sara	Pitta-shamak	Mutrakruch-cha, hruday-gatiati-tivrata

TABLE #4: OBSERVATIONS: OBJECTIVE PARAMETERS

	AVERAGE BEFORE TREATMENT	AVERAGE AFTER TREATMENT	AVERAGE RE- DDUCTION	% RELIEF
Weight	75.04 Kg	73.22 Kg	1.82 Kg	2.45%
BMI	31.29 cm	31 cm	0.29 cm	0.92%
BMR	1689.50 Kcal	1690.09Kcal	0.59Kcal	0.03Kcal%
Fat %	37.84 cm	36.05 cm	1.34 cm	3.58%
Chest circumference	99.03 cm	97.20 cm	1.83 cm	1.84%
Abdomen circumference	87.4 cm	84.97 cm	2.45 cm	2.80%
Hip circumference	101.08 cm	94.27 cm	6.81 cm	6.73%
Mid arm circumference	31.08 cm	29.60 cm	1.48 cm	4.76%
Mid thigh circumference	54.76 cm	53.05 cm	1.26 cm	2.30%
Mid calf circumference	37.05 cm	37.20 cm	0.33 cm	0.61%

DISCUSSION

DISCUSSION ON REVIEW OF LITERATURE:

Atisthula Sthoola purush (over obese person) has been described in *charaka samhita sutra sthana 21 as one of the ashtanindita. (Ehakhalu shariramadhikrutyashtou purusha bhavanti; tad-yatha- atidirghashch, atirhaswasch, atiloma, aloma, atikrishnascha, atigourascha, atisthulascha, atik-rushascha eti.)*

Sthoulya (Obesity) is caused by over saturation, intake of heavy, sweet, cold and fatty diet, indulgence in day sleeping and exhilaration, lack of physical and mental exercises and genetic defect.

.Su.21/4

(Tadatisthoulamtisammurnadgurumadhurashitosnig dhopyogaadvyamadvayavayadivaswapnadharshnityat wadchintanadbijswabhavacchopjayate.)

The *sthoula* person has eight defects according to *charaka* – shortening of life span, hampered movement, difficulty in sexual intercourse, debility, foul smell, over sweating, too much hunger, and excessive thirst. Ch.su. 21/ 4

(atisthulsya tavadayushohraso javoprodha krichravayavayata dourbalyamm dourgandhyam swedabadha kshudhatimatra pipasatiyogascheti bhavantiashtoudosha.)

Samprapti of sthoulya:

Derangement of *agni* or digestive power leads to production of *ama*, which disturbs tissue fire of fatty tissue, and blocks the proper formation of further tissues. Improperly formed fatty tissue accumulates in the body causing *sthoulya*. Accumulated fat causes disturbance to the movement of *vata*, which in turn increases appetite. And the food consumed is

then converted into improper fatty tissue, creating vicious circle. Ch, su 21/5-9

(medasavrittamargtwadvayuhukoshthe visheshtah--

Ayathopachyotsaho narotisthoola uchyate.)

Treatment of *sthoulya*: for reducing the *sthoulya* heavy and nonsaturating (*guru cha apatarpana*) diet is advised. Food and drinks alleviating *vata* and reducing *kafa* and fat, having properties like *ruksha*, *lekshana*, *ushna*, *laghu*, are recommended. Physical exercises, mental work is also recommended. Ch. Su. 21 – 28

(vataghnanyapanani shlesmmedoharani cha-----
-----atisthoulyavinashaya samvibhajya prayo-
jayet)

DISCUSSION ON METHODOLOGY:

Taking account of all the above references in our study following schedule was designed.

Diet consisting cereals like *yava* and *kshudra dhanya* (barley, bajara, ragi, jowar, green gram, kulattha, rajgira), *rakta shali* were included for preparation of roties, krishara and daliya and *yushas*. *Yava* (barley) is specifically mentioned in the treatment of *sthoulya* as it is of *ruksha* property. Puffed rice (laja, and murmura) were included as evening snacks.

Vegetables having prominent rasas (tastes) like *katu*, *tikta*, *kasaya*, and properties like *laghu*, *ruksha*, hot, etc. were included. For example: snake guard, bottle gourd, bitter guard, lady finger, ridge gourd, drumstick, fenugreek, gherkins (tondli), French beans, amalaki, cucumber, carrots, cabbage, mint leaves, coriander, pomegranate, papaya, apple, guava, pears, musk melon, pineapple were used for vegetables, soups and salads.

For exercise cardio exercise like walking on treadmill and cycling were advised, and 1 hr yoga session was conducted comprising yogic postures, *suryanamaskaras*, *kapalbhati*.

DISCUSSION ON OBSERVATIONS:

In objective parameters Among 26 patients 6 (23%) patients weight reduced by 3-4kg, 7 (27%) patients weight reduced by 2-3 kgs, 6 (23%) patients weight

reduced by 1-2kgs, 6(23%) patients weight reduced by less than 1kg. Only 1 patient wt did not reduce at all. Hence average weight loss observed was 2.45kgs was observed.

Among 26 patients average BMI reduction was 0.92% was observed.

Among 26 patients average reduction of 6.87% was observed in hip circumference.

In subjective parameters *Ayatha upachaya* and *utsahani* symptom was moderately reduced. *Swedadhikya* symptom was reduced significantly. *Ayasen shwas* symptom reduced moderately, *angashithilata* was reduced mildly, *gatraseda* symptom was reduced moderately, *kshudhadhikya* symptom was moderately reduced.

CONCLUSION

- The management of *sthoulya* described in ayurvedic texts comprising medicines, dietary regulations, exercise schedule (cardio exercises and yoga sessions) as per *samprapti of sthoulya*, resulted as an effective treatment plan.
- Importance of healthy Dietary habits and *Vyayama* (physical exercise) has been proven effective.
- Holistic approach in the management of *sthoulya* showed highly significant results.
- Life style correction can be achieved by following treatment plan described in *charaka samhita*.

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