

LITERATURE REVIEW OF STHAULYA W.S.R. TO OBESITY

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ABSTRACT

Obesity, known as sthauilya in ayurveda, is a condition of excess adipose tissue mass. It is a major risk factors for a number of chronic diseases including cardiovascular diseases, diabetes, musculoskeletal disorders and some cancers. Obesity when left unaddressed will diminish the life expectancy and significantly amplify the incidence of morbidity and mortality.^[1] In ayurveda, sthauilya is primarily attributed to an imbalance in kapha dosha, which lead to the accumulation of excess fat and a decrease in metabolic efficiency. This condition is often linked to lifestyle factors such as poor diet, lack of physical activity and stress which disrupt the body's natural balance and contribute to weight gain. Ayurvedic therapy integrates a blend of remedies derived primarily from plants, minerals, metals and occasionally from animals. Key therapeutic strategies focus on balancing the kapha dosha, enhancing metabolic fire (agni) and promoting fat metabolism.

INTRODUCTION

Sthauilya, commonly known as obesity, is a significant public health concern characterized by excessive accumulation of body fat.^[2] This condition is often measured using the Body Mass Index (BMI), where a BMI of 30 or higher typically indicates obesity. This condition increases the likelihood of developing non-communicable diseases, including cardiovascular diseases, diabetes, musculoskeletal disorders and various cancers such as endometrial, breast, ovarian, prostate, liver, gallbladder, kidney and colon cancers.^[3] Beyond physical health, obesity can also effect mental well being and quality of life, making it a multifaceted challenge. Recent studies have reported that over 1 billion individuals globally are dealing with obesity, including 650 million adults, 340 million adolescents and 39 million children. WHO estimates that by 2025, approximately 167 million people, spanning across different age groups, will experience compromised health due to their struggles with overweight and obesity.^[4]

In the context of Ayurveda, sthauilya is elucidated as the excessive accumulation of both meda and mamsa dhatus, culminating in the protruding appearance of sphika, udara and stana.^[5]

AYURVEDIC REVIEW

Acharya Charaka has described sthauilya under "ashtaunindita-purusha" in sutrasthana and he considered sthauilya as a disorder of shleshmananatmajavikara^[6], santarpana nimittaja vikara^[7], atibruhanajanaya vikara^[8] and samshodhanayogyavikara.^[9] Acharya Sushruta considered sthauilya as a rasa nimittaja vikara^[10] and he has narrated the aetiopathogenesis of sthauilya roga on the basis of an endogenous entity being caused by "Dhatawagnimandya". Vriddha Vagabhatta and Vagabhatta has elaborated aetiopathogenesis of sthauilya on the basis of formation of Ama and disturbances in the process of Dhatu parinama i.e. intercellular metabolism and mechanism of respective Agni.^[11] Types of sthauilya and their management have been described for first time by Vagabhatta.^[12] In Ashtanga Hridaya it is also mentioned that karshya is better than sthauilya.^[13]

AETIOLOGY

Ayurvedic literature outlines various etiological factors for sthauilya roga (obesity). According to Acharya Charaka, the condition can be influenced by hereditary factors (Bijadosha) as well as dietary (Aharatmaka), lifestyle (Viharatmaka) and psychological (Manasika) elements. Key contributing factors include excessive eating (Ati sampurana), the intake of cold, heavy, sweet and oily foods (Sheeta, Guru, madhur, Snigdha Ahaar),

lack of physical activity (Avayam), inadequate sexual activity (Avayava), daytime sleeping (Diwaswapana) and relaxation from stress (Achintanat). These factors underscore that both internal (endogenous) and external (exogenous) elements play a significant role in the development of obesity.^[14]

PATHOGENESIS

Acharya Charaka and Shushruta offer differing views on the pathogenesis of sthaulya (obesity). Acharya Charaka emphasizes that excessive intake of food (Ahara) is the primary cause of medovridhi (increased fat) in sthaulya. He explains that obstruction of the strotas by meda causes the vata dosha to concentrate in the amashya, enhancing digestion and leading to an increased appetite.^[15] This results in rapid digestion and overconsumption of food, which further lead to an excessive accumulation of meda dhatu and obesity.^[16] In contrast, Acharya Sushruta attributes the condition to ama dosha. According to him ama rasa produced by kapha increasing food, irregular eating habits (adhyasan) and daytime sleeping (diwaswapna), circulates through the body. The snigdhanasha of that ama rasa contributes to the accumulation of fat (medo vridhi), resulting in increased tubbiness and obesity.^[17]

RUPA

- Chalasphika udara stana^[18] (Pendulous movement of buttocks, belly and breast)
- Ayushohrasa (Diminution of life span)
- Dourbalyata (General debility)
- Swedadikyata (Excessive sweating)
- Dargandhyta (Foul smelling of body)
- Kshudraswasa (Dyspnoea)
- Javoparodha (Lack of enthusiasm)
- Atipipasa (Excessive thirst)
- Kshudhaatimatram^[19] (Excessive hunger)

CLASSIFICATION^[20]

A straightforward three-tiered system categorizes obese individuals into atisthaulya, madhyama sthaulya and hina sthoulya groups, facilitating efficient diagnosis and management. Notably, this classification parallels the body mass index (BMI) scale, with each category corresponding to a specific BMI range:

- Hina sthaulya: Obesity class 1 (BMI=30.0 -34.9)
- Madhyama sthaulya: Obesity class 2 (BMI=35.0-39.9)
- Ati sthaulya: Obesity class 3 (BMI=>40.0)

AYURVEDIC MANAGEMENT

Obesity is going to take the form of epidemic across the world, if proper preventive measures are not taken. Ayurvedas proactive approach prioritizes prevention over treatment, emphasizing the adoption of swasthivritta, a holistic lifestyle, to prevent disease. Key preventive strategies include: Dinacharya (daily routine for wellness), ritucharya (seasonal habits for balance), sadvritta (ethical living for overall health). A balanced diet is crucial, with

pathya ahaar offering a nutritional solution. Ayurvedic management is built on three pillars: Nidana parivarjana (identifying and avoiding causes), samshodhana (detoxification and purification), shamshana (balancing and stabilizing the body). By embracing these principles, we can combat the obesity epidemic and promote overall well-being.

1. CHARAK SAMHITA^[21]

To make sthula person krusha he should be given guru and aptarpak ahar. Vataghana anupan and shleshma medohar chikitsa, ruksha and ushna dravya yukta teekshna basti, ruksha dravya udvartan.

DRAVYARUPA CHIKITSA

- Guduchi, Bhadramusta, Triphala
- Takararishtha
- Vidang+Nagar+Kshar+Loha
- Yava+Amalak churna
- Bilvadi panchmoola+Madhu
- Shilajatu+Agnimantha rasa

ADRAVYA CHIKITSA

- Prajagrana
- Vyavaya
- Vyayama
- Chinta

2. SUSHRUTA SAMHITA^[22]

DRAVYA CHIKITSA

Shilajatu, guggul, gomutra, triphala, loha, rasanjan, madhu, yava, mudga, kordusha, shyamat, uddalaka etc. Virushan and chedoniya dravya should be used.

ADRAVYA CHIKITSA: Vayayama.

PANCHKARMA CHIKITSA: Lekhan basti.

MODERN REVIEW

"Obesity has reached alarming levels globally, with:

- 1 in 8 people worldwide living with obesity in 2022.
- Worldwide adult obesity has more than doubled since 1990.
- A fourfold rise in adolescent obesity over the same period.

In 2022, a significant proportion of adults (18+ years) were affected:

- 2.5 billion (39%) were overweight.
- 890 million (16%) lived with obesity.

These statistics highlight the urgent need for effective strategies to address the growing obesity epidemic." Obesity is a chronic complex disease defined by excessive fat deposits that can impair health. Obesity can lead to increased risk of type 2 diabetes and heart disease, it can affect bone health and reproduction, it increases the risk of certain cancers. Obesity influences the quality of living, such as sleeping or moving.^[23]

AETIOLOGY

Obesity is known to be caused by many different factors such as exogenous, endogenous and other miscellaneous factors. The recent rise in obesity can be attributed to a mix of excessive caloric intake and reduced physical activity. Additional factors such as dietary composition, sleep deprivation and an imbalance in gut flora have also been suggested as contributing causes. Obesity susceptibility is largely influenced by genetics, with 30-50% of fat variability being genetically determined. Among monogenic causes, mutations in the melanocortin receptor 4 are the most prevalent, accounting for approximately 1% of general obesity and about 6% of severe, early-onset obesity. Syndromic forms of obesity include Prader Willi syndrome and Laurence Moon Biedl syndrome, while other monogenic or syndromic causes are quite rare. Secondary causes of obesity include hypothalamic injury, hypothyroidism, cushing syndrome and hypogonadism. Drug induced weight gain is also common with medications such as antidiabetic agents (insulin, sulfonylureas, thiazolidinediones), glucocorticoids, psychotropic agents, mood stabilizers (lithium), antidepressants (tricyclics, monoamine oxidase inhibitors, paroxetine, mirtazapine) and antiepileptic drugs (valproate, gabapentin, carbamazepine). Additionally, insulin-secreting tumors can lead to overeating and weight gain.^[24]

CLASSIFICATION OF OBESITY

BMI	NUTRITIONAL STATUS
Below 18.5	Under weight
18.5-24.9	Normal weight
25.0-29.9	Over weight
30.0-34.9	Obesity class -I
35.0-39.9	Obesity class-II (Moderate)
>40	Obesity class-III (Severe) ^[25]
>50	Super obesity
>60	Super superobesity ^[26]

SIGNS OF OBESITY

- BMI - $>30\text{kg/m}^2$.
- Skin fold thickness- $> 20\text{mm}$ in males and $>28\text{mm}$ in females.
- Waist-hip ratio- >1 in males and >0.9 in females.
- Waist circumference- $>102\text{cm}$ in males and $>88\text{cm}$ in females.
- Weight gain more than 20% of normal body weight.

SYMPTOMS OF OBESITY

- Excessive day time sleeping.
- Enlarged abdomen.
- Shortness of breath.
- General fatigue.
- Depression and anxiety.
- Sleep apnea.
- Snoring.
- Joint pain etc.

TREATMENT

Obesity is a persistent medical condition that demands continuous management and change in lifestyle. Addressing it is crucial due to the health risks involved. The choice and urgency of treatment should be guided by BMI and a risk assessment. For patients with a BMI of 25kg/m^2 or higher, a combination of diet, exercise and behaviour therapy is recommended. Behaviour modification strategies, such as group counselling, diet diaries and adjustments to eating habits, should be implemented. It is important to monitor food related behaviours carefully- avoiding cafeteria- style settings, eating small, frequent meals and having breakfast regularly. A caloric deficit of 7,500 kcal typically results in a weight loss of about 1kg; thus reducing daily intake by 100kcal can lead to a 5 kg weight loss over a year, while deficit of 1,000 kcal per day may result in a loss of around 1kg per week. Increasing physical activity to at least 150 minutes of moderate intensity per week is also recommended. For patients with a BMI of 30kg/m^2 or higher, or 27kg/m^2 with related health conditions, pharmacotherapy can be considered alongside lifestyle changes. Obesity medications generally fall into two main categories: appetite suppressants and gastrointestinal fat blockers such as lorcaserin, phentermine/topiramate extended release, naltrexone sustained release (SR) / bupropion SR and liraglutide, or orlistat etc.^[27]

DISCUSSION

In obesity (sthoulya), the primary etiological factors aggravate meda and kapha. The continuous consumption of kapha (increasing foods and decreasing activities) leads to an increase in meda, which obstructs vata, triggering its aggravation and disrupting the digestive fire (agni). This imbalance between tikshna agni and medodhatu agnimandya makes the condition difficult to treat. In individuals with obesity, only meda gets nourishment, while other dhatus deteriorate, leading to weakness, inactivity and lack of vitality. Excessive kapha and meda cause excessive sweating and foul odor. The obstructed vata in the digestive system also increases hunger and thirst. To address this, therapies that are guru, ruksha and reduces meda are recommended. Chakrapani suggests using foods with guru properties can calm excessive hunger, while Gangadhara emphasizes their role in balancing vata and tikshna agni. Foods with tikta, katu tastes and laghu, ruksha properties improve meda metabolism, promote proper nourishment of other dhatus and balance pitta. Therapies like udavartana, vamana, virechana and lekhana basti are effective in reducing excess kapha, improving agni and balancing vata, offering a comprehensive treatment for obesity.

CONCLUSION

Thus, it can be concluded that obesity is the world's oldest metabolic disorder. Sedentary life, lack of exercise, faulty food habits and urbanization precipitate the disease. Ayurveda is a profound source of therapeutic principles. The term sthoulya as described in our

classical texts, encompasses its nidana, chikitsa, pathya and apathya which can be likened to the concept of obesity in modern medicine. Ayurveda uses various dosage forms and treatment modalities, such as shodana and shamana therapies, along with appropriate dietary and lifestyle modifications, have proven to be highly effective in managing obesity. It is suggested that Ayurveda based interventions yields significant results in the treatment of this condition.

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