

MANAGEMENT OF STHAULYA (OBESITY) THROUGH AYURVEDA AND YOGA

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ABSTRACT

Obesity is a disease of all age group within the people of high socio-economic status, specifically in of Urban Communities. WHO declared obesity as global epidemic giving rise to new term “**Globesity**”. In 2016, WHO global estimated as about 13% of the world’s adult populations (650 million adults & 41 million children) were obese. Obesity is a complex, multi factorial disease which invites several pathological complications like Hypertension, Type 2 Diabetes mellitus, atherosclerosis, infertility, hepatic steatosis/ fatty liver, endocrine abnormalities, obstetric complications, osteoarthritis of weight bearing joints, certain types of Cancers, and possibly immunological impairment as well as it hampers the cosmetic value of the affected person. It has deleterious effects both on body and mind. Obesity i.e. *Sthaulya Roga* of Ayurveda comes under the heading of *Medaroga* which results due to dysfunction of *Meda dhatvagni* (factor responsible for nourishment/ metabolism of *Meda dhatu*) and is

considered as metabolic disorder. Further, its description is available in *Ashtaunindita Purusha Adhyaya* of Charak Samhita (chapter dedicated to 8 types of undesirable physiques where obese are criticized by society because of inappropriate body size). Rapid increase of prevalence rate of obesity suggest all branches of medicines to understand the etiology and pathogenesis of this disease as per the basic fundamental principles of concerned health

sciences and to provide suitable management protocol either by pharmacological or non-pharmacological method to fulfill the global demand. 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: *Ayurveda*, *Medaroga*, Obesity, *Sthoulya*, *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^[1], 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 persists throughout life.

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. 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 ($<18.5 \text{ kg/m}^2$) to severe or morbid obesity ($\geq 40 \text{ kg/m}^2$). 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 ≥ 94 cm in European men, and ≥ 80 cm in European women, with different cut points recommended in other races and ethnicities (e.g., ≥ 90 and ≥ 80 cm in men and women, respectively, in South Asians, Chinese, and Japanese).^[12,13]

Concept of *Sthaulya Roga* in Ayurveda^[14]

Sthaulya Roga of Ayurveda comes under the heading of *Medaroga* which results due to dysfunction of *Meda dhatvagni* (factor responsible for nourishment/ metabolism of *Meda dhatu*). Further, its description is available in *Ashtaunindita Purusha Adhyaya* 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. *Kapha pradhanaja* (predominately caused due to vitiated *kapha dosa*)
2. *Meda pradoshaja* (*Meda* is *dhatu*/ tissue which is predominately affected)
3. *Bahu dosa avastha* (multi-factorial condition)
4. *Santarpanjanya vyadhi* (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 *Sthaula Deha* (Obese/ huge body size).

Atisthauya (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 *Apa Mahabhutas* similar to *Kapha Dosha*.^[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), Madhuradi Kaphavardhaka (sweet and Kapha increasing) drugs along with lack of exercise and sedentary life style result in excessive nourishment of Medas while other bodily elements (Dhatus) 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), Krichravayavayata (difficulty in sexual act), Dourbalya (decrease of strength), Dourgandhya (bad odor), Swedabadha (excess perspiration) and Kshut Pipasadhikya (excessive hunger and thirst).^[20] Mandotsaham (less activity referring to sedentary lifestyle), Atisnigdhama (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 *Medho Dhatu* in our body, and as a result *Srotoavarodha* occurs. *Vata* is specially confined to *Kosta* and causes *Jatharagni Vridhhi* 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 Sthaulya Roga*)

Line of Treatment

Shamana (Palliative) Treatment^[22]

- Langhan (Fasting).
- Ama pachan (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.

Samshodhana Chikitsa (Purificatory procedures)^[22]

- Vaman (Therapeutic emesis).

- Virechan (Therapeutic purgation).
- Lekhan vasti (Medicated enema) are advised for the management of Sthaulya.

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. *Katu Rohini*
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 (Emblica officinalis)*, *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 (Commiphora mukul)-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 *Medavrita Vata* condition.

Vidanga (Embelia ribes) - *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

- *Navak Guggulu*
- *Medahara Guggulu*
- *Triphala Guggulu*
- *Arogyavardhini*
- *Laoharista (B.R)*
- *Loha Rasayan (B.R)*
- *Vidangadi loha (B.R)*
- *Shilajit (R.R.S.; A.H)*
- *Traysunadya loha (Y.R)*
- *Trimurthi Rasa (Y.R)*
- *Agnikumar Rasa (R.R.S)*
- *Medahara Rasa (Rasakamdhenu)*
- *Mustadi Kwath*
- *Vidangadi Churna*

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 *Lekhan Basti* are *Triphala* decoction, Honey, *Gomutra*, *Saindhav* salt, *Hing*, *Yavakshar*, *Kasis*, *Shilajatu* which are all fat-reducing by virtue of their properties etc.
- *Lekhana Basti* 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 *Avaranajanya Vataprakopa*. Weakness (*Daurbalyata-Alpa Vyayama*) 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-Ruksha Guna*, *Katu-Tikta-Kashaya Rasa*, and *Ushna Virya*, 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 *Jatharagni Sandhukshana*,^[25] and *Trisha*.^[25]

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 *Anulom Vilom 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.
- *Anulom Vilom 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, Ardha Vakrasana, Halasana, Ardha Chakrasana, Naukasana, Trikonasana, Veerabhadrasana, 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) *Shankhaprakshalana*, *Kunjal* (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 *Ashtanindita Purusha*. Sedentary life, lack of exercise, faulty food habits, urbanization, psychological factors along with genetic predisposition play a major role in aetiopathogenesis of *Sthaulya*. *Kapha Prakriti* persons are more prone to become obese (*Sthaulya*). Some herbal drugs/ classical Ayurvedic preparation like *Guggulu*, *Vrikshamla*, *Shilajit Triphala*, *Arogyavardhini*, *Navak Guggulu* etc. along with *Yoga & Pranayam* and *Panchakarma* therapy 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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