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### “MANAGEMENT OF STHAULYA (OBESITY) THROUGH AYURVEDA AND YOGA”

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#### **Abstract**

*Sthaulya* (obesity) has become so common in the World's population that it is beginning to replace undernutrition and infectious diseases as the most significant contributor to ill health. It exacerbates a large number of health-related problems, both independently and in association with other diseases. Therefore, this study was carried out to evaluate effect of *Agnimanthadi* compound in the patients of *Sthaulya*. For this purpose 83 patients of *Sthaulya* were selected out of which 15 patients were dropped out. Remaining 68 patients were treated in two groups. Among these, 38 patients of *Sthaulya* were treated with *Agnimanthadi* compound administered orally in the dose of four capsules of 500 mg three times a day with lukewarm water before meal. Remaining 30 patients of *Sthaulya* were kept as placebo control and were administered orally two placebo capsules of 500 mg filled with starch, three times a day with lukewarm water before meal. The duration of the treatment in both the groups was 7 weeks with follow-up for 2 months. Analysis of overall effects of both the groups showed that *Agnimanthadi* compound provided markedly better reduction in weight, BMI and other signs and symptoms in the patients of obesity in comparison to the control group. Entire world is expecting a fruitful

management protocol and prevention of obesity through Ayurveda and Yoga. Keeping this fact in view, this paper is an effort to understand etiology, pathogenesis and treatment strategy of obesity through Ayurveda and Yoga

Keywords – *sthoulya*, obesity , yoga , *Angnimanthadi yoga*

## INTRODUCTION

Obesity is one of the most serious public health problems of the 21st century. It is a complex, Multifactorial, and largely preventable disease, affecting, along with overweight, over a third of the world's population today.[2, 3]If secular trends continue, by 2030 an estimated 38% of the world's adult population will be overweight and another 20% will be obese.[4]Obesity is typically defined quite simply as excess body weight for height, but this simple definition belies an etiologically complex phenotype primarily associated with excess adiposity, or body fatness, that can manifest metabolically and not just in terms of body size.[5] Obesity greatly increases risk of chronic disease morbidity—namely disability, depression, type 2 diabetes, cardiovascular disease, certain cancers—and mortality. Childhood obesity results in the same conditions, with premature onset, or with greater likelihood in adulthood.[5] Thus, the economic and psychosocial costs of obesity alone, as well as when coupled

with these comorbidities and sequelae, are striking.

## AIMS AND OBJECTIVES

- To find out the factors involved in Obesity as per Ayurvedic principles.
- To develop the concept of Obesity along with management strategies in terms of Ayurveda.

## MATERIALS AND METHODS

This study based on the literature review of the relevant Ayurvedic original texts with commentaries, necessary and valid interpretation, analysis made by different scholars. The pathogenesis of *Sthoulya* (Obesity) is obtained by searching various medical research databases like PubMed, Google scholar and other national research databases. The study of various Ayurvedic texts were made critically and an effort is made to understand the concept of obesity along with management strategies.

Obesity is a chronic disease that is highly prevalent and that poses a serious risk for the development of diabetes mellitus, hypertension, cardiovascular diseases, musculoskeletal disorders especially osteoarthritis, and certain forms of

cancer.[6] It develops gradually and often Obesity is not only medical risk factors but also a serious social, psychological & economic problem. Obesity has taken place of an epidemic, still majority of people are not aware of the factors that welcomes this problem and the results that are obtained after one gets into this problem. At least 2.6 million people each year die as a result of being overweight or obese.[7]

According to the W.H.O., overweight and obesity are the fifth leading risk for global deaths.[8] Overall more than one in ten of the world's adult population are obese and women are more likely to be obese than men.[9]

It is the consequence of intake of energy exceeding its expenditure over a considerable period. The mismatched habit of eating & exercise leading to abnormal accumulation of fat within the body is the prime cause behind the vicious circle of obesity. Facts about overweight and obesity[10]

Some recent WHO global estimates follow.

- WHO declared obesity as global epidemic giving rise to new term —Globesity”.
- In 2016, more than 1.9 billion adults aged 18 years and older were overweight.

persists throughout life.

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.
- The worldwide prevalence of obesity nearly tripled between 1975 and 2016.
- In 2016, an estimated 41 million children under the age of 5 years were overweight or obese.
- Once considered a high-income country problem, overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings.

#### Classification of Body Weight in Adults

The current most widely used criteria for classifying obesity is the body mass index (BMI; body weight in kilograms, divided by height in meters squared), which ranges from underweight or wasting (<18.5 kg/m<sup>2</sup>) to severe or morbid obesity (≥40 kg/m<sup>2</sup>). In both clinical and research settings, waist circumference, a measure of abdominal adiposity, has become an increasingly important and discriminating measure of overweight/obesity.[11]

Abdominal adiposity is thought to be primarily visceral, metabolically active fat surrounding the organs, and is associated

with metabolic dysregulation, predisposing individuals to cardiovascular disease and related conditions.[12]

Per internationally used guidelines of metabolic syndrome—a cluster of dysmetabolic conditions that predispose individuals to cardiovascular disease of which abdominal adiposity is one component—a waist circumference resulting in increased cardiovascular risk is defined as  $\geq 94$  cm in European men, and  $\geq 80$  cm in European women, with different cut points recommended in other races and ethnicities (e.g.,  $\geq 90$  and  $\geq 80$  cm in men and women, respectively, in South Asians, Chinese, and Japanese).[12,13]

Concept of *SthaulyaRoga* in Ayurveda[14]  
*SthaulyaRoga* of Ayurveda comes under the heading of *Medaroga* which results due to dysfunction of *Medadhavagni* (factor responsible for nourishment/metabolism of *Medadhatu*). Further, its description is available in *AshtaninditaPurushaAdhyaya* of Charak Samhita (chapter dedicated to 8 types of undesirable physiques where obese are criticized by society because of inappropriate body size). Ayurveda also highlights *Sthaulya* as -

1. *Kaphapradhanaja* (predominately caused due to vitiated *kaphadosa*)

2. *Medapradoshaja* (*Meda* is dhatu/ tissue which is predominately affected)

3. *Bahudosaavastha* (multi-factorial condition)

4. *Santarpanjanyavyadhi* (disease caused due to affected anabolism/ over nutrition). Mythological background[14]

In ancient Indian literature, the auspicious figure of Lord Vinayak (Ganesh) i.e. huge abdomen and short stature has been considered as one of the first representation of *Sthaulya*.

The later reference of *Sthaulya* can be traced to *Rakhsasa* (demonic character). All the *Rakhsasas* were possess to a *SthaulaDeha* (Obese/ huge body size).

*Atisthaulya* (obesity) is considered as one of the eight despicable conditions as described by Acharya Charaka.[15]

A person in whom there is excessive accumulation of *Meda* (fat/adipose tissue) and *Mamsa* (flesh/muscle tissue) leading to flabbiness of hips, abdomen, and breast has been categorized as *Atisthula*. [16]

*Medas* is body tissue predominant in *Prithvi* and *ApaMahabhutas* similar to *KaphaDosh*[17] It is characterized by *Snigdha* (unctuous), *Guru* (heavy), *Sthula* (space occupying), *Picchila* (slimy), *Mridu* (tender/soft) and *Sandra* (dense) *Guna* (qualities).[18] *Sneha* (oleation), *Sweda* (production of sweat), *Drudhatva* (compactness), and *Asthipushti*

(nourishment of bones) are the main function of *Medodhatu*. [19] Consumption of *Guru* (heavy to digest), *Sheeta* (cold), *Snigdha* (unctuous), *MadhuradiKaphavardhaka* (sweet and Kapha increasing) drugs along with lack of exercise and sedentary life style result in excessive nourishment of *Medas* while other bodily elements (*Dhatu*s) are deprived of nourishment. Disproportionately increased *Medas* is accountable for several serious consequences reported in Charaka Samhita like *Ayuhrasa* (decrease of life span), *Javoparodha* (decrease in enthusiasm and activity), *Krichravyavayata* (difficulty in sexual act), *Dourbalya* (decrease of strength), *Dourgandhya* (bad odor), *Swedabadha* (excess perspiration) and *KshutPipasadhikya* (excessive hunger and thirst) [20] *Mandotsaham* (less activity referring to sedentary lifestyle), *Atisnigdham* (excessive intake of fatty substances), *Atisthauilyam* (gross obesity), and *Mahashanam* (excessive eating) constitute for causation of *Prameha*, [21] (urinary diseases including Diabetes) and these etiological factors may also initiate Dyslipidemia. The various etiological factors like *Madhura Rasa* (sweet objects), *Mamsa* (meat), *Avyayama* (lack of exercise),

*Divaswapna* (day sleep) causes increase of *MedhoDhatu* in our body, and as a result *Srotoavaroda* occurs. *Vata* is specially confined to *Kosta* and causes *JatharagniVridhhi* and the symptoms of *Sthulata* (obese) i.e, *Atipipasa* (excessive thirst) *Atikshudha* (excessive hunger), *Alasya* (lethargy) occurs which are very similar to the symptoms as described in obesity. [20]

Management of Obesity (Chikitsa of *SthauilyaRoga*)

Line of Treatment

*Shamana* (Palliative) Treatment [22]

- Langhan* (Fasting).
- Amapachan* (oral use of digestives to augment the fat metabolism).
- Ruksha Udwartan* (Dry medicated powder massage).
- Heavy and non-nourishing diet/items like Honey, salad etc are advised.
- Physical exercises, *Yogasana* & *Pranayam* is also recommended.

*SamshodhanaChikitsa* (Purificatory procedures) [22]

- Vaman* (Therapeutic emesis).
- Virechan* (Therapeutic purgation).
- Lekhanvasti* (Medicated enema) are advised for the management of *Sthauilya*.

Acharya Charaka has mentioned *Lekhaniya dashemani Dravyas* [20]

– a group of 10 drugs, these drugs principally perform the *Lekahana Karma*

of excess and abnormal *Meda*, causing weight reduction as well as relief in other signs and symptoms. These drugs are given below

1. *Mustaka*
2. *Kustha*
3. *Haridra*
4. *Vaca*
5. *Ativisha*
6. *KatuRohini*
7. *Chitraka*
8. *Chirabilva*
9. *Daruharidra*
10. *Haimvati (Karanj)*

Some useful herbs/ classical formulation which are useful for the management of Sthaulya (Obesity):

*Triphala*[23] : It is combination of 3 healings herb, their fruits are used. They are as follows -

*Amalaki* (*Embllicaofficinalis*), *Haritaki* (*Terminalia chebula*) and *Bibhitaki* (*Terminalia belerica*).

Effects of *Triphala* - all dosha balancing, very good bio-cleanser, purify blood and a rejuvenating herb. It decreases excessive *Meda*, reduces serum cholesterol, reduces the plaque formation in the arteries, high blood pressure, provides remarkable protection in CVD.

*Guggulu* (*Commiphoramukul*)-Useful part is Resin, Old *Guggulu*- scraping quality. It is strong detoxifying & cleansing &

rejuvenating herb. Lower cholesterol and triglycerides and maintain or improve HDL/LDL ratio, anti-inflammatory effects. *Guggulu* is mentioned as the best for the disorder of *Vata* and *Meda*. So, *Guggulu* can be used for the treatment of *MedavritaVata* condition.

*Vidanga* (*Embeliaribes*) - *Vatakapha* pacifying, *agni* stimulating, *Vidanga* allays *vata*, it is diuretic, a mild purgative and kills worms, it is an appetizer, digestive, blood purifier and rejuvenator.

*Vrikshamla* (*Garcinia indica*)[24] *Vrikshamla* helps in controlling cholesterol and triglycerides. One of its compounds, hydroxycitric acid, blocks the key enzyme ATP-citrate lyase which converts carbohydrates into fatty acids. It supports healthy weight by stimulating fat and carbohydrate metabolism. *Vrikshamla* also prevents unhealthy accumulation of fat in the body. Serotonin, is an important chemical in weight control as it gives a feeling of satiety and fullness, thus reducing overeating. *Vrikshamla* is an herb that helps increase the availability of serotonin in the brain.

*Shilajatu*-Mineral pitch Mainly *Vata* and *Kapha* balancing. It decreases excessive fat, very helpful in enhancing sexual powers. It is anti inflammatory and antioxidant.

*Madhu* (honey) has *Guru* and *Ruksha* properties; hence it is ideal one for management of *Sthaulya*.

Some common classical preparations used in obesity

- NavakGuggulu*
- MedaharaGuggulu*
- TriphalaGuggulu*
- Arogyavardhini*
- Laoharista (B.R)*
- LohaRasayan (B.R)*
- Vidangadiloha (B.R)*
- Shilajit (R.R.S.; A.H)*
- Traysunadyaloha (Y.R)*
- Trimurthi Rasa (Y.R)*
- Agnikumar Rasa (R.R.S)*
- Medahara Rasa (Rasakamdhenu)*
- MustadiKwath*
- VidangadiChurna*

Note: Adjuvant (Anupan) - lukewarm water and honey.

Lekhan Basti in Obesity

- Lekhan Basti is a type of enema (given through the ano-rectal route) which cause the excoriation of the excessive fat from the body.

The drugs which are used in the preparation of LekhanBasti are Triphala decoction, Honey, Gomutra, Saindhav salt, Hing, Yavakshar, Kasis, Shilajatu which are all fat-reducing by virtue of their properties etc.

- LekhanaBasti has *Sneha, Meda, Kleda Upashoshana, Deepana, Pachana, Tikshna, Lekhana, Ruksha, and Kapha-Vatahara* properties by virtue of its *Rasapanchaka* dominance, which has resulted in the reduction of the following:

flabbiness in hip-abdomen-breast (*Angachalatva*), laziness/lack of enthusiasm

(*Alasya/Utsahahani*), excess sleep (*Nidradhikya*), excess sweating

(*Swedadhikya*), body odor (*Daurgandhya*), oily body luster (*Snigdhangata*), heaviness

in the body (*Angagaurava*), and fatigue (*Gatrasada*). Reduction in dyspnea on

exertion (*Kshudrashwasa*) and joint pain (*Sandhishoola*) can also be attributed to the

*Srotoshodhana* (cleansing of body's micro-channels) caused by Basti,[24]thus

removing *AvaranajanyaVataprakopa*. Weakness (*Daurbalyata-AlpaVyayama*) is

associated with increased weight.[25]

Thus, reduction in the weight significantly has contributed to the reduction in

weakness. The superiority of the standard control drug in reducing excess sleep may

be due to its dominance of *Laghu-RukshaGuna, Katu-Tikta-*

*Kashaya Rasa, and UshnaVirya*, causing reduction in excess sleep by

reducing *Kapha*. Basti being best *Vatahara*. [25]

treatment the reduction in excess thirst (*Atipipasa*), excess hunger (*Atikshudha*) may be attributed to correction of vitiated Vayu which is known to cause *JatharagniSandhukshana*, [25] and Trisha.

Yoga/ Exercise Prescription [26]

- What kind of Yoga/ exercise? – Best exercise is Asana/ Pranayama, brisk walking, jogging, bicycling, swimming etc.
- How often? – 5 times per week is preferable with not more than 2 days rest between exercise day.
- How long? – 15 to 60 minutes is advised depending on the person capacity and the type of yoga asana/ exercise.

Benefits of Yoga/ Pranayam and exercise [26]

- Increase burning calories so reduce body weight.
- Improves circulation. Toning of heart muscles.
- Lowers plasma glucose levels and increase insulin sensitivity.
- Lowers blood pressure.
- Improves cardiac fitness.
- Lowers lipid levels.
- Relives STRESS – Mental sense of well being and Relaxation.

Yogic breathing or Pranayama for Obesity [27]

- It is said in the yogic text Hatha Yoga Pradeepika and others that practice of

*pranayama* make the body slim and fit. *Pranayama* can help to burn excessive fat in the body.

- There are two pranayama practices that are good for weight reduction –

*Kapalabhati* and *AnulomVilom* Pranayama.

- *Kapalabhati* or the skull cleansing breath involves forceful exhalation and normal inhalation. This is done in a comfortable sitting posture with erect spine. The belly is drawn in with every forceful exhalation and filled again with normal inhalation. This is known to reduce the fat around the belly.

- *AnulomVilom Pranayama* or the alternate nostril breathing technique also helps to reduce weight. This pranayama is said to generate heat in the body and to burn down excessive fat.

Yoga Asana [27]

*Suryanamaskar*, *Pawanmuktasana*, *Bhujangasana*, *Shalabhasana*, *Dhanurasana*, *Pachimottanasana*, *ArdhaVakrasana*, *Halasana*, *Ardhachakrasana*, *Naukasana*, *Trikonasana*, *Veeerbhadrasana*, *Ustrasana* etc. *Shatkarma* [27]

The other hatha yoga practices which are most helpful in obesity are the *Shatkarmas*, or internal cleansing techniques. These include: *Shankhaprakshalana* (cleansing of the



entire alimentary canal, *laghu* (short) *Shankhprakashana*, *Kunjil* (cleaning practice for the stomach), and *Neti* (cleansing of the nasal passages). These practices clean our body internally and keep it free from pollutants which are absorbed from the air, food and water. If done regularly, they also balance our bodily rhythms at a subtle level. The *Shatkarmas* also help to balance our emotions and produce a feeling of lightness and satisfaction with our body. After practicing the *Shatkarma*, we feel as if the body/mind system is rid of extra weight, physically as well as mentally.

#### Food habits

- The lunch and dinner timings should be fixed
- The time difference between two meals should be 4 hours
- Low fat meal, with fiber rich vegetables, green salad and fruits should be taken.

Reduce fats, excess calories, sweets, milk, butter, cheese etc in meals.

#### Other useful habits

- Do not sleep for more than 6 to 7 hours. No day sleeping.
- Try to stop addictions such as smoking, drinking alcohol or any other drugs.
- Say no to package foods, fast/ junk food like Momo, Chowmin, cake, Cold drinks, Ice cream etc
- Periodic fasting (Once in a fortnight)

- Always drink warm water
- Treat the associated disease

### CONCLUSION

*Sthaulya* (obesity) is a predominant metabolic disorder, which is described by Charaka in *AshtaninditaPurusha*. Sedentary life, lack of exercise, faulty food habits, urbanization, psychological factors along with genetic predisposition play a major role in aetiopathogenesis of *Sthaulya*. KaphaPrakriti persons are more prone to become obese (*Sthaulya*). Some herbal drugs/ classical Ayurvedic preparation like *Guggulu*, *Vrikshamla*, *ShilajitTriphala*, *Arogyavardhini*, *NavakGuggulu* etc. along with Yoga & Pranayam and Panchakarmatherapy is found very effective for management of Obesity.

By adopting simple life style and healthy food habits anyone can enjoy the life optimally without having lifestyle diseases like Obesity. Ayurveda and yoga is a better, easy and healthy way to fight obesity and other lifestyle disorders. Further exploration of other treatment modalities and their validation through research is necessary.

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