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## Review Article

## A Conceptual Study of the Management of *Sthoulya* (Obesity) through Ayurveda

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| ABSTRACT  | Manuscript Info.   |
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| <p>The susceptibility to obesity, a condition known as <i>Sthoulya</i> in <i>Ayurveda</i> which is caused by imbalances in fat metabolism (<i>Medoroga</i>), varies significantly among individuals, particularly in urban communities. This condition has negative impacts on both the body and mind. Consequently, it has been declared a global epidemic by the World Health Organization (W.H.O.), leading to the term 'Globesity'. The rapid increase in the prevalence of obesity makes it necessary for healthcare professionals from various disciplines to thoroughly understand its fundamental causes. They should do so based on fundamental principles of individual health sciences. Also, in order to meet the global demand, they should provide effective management techniques, whether pharmacologic or non-pharmacologic. Ayurveda, a natural and holistic health discipline, is eagerly anticipated to control and prevent obesity. The world is eagerly awaiting successful control and prevention of obesity through Ayurveda, a natural and holistic health science. With these considerations in mind, this paper aims to explore the causes (<i>Nidāna</i>), pathogenesis (<i>Samprāpti</i>), and treatment strategies (<i>Cikitsa Sutra</i>) for <i>Sthoulya</i>, while also drawing connections to the etio-pathogenesis of obesity. Additionally, it presents some noteworthy clinical experiences that can contribute to the betterment of mankind.</p> | <ul style="list-style-type: none"> <li>✓ ISSN No: 2584-184X</li> <li>✓ Received: 04-06-2024</li> <li>✓ Accepted: 23-07-2024</li> <li>✓ Published: 09-08-2024</li> <li>✓ MRR:2(8):2024;04-07</li> <li>✓ ©2024, All Rights Reserved.</li> <li>✓ Peer Review Process: Yes</li> <li>✓ Plagiarism Checked: Yes</li> </ul> |
|   | <p><b>How To Cite</b></p> <p>Vimla, Kshipra Rajoria, Sarvesh Kumar Singh, Anshu. A Conceptual Study of the Management of <i>Sthoulya</i> (Obesity) through Ayurveda. Indian Journal of Modern Research and Reviews: 2024;2(8):04-07.</p>   |

**KEYWORDS:** *Sthoulya*, *Samprāpti*, *Cikitsa Sutra*, *Bahudosa*, *Mamsa Dhatu*

### INTRODUCTION

The prevalence of obesity, also known as *Sthoulya* or *Medo Roga*, is increasing worldwide across all age groups, particularly among individuals of higher socioeconomic status, specifically in urban communities. In ancient times, *Maharshi Charaka* described a healthy state as having proportionate musculature, a compact body, and proper sensory and motor function. This indicates that even in the ancient era, physical fitness was considered a sign of good health. Obesity, characterized by an excess of adipose tissue or excessive fat, referred to as "*Sthulasya Bhava*" or bulkiness, disrupts the harmony of fitness or health by causing abnormal increases in *Medo Dhātu* (fat tissue) and *Mamsa Dhatu* (muscle tissue). According to experts, obesity is a complex disease with many serious complications, including hypertension, diabetes mellitus, atherosclerosis, certain types of cancer, hepatic steatosis, endocrine abnormalities, obstetric complications, trauma to weight-bearing joints, and possibly immunologic impairment. <sup>[1]</sup> According to *Ayurveda*, *Sthoulya* is predominantly caused by vitiated *Kapha Dosa* (one of the three *Doshas*), specifically affecting the *Meda* (fat) tissue. It is considered a *Bahudosa Avastha* or multifactorial condition, which can be classified as *Santarpanajanyavyadhi* (a disease caused by affected anabolism).

In ancient Indian literature, the figure of Lord *Vinayaka*, with a huge abdomen and short stature, is considered one of the earliest representations of *Sthoulya*. Subsequently, references to *Sthoulya* can be found in depictions of *Raksasas* (demonic characters), all of whom were known to possess a *Sthula Deha* (obese body). This suggests a hereditary occurrence, which can be attributed to *Bijasvabhava* or inherent nature.

Obesity/*Sthoulya* has detrimental effects on both the body and mind. Therefore, the World Health Organization<sup>[2]</sup> (WHO) has declared it a global epidemic, giving rise to the term "Globesity." The United States is considered the most obese nation, followed by Mexico, and it is projected that every third child will be obese in the coming years. While obesity was previously seen as a lifestyle issue, the WHO now classifies it as a disease due to its increasing prevalence rate.<sup>[3]</sup> Worldwide, at least 2.8 million deaths occur each year due to overweight-related causes. *Sthoulya Roga* is classified as a *Medoroga* by Ayurveda and is thought to be a metabolic disorder due to the disfunction of the *Medo Dhatvagni*, which is the factor responsible for fat tissue nourishment. *Asta Ninditiya* Adhyaya (Chapter dedicated to eight types of undesirable bodily types)<sup>4</sup> of the *Caraka Samhita*, where people who are obese are criticized by society for their inappropriate body parameters. You can find more details there.

Numerous trials have been conducted in various hospitals, research centres, and health centres to address the issue of obesity. However, satisfactory management protocols have not yet been established due to the involvement of multiple factors in obesity. Consequently, there is a pressing need for physicians from all branches of medicine to comprehend the pathogenesis of obesity based on their fundamental principles and explore effective management strategies that will benefit humanity. This article aims to delve into the causes (*Nidāna*), development (*Samprāpti*), and treatment principles (*Cikitsa Sūtra*) of *Sthoulya*, while drawing correlations with the etiopathogenesis of obesity.

### Obesity and its Co-relation in Ayurveda

Obesity, derived from the Latin word "*Obesus*" meaning having eaten excessively, refers to the condition of excessive fat accumulation in adipose tissue, resulting in impaired health and abnormal growth of adipose tissue. This can occur through the enlargement of fat cells (hypertrophy), an increase in the number of fat cells (hyperplasia), or a combination of both, leading to a weight gain beyond the body's requirement.

In Ayurveda, obesity is considered a *Dushya* dominant disorder, primarily affecting the *Meda* (fat) tissue in terms of both quality and quantity. Qualitatively, there is an increase in the *Snigdhamsa* (unctuous component) of the fat tissue. Normally, the body contains around 2 *Anjali* (a measurement unit) of *Meda* and 3 *Anjali* of *vasa* (fat), totalling 5 *Anjali*.<sup>[4]</sup> *Stoulya* refers to the quantitative increase in this fat tissue. In terms of overall body composition, the approximate *Meda* constitutes 11-12% of the total, which aligns with modern physiology.

Synonyms for obesity include overweight, corpulence, adiposity, turgidity, and plumpness.<sup>[5]</sup> In Ayurveda, *Sthoulya* is described using terms such as *Vipula*, *Pina*, *Pinva*, and *Pirava*, which signify an over-nutritional condition. Obesity has significant health consequences, with higher rates of morbidity and mortality among obese individuals compared to lean individuals. While stress is considered an etiological factor for *Sthoulya*, anxiety and depression rates tend to be higher in individuals with obesity. Premature mortality rates also increase as body mass index (BMI) increases. According to the American Institute of Nutrition,<sup>[6]</sup> the lowest mortality risk is associated with a BMI between 18 and 25 kg/m<sup>2</sup>, indicating that being lean is comparatively better than being obese.

Ayurveda also recognizes that being underweight (*Karshya*) is better than obesity (*Sthoulya*) because both excessive reduction (*Langhana*) and excessive nourishment (*Bruhmana*) are considered unsuitable for maintaining health.

The etiology of obesity can be categorized into three types of factors: exogenous, endogenous, and miscellaneous. Exogenous factors include diet and sedentary lifestyles, while endogenous factors involve endocrine disorders. Miscellaneous factors encompass influences such as age, socioeconomic causes, occupation, psychogenic factors, and certain medications.

Exogenous causes of obesity can be attributed to increased energy intake, decreased energy expenditure, or a combination of both. Factors such as a high intake of carbohydrates, fats, and proteins, as well as consuming predominantly sweet and sour foods (*Madhura Amla Rasa Pradhana*), and food that increases *Kapha Dosha* (*Sleshmala*) contribute to increased energy intake.<sup>[7]</sup> Additionally, the habit of *Adhyasana* (eating before the previous meal is digested) is also associated with dietary causes of obesity.

Decreased energy expenditure includes sedentary lifestyles, such as lack of exercise (*Avyayama*), lack of sexual activity (*Avyavaya*), daytime sleeping (*Divasvapna*), and psychological factors like having no stress (*Harsanitya Achinta*). Obesity can specifically arise from imbalances between energy intake and expenditure, characterized by increased *Jataragni* (digestive fire) and decreased *Medodhatvagni* (metabolism of fat tissue). This imbalance can be regulated by the coordinated effects of endocrine and neural signals, involving *Kledaka Kapha* (mucous lining of the stomach), *Pacaka Pitta* (digestive fire in the small intestine), *Samana Vata* (balancing subtype of *Vata*), *Vyana Vata* (expansive subtype of *Vata*), and *Medodhatvagni* (metabolism of fat tissue). Alcoholism can contribute to obesity by disturbing liver metabolism, which in turn affects fat metabolism. Ayurveda acknowledges that certain alcoholic beverages like *Varuṇi*, *Sura*, and *Goudika* can cause obesity. *Charaka* states that excessive consumption of *Varuṇi* (a type of alcohol) disturbs *Medovahasrotas* (channels related to fat metabolism).

Endogenous causes of obesity involve the endocrine aspect. Hereditary predisposition, known as *Bijadosajasthoulya*, can

be a contributing factor. Defects in the *Bijabhaga Avayava* (components related to chromosomes and genes) may lead to abnormal development. *Bhavamishra* mentions that an increased proportion of *Meda* (fat tissue) and decreased proportion of *Sukra* (reproductive tissue) in the *Bija* (genetic material) at the time of conception can predispose an individual to develop a stout but weak body. Hormonal imbalances can also contribute to obesity. Obesity often coexists with conditions such as hypothyroidism, hypogonadism, hypopituitarism, and Cushing's syndrome.

The regulation of food intake involves two centres in the hypothalamus: the feeding centre and the satiety centre.<sup>[8]</sup> It is also influenced by two hormones: ghrelin, which stimulates the feeding centre, increases appetite, and promotes adipose deposition by reducing fat oxidation; and leptin, which stimulates the satiety centre, reduces appetite, and increases energy expenditure, thereby reducing body fat.

All these factors can be understood as disturbances of *Kledaka Kapha*, *Pacaka Pitta*, *Samana Vata*, *Vyana Vata*, *Medodhatvagni*, and *Ama Anna Rasa* (undigested food toxins).

In Ayurveda, obesity is not classified into separate types. Instead, it is categorized as mild (*Medovrddhi*), moderate (*Sthoulya*), or severe (*Atisthoulya*). Modern science classifies obesity based on onset, severity, etiological factors, fat distribution, and histopathology.

Ayurvedic texts do not specifically mention premonitory symptoms for *Sthoulya*. However, signs and symptoms of vitiated fat metabolism (*Medovahasrotoduṣṭi Lakṣaṇa*) such as excessive sleeping (*Atinidra*), drowsiness (*Tandra*), body odor (*Dourgandhya*), heaviness of the body (*Angagaurava*), and loosened joints (*Saithilyata*) can be considered as premonitory symptoms of *Sthoulya*. In modern science, mild symptoms can be considered as premonitory symptoms.

The clinical features of *Sthoulya* described in Ayurveda include diminution of life span (*Ayuhrasa*), lack of enthusiasm (*Javoparodha*), difficulties in sexual activity (*Krcchravyavaya*), weakness (*Dourbalya*), foul smell (*Dourgandhya*), excessive sweating (*Svedavabadha*), excessive hunger (*Ksudita Atimatrata*), excessive thirst (*Pipasa Atiyoga*), flabby buttocks, breasts, and abdomen (*Chala Sphik Stana Udara*), abdominal growth of the body (*Yatopacaya*), dyspnoea (*Kṣudra Svasa*), excessive sleep (*Nidradhikya*), indistinctness of speech (*Gadgada Vani*), and breathlessness (*Krathana*). In modern science, clinical features of obesity include weight gain, development of skin folds around the axilla, below the breast and in the peritoneal region, protuberant abdomen, dyspnoea on exertion, menstrual disturbances, and sterility.

## DISCUSSION

The diagnosis of obesity in Ayurveda is primarily based on subjective observations. *Susruta* mentions that *Sthoulya* and *Karshya* can be diagnosed through inspection. However, certain objective criteria mentioned in Ayurvedic texts can be correlated with modern diagnostic parameters.

These include:

- *Akruti Pariksha* (Examination of Body Make-up): This can be correlated with objective criteria such as Body Mass Index (BMI), which is a measurement of body composition based on height and weight.
- *Pramana* (Parameters): Parameters like height, weight, and other anthropometric measurements can be used to assess obesity. These measurements can include abdominal girth, skinfold thickness, and other relevant indicators.
- *Samhanana Pariksha* (Tightness of Tissues): The assessment of the tightness of tissues can provide additional information for the diagnosis of obesity.

By incorporating proper measurements of different *Angapratyangas* (body parts), such as BMI, waist circumference, waist-hip ratio, relative weight (actual weight/desired weight), and ponderal index (height in cm/weight in kg), one can fulfil the objective criteria for diagnosing obesity as mentioned in the texts of *Charaka* and *Susruta*.

In *Ayurvedic* clinical practice, various purification therapies, known as *Samshodhana*, are used for managing obesity. These therapies aim to eliminate the accumulated toxins and balance the *Doshas* in the body. Here are some commonly used *Samshodhana* procedures:

- *Vamana* (Induced Monitored Emesis): *Vamana* therapy involves the induction of vomiting to eliminate excess *Kapha Dosh*. It can be performed in different ways: *Vasantika Vamana*: Done in the month of *Caitra* (March) as a preventive measure. *Sadhya Vamana*: Emergency treatment done in two ways: *Sadhyasnehana*: *Oleation* therapy on the first day, followed by *Kapha*-increasing diet on the second day, and then *Vamana* on the third day. One-day *Sadhya Vamana* with *Dipana-Pachana*: *Vamana* performed on a single day with digestive herbs. *Vamana* therapy has shown positive effects on weight reduction, decrease in BMI, and improvements in lipid profile (reduction in triglycerides, total cholesterol, LDL, VLDL, and increase in HDL).<sup>[9]</sup>
- *Virecana* (Induced Monitored Purgation): *Virecana* therapy involves the administration of purgative substances to eliminate excess *Pitta* and toxins from the body. It can be done in different ways: *Sharadiya Virecana*: Done in the months of *Margashira* (November-December) as a preventive measure. *Kramatmaka Virecana*: Involves the gradual increase of medicated oil/ghee followed by purgation. Different formulations are used based on the desired therapeutic effect. *Virecana* helps in purifying the gastrointestinal system. Regular administration of *Virecana* as a palliative treatment helps in the purification of the GI system.
- *Basti* (Trans rectal administration of medicaments):<sup>[10]</sup> *Basti* therapy involves the administration of herbal

enemas to eliminate toxins and balance the *Doshas*. *Lekhana Basti*, using drugs with scarifying action, is commonly used in obesity management. The formulation used in *Lekhana Basti* helps reduce weight, BMI, and waist circumference. It works by reducing *Meda* (fat) and *Kapha Dosh* and improving metabolism and nourishment.

- *Bahya Shodhana*<sup>[11]</sup>: External purification procedures are used in obesity management. *Ruksha Udvartana* involves rubbing dry medicated powders with friction on the body in the opposite direction of hair growth. It is commonly performed using formulations like *Kolakulathadi Churna*. This procedure has shown an approximate weight reduction of 3-4 kg.

These *Samshodhana* procedures, when performed under the guidance of an experienced Ayurvedic practitioner, can help in detoxification, balancing *Doshas*, and managing obesity. It is important to note that these therapies should be tailored to individual needs and conducted by trained professionals.<sup>[12]</sup>

## CONCLUSION

In conclusion, obesity is primarily caused by excessive intake of sweet and oily foods, along with overeating and lack of physical activity. Dysfunction in the hypothalamus, which regulates hunger, satiety, and energy expenditure, can contribute to obesity. Ayurveda offers both purification (*Sodhana*) and palliative (*Samana*) therapies for the treatment of obesity.

Patient education plays a crucial role in both prevention and management of obesity. This includes educating individuals about lifestyle practices (*Dinacharya* and *Ritucharya*), dietary habits, and the importance of conscious tracking of behaviours related to eating and physical activity.

While Ayurvedic therapies such as *Vamana*, *Virecana*, *Basti*, and *Udvartana* have been traditionally used for obesity management, further exploration of other treatment modalities and their validation through research is necessary. This will improve our understanding of how effective they are and provide evidence-based suggestions for treating obesity.

Overall, a comprehensive approach that combines lifestyle modifications, dietary control, exercise, and Ayurvedic therapies can be effective in preventing and managing obesity. It is important to consult with a qualified Ayurvedic practitioner for personalized guidance and treatment based on individual needs and conditions.

## REFERENCES

1. Pasulka PS. Obesity and erythrocyte sedimentation rates. *Ann Intern Med*. 1985;103(2):304. doi:10.7326/0003-4819-103-2-304\_1.
2. World Health Organization. *Obesity: preventing and managing the global epidemic*. Report of a WHO consultation on Obesity. Geneva, Switzerland: WHO; 2001. WHO/NUT/NCD 98.1.

3. OECD. *Obesity update*. Directorate for Employment, Labour and Social Affairs. 2014:1-8.
4. Vijayasimha. A comparative study of *lekhana gana dravyas* as *basti karma* and oral medication in management of *Sthoulya*. NKJAMC Bidar. 2008.
5. Agnivesha. *Charaka Samhita, Shareera Sthana* 7/15; refined and annotated by Charaka, redacted by Dridhabala, *Ayurveda Deepika* commentary by Chakrapanidatta, edited by Yadavji Trikamji Acharya. Varanasi: Chaukhamba Prakashana; 2011. Reprint. p. 738; pp. 339.
6. Narayan P. A clinical study to evaluate the efficacy of *Vamana karma* and *Medo roga* w.s.r. to overweight/obesity. *SDM Udipi*. 2009-10.
7. Ahima RS, Antwi DA. Brain regulation of appetite and satiety. *Endocrinol Metab Clin North Am*. 2008;37(4):811-23.
8. Klok MD, Jakobsdottir S, Drent ML. The role of *leptin* and *ghrelin* in the regulation of food intake and body weight in humans: a review. *Obes Rev*. 2007;8(1):21-34.
9. Lizcano F, Guzman G. *Estrogen* deficiency and the origin of obesity during menopause. *Biomed Res Int*. 2014;2014:757461.
10. Narine A, Mangal G. An in-depth review of Ayurvedic *Basti Karma* (medicated enema). *Int J Res AYUSH Pharm Sci*. 2020;4(2):388-91.
11. Vidhya U, Nishteswar K. Evidence based medicine of lifestyle diseases w.s.r. to *Panchakarma*. *J Biol Sci Opin*. 2015;3(3):153-6.
12. Kavya N, Kavya B, Ramarao V, Kishore Kumar R, Venkateshwarlu G. Nutritional and therapeutic uses of *Mudga* [*Vigna radiata* (L.) R. Wilczek]: A potential interventional dietary component. *Int J Res Ayurveda Pharm*. 2014;5(2):238-41. Available from: <http://dx.doi.org/10.7897/2277-4343.05248>

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