



## **Etiopathogenesis and Management of Sthulya W.S.R to Obesity - A Conceptual Study**

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### **ABSTRACT**

Physical and mental disorders that are mostly brought on by an unhealthy lifestyle are referred to as lifestyle disorders. The most often reported medical ailments include metabolic disorders such as obesity and diabetes brought on by an improper diet, as well as cardiac diseases. These days, obesity is one of the most prevalent problems. In India in the twenty-first century, obesity has become an epidemic, impacting 5% of the population with morbid obesity. It results from a confluence of factors including high food intake, inactivity, genetic predisposition, endocrine problems, drug side effects, or mental health issues.

Obesity negatively impacts one's health and shortens one's life expectancy. In many places, it has reached epidemic proportions despite ongoing efforts to develop remedies. The standard goals for a beneficiary's life and a long, healthy life are also described in Ayurveda. *Sthulya roga*, a condition caused by a disturbance of the *meda* and *kaphaja doshas*, is a similar type of illness mentioned in Ayurveda. Many food items that balance kapha and *meda* are mentioned in Ayurveda, such as barley, aged rice, oats, and Bengal gramme. Food items high in fibre and low in energy can effectively manage

obesity. Numerous studies have shown that fruits and vegetables that contain phytochemicals that reduce inflammation can help combat obesity. Adults in socioeconomically disadvantaged groups, those with low levels of education, and those with a history of migration are most at risk of developing physical or mental lifestyle diseases. As a result, Ayurveda plays an important role in managing the lifestyle disorder obesity (*Sthaulya*).

### Keywords

Obesity, sthulya roga, management, Diet, lifestyle disorder.

### INTRODUCTION

A condition of excess adipose tissue mass is obesity. An excessive amount of body weight, including muscle, bone, fat, and water, is referred to as "overweight." A sedentary lifestyle and excessive consumption of energy-dense meals are two major environmental and behavioural variables contributing to the rising incidence of obesity.<sup>1</sup>

World Health Organization defines good health as a state of complete physical mental and social well-being and not merely an absence of disease or infirmity.<sup>2</sup> This resembles the definition of Swasthya mentioned in classical texts of Ayurveda which is- "Sama Dosha Sama Agnischa Sama Dhatu Mala Kriya Prasanna Atma Indriya Manaha Swastha Itiabhidheeyate" that means one is in perfect health when the three Doshas (Vata, Pitta and Kapha), the digestive fire (digestion, assimilation and metabolism), all the body tissues, components (Dhatus) all the excretory functions (the physiological functions of urination and defecation) are in perfect order mind, senses and spirit.<sup>3</sup> Health is a relationship between mind, soul and body, but

nowadays the synchronization between mind and body is disturbed which results in lots of physical, mental and psychological issues. Obesity is one of the burning health issues of today's time, even children are no exception. Sthaulya is 'Santarpan Janya Vikara' an over nutritional disorder.<sup>4</sup> In Ayurveda Sthaulya is regarded as Medoroga, a disorder of Meda Dhatu, adipose tissue and fat metabolism. Atisthulya has been described in various Samhitas, as Acharya Charka has described Sthaulya among the Asta Ninditha Purusha,<sup>5</sup> Santarapanajanya Vikara, Sleshma Nanatmaja,<sup>6</sup> and Sansodhana Yogya.<sup>7</sup> A person in whom there is excessive accumulation of Meda (Fat/Adipose tissue) and Mansa (Flesh/Muscle tissue) leading to looseness of hips, abdomen, and breast has been categorized as Atisthula.<sup>8</sup> Meda Dhatu is the body tissue dominating Prithvi and Apa Mahabhutas similar to Kapha Dosha.<sup>9</sup> In Ashtanga Hridaya Acharya Vagbhata described Sthaulya in Dwividopakramaneya Adhyaya.<sup>10</sup> In Kashyap Samhita, Sthaulya is considered one among the Astanindita Purusha while explaining anthropology. In Madhav Nidana, Madhavakar has elaborated on the pathophysiology of the Sthaulya.<sup>11</sup> Sthaulya is abnormal and has an excess accumulation of Medodhatu and Mamsadhatu. Sthaulya can also occur due to Beejdosha. In the pathogenesis of Sthaulya, all three Doshas are vitiated especially Kledaka Kapha, Pachaka Pitta, Samaana and Vyana Vayu are responsible for the Samprapti (aetio pathogenesis) of Sthaulya.<sup>12</sup> WHO estimates that at least 500 million adults are obese in 2008, with higher rates among women than men, and the rate of obesity also increases with age. In the puberty phase and

adolescent, hormonal changes cause more fat accumulates in body particularly in females so women are more prone to be obese than men. The persons of developed countries are more suffer than developing countries. The present review explores the aetiology, pathophysiology, and therapy of obesity using Ayurvedic and Yoga approaches.

## CONCEPTUAL STUDY

### 1. Causes of Obesity

Obesity is most commonly caused due to the combination of excessive food energy intake, and lack of physical activity. A limited number of cases are primarily due to genetics, medical reasons, or psychiatric illness. In contrast, increasing rates of obesity in the community are felt to be due to an easily accessible and palatable diet, and increased sedentary lifestyle.<sup>14</sup> Some other identified possible contributions to recent increase of obesity are:

- insufficient sleep,
- endocrine disruptors (environmental pollutants that interfere with lipid metabolism),
- decrease variability of ambient temperature
- decreased rates of smoking, because smoking suppresses appetite,
- increased use of medications that can cause weight gain (e.g., atypical antipsychotics),
- proportional increases in ethnic and age groups that tend to be heavier,
- pregnancy at a later age (which may cause susceptibility to obesity in children),
- epigenetic risk factors passed on generationally,
- natural selection for higher BMI

- assertive matting led to increased concentration of obesity risk factor

Ayurveda describes many etiological factors of *Sthaulya roga*, which are related to all aspects at life and affect the body.<sup>15</sup> These factors are classified into.

- *Aharatmaka Nidana* (Dietary)
- *Viharatmaka Nidana* (Regimens)
- *Manas Nidana* (Psychological

### *Aharatmaka Nidana*

- *Ati sampurana* (Over eating)
- *Santarpana* (over nourishing)
- *Guru Aharasevana* (Excessive consumption of Heavy food)
- *Madhura Aharasevana* (Excessive consumption of sweet food)
- *Snigdha Aharasevana* (Excessive consumption of unctuous food)
- *Sleshmala Aharasevana* (Kapha increasing food)
- *Navannasevana* (Usage of fresh grains)
- *Nava madya sevana* (Usage of fresh alcoholic preparation)
- *Gramya Rasasevana* (Usage of domestic animal's meat & soups)
- *Mamsa sevana* (Excessive use of meat)
- *Paya Vikar sevana* (Excessive usage of milk and it's preparations)
- *Dadhi Sevan* (Excessive use of curd)
- *Sarpi sevana* (Usage of Ghee)
- *Ikshu Vikara sevana* (Usage of sugarcane's Preparations)
- *Guda Vikara sevana* (Usage of jaggery's preparations)
- *Shali sevana* (Excessive use of Rice)
- *Godhum sevana* (Excessive use of wheat).

### Viharatmaka Nidana

- *Avyayam* (Lack of physical exercise)
- *Avyavaya* (Lack of sexual life)
- *Divaswap* (Day's sleep)
- *Asana Sukha* (Luxurious sitting)
- *Bhojanotar Nidra* (Sleeping soon after meal).

### Manasvyaparatomaka Nidana

- *Harshnityatvat* (Uninterrupted cheerfulness)
- *Achintanat* (Lack of anxiety)
- *Manasonivritti* (Relaxation from tension)
- *Priyadarshana* (Observations of beloved things)

## 2. PATHOGENESIS OF OBESITY

The three main factors involved in the pathogenesis of obesity:

- Excessive lipid deposition
- Diminished lipid mobilization
- Diminished lipid utilization

Excessive lipid deposition is due to either increased food intake, hypothalamic lesions, adipose cell hyperplasia or hyper lipogenesis. Increased food intake in form of carbohydrates, proteins, and fats by metabolic process lastly converts in fat and get stored at fat depots. Diminished lipid mobilization is due to either decrease lipolytic hormones or defective cells or abnormality of autonomous innervations. Thyroxin and adrenaline stimulate mobilization of unsaturated fatty acids from adipose tissue, abnormality of these two causes diminished lipid mobilization and excessive lipid deposition ultimately leads to obesity. Diminished lipid utilization is due to ageing, defective lipid oxidation, defective thermogenesis or inactivity. It is the main pathology in middle age obesity.<sup>16</sup> Eight consequences of sthulata as described in Charak Samhita<sup>17</sup>

- Reduced life span
- Laziness
- Difficulty in sex
- Weakness instead of having good weight
- Smelling body
- perspiration
- increased appetite
- increased thirst.

## 3. Measurement of obesity<sup>18</sup>

It is very easy to label a person as an obese, because in most of the cases it can be detected by visual inspection. However number of factors are needed to be considered to arrive at the conclusion, it can be assessed in several ways which are mentioned as follows:

Weight and Height ratio, Measurement of skin-fold thickness, BMI, Circumference ratio (Waist/Hip ratio), Ultra sound, Computed tomography etc. The measurement of body circumferences with a measure tape provides the same advantages of portability, ease and acceptability as height-weight measurement. Waist circumference is the minimum circumference between the costal margin and iliac crest, measurement in the horizontal plane, with the subject standing. Hip circumference is the maximum circumference in the horizontal plane, measured over the buttocks.

## MANAGEMENT OF OBESITY

- The primary focus of dietary approach in obese is to reduce overall calorie consumption.
- If calorie consumption is less than the calorie intake in daily routine, then the calories are accumulated in the form of fats.

- Increase in fat reduces body movements, which again increases the weight. So as to reduce the fat one must control the food habits.
- Foods with low-energy density include soups, fruits, vegetables, oatmeal, and lean meats.
- Dry foods and high-fat foods such as pretzels, cheese, egg yolks, potato chips, and red meat have a high-energy density so they should be avoided.
- Diets containing low-energy dense foods have been shown to control hunger and result in decreased caloric intake and weight loss.
- In Ayurveda foremost and very important principle of weight loss is *Nidana Parivarjana*. It has a great importance in the management and also in the prevention of various diseases.
- The *Sthaulya Rogi* should avoid the causative factors of obesity, such as lack of exercises, sleeping in daytime, Kapha Dosha aggravating diet, Excessive intake of foods, which are difficult for digestion, such as consuming sweet, cold and unctuous food contents in excess quantity.
- Diet is the one of the unique aspects described in details for healing every disease. If a proper diet is followed, there is little need of any kind of medicines, and if not followed, medicines alone can accomplish.
- Many foods in Ayurveda described for prevention and control of obesity such as heavy and non-unctuous food, Old Rice, oats, barley, green gram, bengal gram, horse gram, red lentil, Sponge gourd, horse radish, brinjal, cucumber, ginger, radish, carrot, jamun, bilva, Triphala, cardamom, black pepper, long pepper, citrus fruits, honey, buttermilk, lukewarm water, intake of water before meal.
- Drugs used in the treatment of *Sthaulya Charaka* has presented a single *Mahakashaya* of 10 medicines (*Lekhaniya Mahakashaya*)<sup>20</sup>, which is included in *Medhohara* drugs.
- Hence *Akasha* and *Vayavya Mahabhuta* dominant articles can be utilised to manage *Sthaulya*. *Katu* and *Kashaya Rasa* have *Karshana* and *Upchayahara* characteristics, but *Tikta Rasa* has *Lekhana* and *Medo Upshoshana Karma*; hence, *Katu*, *Tikta*, and *Kashaya Rasa* dominating medications can be utilised to treat *Sthaulya*.
- *Sushruta Samhita* recommends administering *Virukshana* and *Chhedaniya Dravya*, particularly *Shilajatu*, *Guggulu*, *Gomutra*, *Triphala*, *Loha Raja*, *Rasanjana*, and *Madhu* in the appropriate dose and period. *Dalhana* explains that the *Virukshana* property reduces *Meda*, and the *Chhedaniya* property removes obstructions from body channels, especially from *Medovaha Srotas*, through its *Sroto Vishodhana* properties.
- *Amalaki* is described as *Medopaham*<sup>21</sup>, and *Haritaki* is recommended for the treatment of *Santarpanajanya Roga*.<sup>22</sup> *Haritaki* and *Amalaki* can be used to treat *Sthaulya*. In this *Chikitsa*, different *Aushadhis* are used to treat *Sthaulya*, some of which are
- *Rasa – Trimurti Rasa, Vadvagni Rasa, Parad Bhasma*.

- *Vati – Arogyavardhini Vati, Bhedni Vati, Kutaki Vati*
- *Churna – Triphala Churna, Vacha Churna, Trikatu Churna, Guduchyadi Churna Etc.*
- *Kwatha – Mustadi Kwatha, Agnimantha Kwatha, Brihat Panchmoola Kwatha, Mahamanjisthadi Kwatha Etc.*
- *Asava – Arishta – Loharishta, Vidangasava, Lohasava.*
- *Taila Yoga – Mahasugandhadi Taila, Triphaladya Taila.*
- *Loha Yoga – Viangaadya Loha, Triushnaadya Loha.*
- *Guggulu Yoga – Navaka Guggulu, Medohar Guggulu, Amritadya Guggulu, Trayodashang Guggulu, Dasanga Guggulu*
- *Rasayana – Shilajatu Rasayana, Guggulu Rasayana, Amlaki Rasayana Etc.*

#### **Yoga asana**

- This disease is regarded as a gift of modern lifestyles and is a source of development for a variety of disorders. Yoga positions such as Asanas, Pranayama, meditation, and relaxation techniques can help you lose weight, reduce body fat, and control your weight. Yoga is a great way to lose weight and excess fat and to get the ideal body. *Sarvangasana* (Shoulder stand pose) Enhances the function of the thyroid gland, which is responsible for regulating body weight, and normalises the endocrine system, which also controls the condition.
- *Padahasthasana* (Forward bending asana) enhances the body's metabolic process by influencing the pituitary and thyroid glands,

which regulate it. It also helps to reduce tummy fat.

- *Ardha-Matsyendrasana* (Half spinal twist pose) Treat conditions such as diabetes, indigestion, obesity, and constipation.
- *Bhujangasana* (Cobra pose) Massages the abdominal organs, enhances back flexibility and regulates thyroid function. Good for children who are overweight.
- *Pavan Muktasana* (Wind-releasing pose) Reduces fat in the abdomen.
- *Dhanurasana*-Helps to burn extra fat in the body.
- *Pashchimottanasana*- helps to remove the extra abdominal fat.
- Such patients benefit significantly from the regular practice of *Kati Chakrasana, Halasana, Matsyasana, and Ushtrasana*, as well as *Surya Namaskara*. *Suryanamaskar* is now included in current yogic practices, however, it was not previously regarded as an asana or a part of traditional yoga.
- *Surya Namaskar* is a comprehensive practice in and of itself, as it combines asana, pranayama, and mantra. *Surya Namaskar* is an essential component of the yogic method, which may be simply incorporated into our daily lives and yield rapid and positive benefits. We conclude that *Surya Namaskar* should be practised by everyone daily to reap these benefits

#### **DISCUSSION**

In Ayurveda, obesity is called *Medoroga* and is associated with *Agni and Srota* disturbances along with dhatu imbalances. Modern research says that an

unhealthy diet and way of living cause the body to store too much fat. One of the problems of non-communicable disease is childhood obesity. Nowadays, obesity is understood to be a disease that results in significant morbidity, death, and reduced mobility in addition to interfering with day-to-day activities. *Sthaulya*, a *Rasa Nimittaja Vyadhi* and *Sleshmaja Nanatamaja Vyadhi* have also been classified as a *Santarpanotha* condition, which is a sickness caused by inappropriate and excessive feeding. Three main forms of chikitsa are described in Ayurvedic texts: *Sanshodhan Chikitsa*, *Nidan parivarjan*, and *Sanshamana Chikitsa*. An important aspect of treating and preventing obesity is Ayurveda. Allopathic medications may lead to premature weight loss. This medication does, however, also have some serious side effects. Long-term use of these medications may increase the risk of developing high blood pressure issues. It's also critical to keep in mind that these drugs work only when taken. It is possible to gain weight once they are removed. Including yoga in their daily practice and avoiding *Diwaswapa* in the afternoon after eating are only two of the many other things that many Acharyas highlighted in the *Dincharya Palan*. Since obesity is hard to control and has major adult repercussions, a comprehensive approach to the disease's course, combined with individualised treatment for underlying causes and Ayurvedic medicine, is very helpful in reducing obesity and overweight.

## CONCLUSION

Not only is obesity (*Sthaulya*) increasing in wealthy nations, but it is also happening on a worldwide scale. The human body is exposed to a higher risk of chronic illnesses due to obesity. Therefore, it is crucial to

prevent obesity (*sthulya*) in order to prevent additional serious conditions like dyslipidaemia, diabetes mellitus, and chronic heart disease. A shift in eating habits is a major factor in weight loss. Ayurveda also places enough emphasis on *sthulya* and offers dietary recommendations to help ward against the illness.

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