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 sthoulva. In Ayurveda, Sthoulya(obesity) has been dealt by different Acharyas regarding its causes, signs and symptoms, complications, prognosis and management. While Sushruta considers Sthoula(obese) as sadatuta. 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 sthoulva is considered comprising diet, medicine and exercise as described in the treatment of sthoulva in charaka samhita sutrasthana adhyaya 21. Duration of treatment is 10 days. Encouraging results were observed.

Key Words: 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 sthoulva (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 sthoulva is described as disease and sthoola(obese) person is considered as sadatuta.

NEED OF STUDY:

WHO survey shows 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 (sthoulva) 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 sthoulva could not be obtained.

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

Sthoulva (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 *sthouyahara 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. *(bhasravlohakarasya rechpurou ssambhrama, kapalbhatrvikhyata kafadoshavishoshani)*

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

**AIMS AND OBJECTIVES:**
As the study is a holistic approach the aims and objectives are considered as follows.

- To assess the effect of *Pathyahara*(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:** Swasthyakshan OPD of Dr. D.Y.Patil College of Ayurved and Researchcentre, pimpri Pune 18

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

**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, subj (vegetable) , chutney or pickle, and butter milk was given as per the scheduled timings.
- *Medohara (sthouyahara)* 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 se-
lected subjective parameters and the objec-
tive parameters.
- Following features of sthoulya were ac-
corded with appropriate grading for re-

**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), krishna-
  jeerak. 10mg each in 50 ml water was given.
- At 2 PM siddha jala prepared from ajwayan and jeerak 10mg each in 50ml wa-
ter was given.

**TABLE #1: DIET CHART**

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

**TABLE #2: VEGETABLES**

<table>
<thead>
<tr>
<th>NAME</th>
<th>RASA</th>
<th>VEERYA</th>
<th>VIPAKA</th>
<th>GUNA</th>
<th>DOSHAGHNATA</th>
<th>ROG-GHNATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottlegourd</td>
<td>Madhur</td>
<td>Sheet</td>
<td>Madhur</td>
<td>Guru, ruksha</td>
<td>Pittakaphaghna</td>
<td>Aruchi, mutral, klam</td>
</tr>
<tr>
<td>Snake gourd</td>
<td>Katu, tikta</td>
<td>Ushna</td>
<td>Madhur</td>
<td>Laghu, snigdha</td>
<td>Tridoshghna</td>
<td>Deepan, pachan, ruchya</td>
</tr>
<tr>
<td>Gherkins</td>
<td>Madhur</td>
<td>Sheet</td>
<td>Madhur</td>
<td>Laghu, snigdha</td>
<td>Tridoshghna</td>
<td>Lekhan, ruchya</td>
</tr>
<tr>
<td>Ridge gourd</td>
<td>Madhur, tikta</td>
<td>Sheet</td>
<td>-</td>
<td>-</td>
<td>Kaphavatahar, pittaghna</td>
<td>Deepan, jwar, klam</td>
</tr>
<tr>
<td>Bitter gourd</td>
<td>Tikta, katu</td>
<td>Sheet</td>
<td>Katu</td>
<td>Bhedi, laghu</td>
<td>Pittakaphaghna, Vatakar</td>
<td>Prameh, jwar, deepan</td>
</tr>
</tbody>
</table>
**TABLE #3: STHOULYAHARA CAPSULES AND MEDICATED WATER**

<table>
<thead>
<tr>
<th><strong>DRAVYA</strong></th>
<th><strong>RASA</strong></th>
<th><strong>VIRYA</strong></th>
<th><strong>VIPAKA</strong></th>
<th><strong>GUNA</strong></th>
<th><strong>DOSHA-GHNATA</strong></th>
<th><strong>ROGGAGH-NATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amalaki Phyllanthus Officinalis</td>
<td>Pan-chrasa, lavanvarjiti</td>
<td>Sheet</td>
<td>Madhur</td>
<td>Ruksha</td>
<td>Tridoshaghnata</td>
<td>Jwarghnata</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sara, hima</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haritaki Terminalia-chebula</td>
<td>Pan-chrasa, lavanvarjiti</td>
<td>Ushna</td>
<td>Madhur</td>
<td>Laghu, ruksha</td>
<td>Tridoshaghn, vatashamak</td>
<td>Rasayan, grahani, malavsh-tambh, jwär, arsha</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bibhitak Terminalia-beleria</td>
<td>Kashay</td>
<td>Ushna</td>
<td>Madhur</td>
<td>Laghu, ruksha</td>
<td>Tridoshaghn, kaphahara</td>
<td>Shwas, kass, jwarghn</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chitrak Plumbagozeylanica</td>
<td>Katu</td>
<td>Ushna</td>
<td>Katu</td>
<td>Laghu, Ruksha, tikshna</td>
<td>Kaphavatashamak, pittavardhak, lekhan</td>
<td>Arsha, udar, an, nimandya, skin diseases</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haridra Curcuma longa</td>
<td>Tikta, katu</td>
<td>Ushna</td>
<td>Katu</td>
<td>Ruksha, Laghu</td>
<td>Kaphavatashamak, pittavardhak</td>
<td>Skindis-ease, raktadushti, pandu, prameh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Vijaysar
Pterocarpus Marsupium

Kashay, tikta
Sheet
Katu
Ruksha, Laghu
Kaphashamak, Pittahar

Ajavayan
Katu, tikta
Ushna
Katu
Tikshna, Laghu
Kapha-vatashamak, Pittavardhak

Musta
Tikta, katu, Kashay
Sheet
Katu
Laghu, ruksha
Kapha-pitta shamak, Sangrahani, pittaj, jvara, Atisaar

Katujeere
Tikta, katu,
Ushna
Katu
Ruksha, tikshna, Laghu
Kapha-vatashara, pitta-shamak

Methika
Katu
Ushna
Katu
Ruksha, laghu
Vata-shamak, Shleshmaghna

Ushir
Tikta, madhur,
Sheet
Katu
Sara
Pitta-shamak

TABLE #4: OBSERVATIONS: OBJECTIVE PARAMETERS

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Average Before Treatment</th>
<th>Average After Treatment</th>
<th>Average Reduction</th>
<th>%Relief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>75.04 Kg</td>
<td>73.22 Kg</td>
<td>1.82 Kg</td>
<td>2.45%</td>
</tr>
<tr>
<td>BMI</td>
<td>31.29 cm</td>
<td>31 cm</td>
<td>0.29 cm</td>
<td>0.92%</td>
</tr>
<tr>
<td>BMR</td>
<td>1689.50 Kcal</td>
<td>1690.09 Kcal</td>
<td>0.59 Kcal</td>
<td>0.03 Kcal%</td>
</tr>
<tr>
<td>Fat %</td>
<td>37.84 cm</td>
<td>36.05 cm</td>
<td>1.34 cm</td>
<td>3.58%</td>
</tr>
<tr>
<td>Chest circumference</td>
<td>99.03 cm</td>
<td>97.20 cm</td>
<td>1.83 cm</td>
<td>1.84%</td>
</tr>
<tr>
<td>Abdomen circumference</td>
<td>87.4 cm</td>
<td>84.97 cm</td>
<td>2.45 cm</td>
<td>2.80%</td>
</tr>
<tr>
<td>Hip circumference</td>
<td>101.08 cm</td>
<td>94.27 cm</td>
<td>6.81 cm</td>
<td>6.73%</td>
</tr>
<tr>
<td>Mid arm circumference</td>
<td>31.08 cm</td>
<td>29.60 cm</td>
<td>1.48 cm</td>
<td>4.76%</td>
</tr>
<tr>
<td>Mid thigh circumference</td>
<td>54.76 cm</td>
<td>53.05 cm</td>
<td>1.60 cm</td>
<td>2.93%</td>
</tr>
<tr>
<td>Mid calf circumference</td>
<td>37.05 cm</td>
<td>37.20 cm</td>
<td>0.33 cm</td>
<td>0.61%</td>
</tr>
</tbody>
</table>

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 (Eha Khalu shairiramadhirutarou purusha bha- vanti; tadyatha- atidirghashch, atirhaswasch, atiloma, aloma, atikrishnascha, atigourascha, atisthulascha, atikrunchascha 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(Tadatisthoulamtisammurnadagurumad hurashtosnigdhopyogaadyamadyavavayadiva swapnadharshniyatwadchintanadbijswabha- vacchopjayate.)

The sthoola 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 krichrayavayata dourbalyamm dour- gandhiyam swedabadha kshudhatimatra pi- pasatiyogascheti 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 (medasavrittamargtwadvayukoshthe vish- eshtah------------------------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, lekhana, ushna , laghu, are recommended. Physical exercises, mental work is also recommended. Ch. Su. 21 – 28 (vataghnanyaapanani shlesmmedoharani cha--- ------------------------atisthoulyavinashhaya samvib- hajya prayojayet)

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,pomegranet, 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 objectives 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 patients wt did not reduced 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 utsahahani symptom was moderately reduced. Swedadhikya symptom was reduced significantly. Ayasen shwas symptom reduced moderately, angashithilata was reduced mildly, gatrasada symptom was reduced moderately, kshudhadhikya symptom was moderately re-duced.
CONCLUSION:

- The management of *sthoulya* described in ayurvedic texts comprising medicines, dietary regulations, exercise schedule (cardio exercises and yoga sessions) as per *sam-prapti 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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