

## OBESITY EPIDEMIC: HOW DIET LIFESTYLE AND PHYSICAL ACTIVITY MAKE THE DIFFERENCE

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### ABSTRACT

*Sthaulya*, or obesity, is a chronic lifestyle disorder characterized by an excessive accumulation of *Meda Dhatu*, or body fat, brought on by an improper food, lifestyle, and degree of physical activity. In *Ayurveda*, it is known as *Santarpanajanya Vyadhi*, a condition caused by overeating and inactive lifestyles. Obesity is a complicated, multidimensional condition linked to bad eating habits, inactivity, and metabolic dysfunction, according to modern medical science. This study examines how *Ahara* (food), *Vihara* (lifestyle), and *Vyayama* (physical activity) contribute to the development and treatment of *Sthaulya*. A poor diet and sedentary lifestyle result in increased *Kapha Dosha*, buildup of fat tissue, and decreased metabolism (*Agni Mandya*). On the other hand, restoring metabolic balance and avoiding issues associated with obesity can be achieved with a disciplined lifestyle, regular exercise, and a balanced diet. The holistic treatment of *Sthaulya* stresses

self-control, mindful nutrition, and active living by fusing Ayurvedic principles with contemporary health methods. An efficient and long-lasting approach to the prevention and management of obesity is made possible by the combination of traditional knowledge with contemporary science.

**KEYWORDS:** *Sthaulya*, Obesity, Diet, Lifestyle.

## INTRODUCTION

On the opposite end of the nutritional spectrum, obesity is one of the most obvious—yet most ignored—public health issues of our time. In many regions of the world, an increasing worldwide epidemic of overweight and obesity—"globesity"—is displacing undernutrition in a paradoxical way. Obesity increases the chance of developing significant noncommunicable diseases linked to diet, such as diabetes mellitus, heart disease, high blood pressure, stroke, and various forms of cancer, for both. Its negative effects on health can include major chronic illnesses that lower overall quality of life, and increases healthcare costs and an increased risk of dying young. Over 24.9 kg/m<sup>2</sup> of body mass index (BMI) has been demonstrated to be positively associated with overall mortality.<sup>[1,2]</sup>

Obesity is known as *Sthaulya* in Ayurveda, is a metabolic condition marked by an excessive buildup of *meda dhatu* (body fat), which causes an imbalance in both mental and physical health. *Ayurveda* describes *Sthaulya* as a *Santarpanajanya Vyadhi*, a disorder caused by excessive eating and sedentary lives. Furthermore, current research acknowledges obesity as a major public health concern that is associated with lifestyle factors such as stress, poor eating habits, and inactivity. Due to altered eating habits, decreased physical activity, and urbanized lives, the prevalence of obesity is rising quickly throughout the world. The prevention and treatment of *Sthaulya* depend heavily on the appropriate regulation of diet (*ahara*), lifestyle (*vihara*), and regular physical activity (*vyayama*), according to both traditional Ayurvedic teachings and current research. A comprehensive strategy is needed to address obesity since it is a complicated chronic illness. Although severe obesity may require medication and bariatric surgery, the mainstays of lifetime obesity control are diet, exercise, and cognitive behavioural therapy. A 5% weight loss can be attained with two years of lifestyle modifications, according to Kheniser et al.<sup>[3]</sup> Although weight rebound is likely, diet and exercise interventions have a major impact on adipose tissue remodelling and obesity-related comorbidities. While nutrition is better at reducing overall body weight (BW) loss, exercise is more effective at reducing VAT.<sup>[4]</sup> Additionally, it has been shown that moderate-to-vigorous regular exercise for 4–6 months, when paired with a balanced, healthy diet, significantly reduced VAT (15–20%) and that reasonable calorie reductions, with or without exercise, can result in 5%–10% weight loss.<sup>[5]</sup>

## KEY POINTS ABOUT OBESITY EPIDEMIC

- In 2022, one in eight individuals globally were obese.

- Since 1990, adolescent obesity has quadrupled and adult obesity has more than doubled globally.
- 2.5 billion persons aged 18 and above were overweight in 2022. 890 million of them suffered from obesity. In 2022, 16% of adults over the age of 18 lived with obesity, while 43% were overweight. Thirty-five million children under five were overweight in 2024.
- In 2022, more than 390 million kids and teenagers between the ages of 5 and 19 were overweight, with 160 million of them suffering from obesity.<sup>[6]</sup>

## OBJECTIVE

To explore Ayurvedic and Conventional perspectives of obesity (*Sthaulya*) prevention and management through *Ahara- Vihara* (Dietary modification and exercise).

## METHODS AND MATERIALS

### Materials and Methods

#### 1. Study Design

This review article Adopts a Narrative review approach to synthesize ayurvedic and conventional knowledge to the prevention and management of Obesity through Diet, Lifestyle and Exercise.

#### 2. Data Sources

(a) Classical Ayurvedic texts- The literature on obesity has been compiled from several *Ayurvedic* sources, including *Ashtang Sangraham*, *Ashtanga Hridayam*, *Charakasamhita*, *Sushrutsamhita* etc.

(b) Scientific Database- Databases including PubMed, google scholar and Ayush research portal.

#### 3. Search Strategy

Keywords- “Obesity”, “Ayurveda”, “Sthoulya”, “Diet”, “Yoga”, “Management”.

### Inclusion criteria

1. Articles and texts published in English
2. Studies focusing on prevention and management of obesity through diet, lifestyle and physical activity.

### Exclusion criteria

1. Non-scientific content
2. Articles without clear methodology or lacking relevance to obesity

### STHAULYA

Obesity (*sthaulya*) is characterized by the excessive accumulation of *Meda*(fat) and *Mamsa* because the obese person has loose and flabby breasts, abdomen, and buttocks (*chala-sphig-udara-stanaḥ*). Excessive deposition of vitiated *Meda Dhatu* causes *Srotorodh* (Blocks body channels). That leads to an imbalance of *Dhatu Poshana*.

*Medo Dhatu* continues to increase while other *Dhatus* remain undernourished. That causes a lack of enthusiasm and energy.<sup>[7]</sup>

### OBESITY

Excessive fat deposits are the hallmark of obesity, a chronic complicated condition that can have negative health effects. Obesity has been defined as body fat content greater than 25% of total body weight for males and greater than 30% for females. Obesity is defined as a BMI greater than 30 kg/m<sup>2</sup>.<sup>[8]</sup> Obesity may be defined as an abnormal growth of adipose tissue, which occurs in three ways:

- (1) Enlargement of fat cells in size (hypertrophic obesity)
- (2) Increase in the number of fat cells (hyperplastic obesity)
- (3) Combination of both hypertrophic and hyperplastic

### NIDANA

These elements fall into two categories: *Bahya nidana* and *Abhyantara nidana*. While *Abhyantara Nidana* incorporates *beeja dosha*, *Bahya Nidana* comprises *Ahara*, *Vihara*, *Manasika Nidana*, and *Ahita Karma Janya Nidana*. A number of etiological variables must work together to cause the disease; a single element may not be enough.

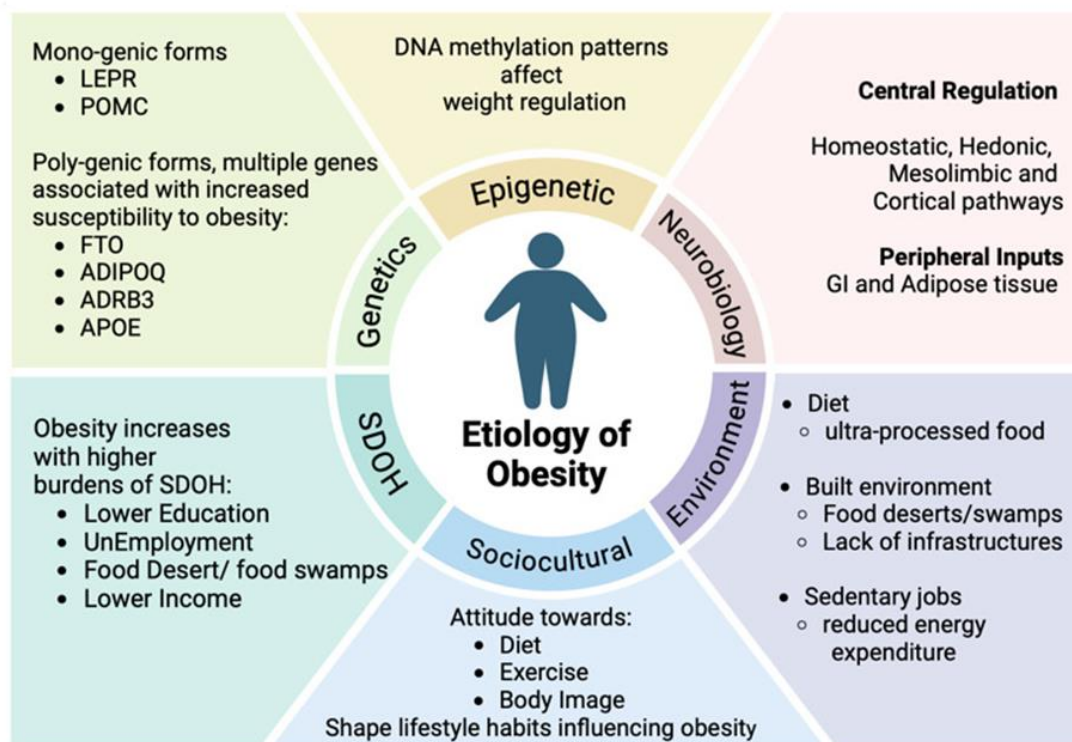
The types of all *nidana* can therefore be summed up as follows:

**Table no. 01: Sthaulya Nidana.**<sup>[9],[10],[11],[12]</sup>

आहारात्मक कारण	विहारात्मक कारण	मानसिक कारण	अन्य कारण
<i>Snehana Atiyoga</i> (Excessive Use of Oily meals)	<i>Avyayama</i> (Lack of Exercise)	<i>Achinta</i> (Stress Free)	<i>Ahita karma janya Nidana</i>
<i>Adhyashana</i> (Taking food even when the	<i>Avyavaya</i> (No sexual intercourse)	<i>Manasika</i> (Psychological	<i>Bijadosha: The role of genetics</i>

stomach is full)		Factors)	
<b>Atisampurnada</b> (Overnutrition & Excessive Intake)	<b>Nidra Atiyoga</b> (Oversleeping): particularly during the day time.		
<b>Guru, Sheeta &amp; Madhura Ahara</b> (Heavy & Sweet Foods)			

## CAUSES



**Figure 01:** A schematic representation of the main causes of obesity, encompassing neurobiology, environment factors, sociocultural influences, social determinants of health, genetics, and epigenetics. LEPR: leptin receptor; POMC: proopiomelanocortin; FTO: fat mass and obesity-associated (FTO) gene; ADIPOQ: adiponectin, C1Q and collagen domain containing *Homo sapiens* (human) gene; ADRB: adrenoceptor beta 3; APOE: apolipoprotein E gene; SDOH: social determinants of health; GI: gastrointestinal.<sup>[13]</sup>

## RUPA<sup>[14,15,16,17]</sup>

1. *Kshudra Swash* (Shortness of breath)
2. *Ati- Pipasa* (Increased thirst)
3. *Ati- Kshudha* (Increased appetite)
4. *Ati- Nidra* (Increased sleep)

5. *Sweda- Adhikya* (Excessive perspiration)
6. *Daurgandhya* (foul odour)
7. *Krathana* (Snoring or Sleep Apnoea)
8. *Gatra- Sada* (Heaviness in Body)
9. *Gad- gadatva* (Unclear speech/ Mumbled speech)
10. *Sarvkarma- Asamrthya* (Generalised weakness)
11. *Alpa- Vyavaya* (Diminution of sexual performance)
12. *Alpa- Prana* (Diminution of lifespan)

## RESULT

### **ROLE OF DIET, LIFESTYLE AND PHYSICAL ACTIVITY**

*Ahara* (diet), *Aushadh* (medicine), and *Vyayama* (physical activity) are included in the therapy of *Sthaulya*. One cannot fight obesity if they use *Aushadhi* but do not adhere to a healthy diet. *Aushadh* cannot be taken for an extended period of time. *Vyayama* consistency is crucial for weight loss. If this isn't followed, a person may develop a number of conditions, such as lipoma, as a result of abruptly stopping their workout regimen. *Ahara and Vyayama* is included in *Yuktivyapashray Chikitsa*.<sup>[18]</sup>

### **ROLE OF AHARA (DIET)**

*Ahara* (diet), along with *Nidra* (sleep) and *Brahmacharya* (controlled lifestyle), are regarded in Ayurveda as one of the three pillars of life, or *Trayopastambha*.<sup>[19]</sup> According to the Charaka Samhita, eating the right food is the cornerstone of longevity, immunity (*Bala*), nutrition, strength, complexion, and health. Dietary emphasis is both quantitative and qualitative, with a strong focus on food suitability in relation to a number of criteria. Thus, in the hands of an informed person, *ahara* is not only food but also a healing tool.

In ayurveda *Ahara* for a person should be preferred according to *Desha*, *Kala*, *Vaya*, and condition of *Dosha* in an individual person.

Ayurveda advocates dietary regulation as a primary measure in preventing and managing obesity. A diet that is dominated by *Laghu* (light), *Ruksha* (dry), and *Katu-Tikta-Kashaya* (pungent, bitter, astringent) can lessen the accumulation of *Kapha* and *Meda*. It is highly advised to perform *Apathya-Ahara* (avoiding heavy, fatty, sweet, and cold foods) and *Langhana* (lightening therapies). Eating in moderation, maintaining regular meal times, and avoiding snacking and overeating are emphasized. Moreover, the concept of *Agni* (digestive

fire) plays a crucial role—enhancing *Agni* through appropriate dietary choices supports better digestion and metabolism, thereby preventing excessive fat deposition.

Ayurveda suggests *Pathya Ahara*, a light (*Laghu*), dry (*Ruksha*), and easily digested food, for the treatment of *Sthaulya*. For lowering *Meda*, foods like barley (*Yava*), millet (*Shyamaka*), green gram (*Mudga*), and leafy vegetables are recommended. Spices that enhance *Agni* and help burn excess fat include ginger, turmeric, and black pepper. Avoiding heavy, greasy, and processed foods and drinking warm water are also stressed. From a contemporary nutritional standpoint, controlling weight requires a balanced diet high in fiber, lean proteins, and other critical nutrients. In addition to mindful eating techniques, cutting back on processed foods, refined carbohydrates, and saturated fats promotes long-term weight control and metabolic health.

Therefore, maintaining a healthy and disciplined diet not only helps reduce excess body fat but also improves general health by restoring the *Dosha* equilibrium.

**Table no. 02: *Pathya* and *Apathya Ahara* in *Sthaulya*.**

<i>Aharavarga</i>	<i>Pathya</i>	<i>Apathya</i>
<b><i>Shookdhanya</i> (Grains)</b>	<i>Puransali, kodrava, shyamaka, yava, priyangu, laja, koradushaka, jurna, kanguni</i>	<i>Godhuma, nava-dhanya</i>
<b><i>Shamidhanya</i> (Pulses)</b>	<i>Mudga, kulatha, masura, adhaki, chanaka</i>	<i>Masha, tila</i>
<b><i>Shakavarga</i> (Vegetables)</b>	<i>Patola, patrashaka, shigru, vrntaka, katutikta, vastuka, ardraka, mulaka, surasa</i>	<i>Kandashaka, madhurarasatmka</i>
<b><i>Phalavarga</i> (Fruits)</b>	<i>Kapittha, jambu, amalaki, ela, vibhitaki, haritaki, pippali, narang, ankola, bilva</i>	<i>Madhuraphala</i>
<b><i>Dravyavarga</i></b>	<i>Madhu, takra, ushnajala, tila, and sarshpa oil, asavarishta,</i>	Milk and its preparation ( <i>kshir, dadhi, sarpi</i> ), <i>Ikshuvarga</i>
<b><i>Mamsavarga</i> (Meat)</b>	<i>Rohitamatsya</i>	<i>Anupamamsa, gramyamamsa, audakamamsa</i>

## ROLE OF VIHARA (LIFESTYLE)

*Sthaulya* (fat) is largely caused by disruptions in lifestyle (*Vihara*), which is essential for preserving the balance of the body and mind. According to Ayurveda, one of the main causes of obesity is an unhealthy lifestyle marked by excessive sleep (*Ati Nidra*), inactivity (*Avyayama*), erratic daily schedules (*Asamyak Dinacharya*), and mental stress. These

behaviors slow down metabolism, hamper *Agni* (digestive fire), and encourage Kapha accumulation, which leads to an excess of *Meda Dhatu* (fat tissue) production.

A balanced, disciplined lifestyle is necessary to prevent and manage *Sthaulya*. Getting up early, exercising regularly, eating regularly, getting enough sleep, and managing stress are all components of a healthy routine. Techniques like *yoga*, *pranayama*, and meditation not only improve physical health but also promote mental balance, which reduces stress-related weight gain and emotional eating. Reducing screen time, sleeping during the day, and avoiding sedentary behavior all help improve metabolic efficiency and control weight.

These Ayurvedic findings are supported by contemporary research, which shows a clear link between metabolic diseases, obesity, sedentary lifestyles, circadian rhythm disruption, and chronic stress. An active, mindful, and well-regulated lifestyle helps maintain ideal body weight, hormone balance, and overall wellbeing.

Therefore, the cornerstone of an efficient and long-lasting strategy for managing *Sthaulya* is lifestyle adjustment along with a healthy diet (*Ahara*) and frequent exercise (*Vyayama*).

**Table no. 03: Pathya and Apathya Vihara in Sthaulya.**

Vihara (Physical Regimen)		Vihara (Mental Regimen)	
Pathya	Apathya	Pathya	Apathya
<i>Srama</i>	<i>Sukhasaiya sevana</i>	<i>Chinta</i>	<i>Achinta</i>
<i>Jagarana</i>	<i>Divaswapna</i>	<i>Shoka</i>	<i>Nityaharsha</i>
<i>Nityabramana</i>	<i>Atiasana</i>	<i>Krodha</i>	
<i>Ashvadirohana</i>	<i>Avyayama</i>		
<i>Vyavaya</i>	<i>Avyavaya</i>		

## ROLE OF PHYSICAL ACTIVITY

In order to prevent and treat *Sthaulya* (obesity), physical activity (*Vyayama*) is essential. According to *Ayurveda*, *Vyayama* is one of the key elements of *Dinacharya* (daily regimen), which supports *Agni Deepana* (improvement of digestive fire), *Medo Kshaya* (fat reduction), and general *Dosha* balance. One of the main causes of *Sthaulya* is said to be a lack of physical activity (*Avyayama*), which results in a slow metabolism and a buildup of *Kapha* and *Meda Dhatu*.

Frequent exercise improves muscular tone, boosts metabolism, increases energy expenditure, and aids in maintaining a healthy body weight. Additionally, it enhances mental health, cardiovascular health, and insulin sensitivity. According to *Ayurveda*, *Vyayama* counteracts

the heaviness (*Guru Guna*) and sluggishness (*Tandra*) linked to obesity by bringing lightness (*Laghava*), steadiness (*Sthirata*), and endurance (*Bala*).<sup>[20]</sup>

These opinions are also supported by contemporary research, which demonstrates that structured exercise—such as aerobic exercises, *yoga*, cycling, or brisk walking—helps reduce body fat, especially visceral fat, which is closely associated with metabolic illnesses. In order to prevent and treat *Sthaulya*, a regular and balanced exercise regimen that is appropriate for a person's strength and constitution (*Prakriti*) is crucial.

*Yoga* addresses the psychological as well as the physiological elements of obesity, providing a complimentary approach. Certain poses, like *Surya Namaskar*, *Bhujangasana*, *Dhanurasana*, and *Trikonasana*, improve digestion, lower body fat, and increase metabolic rate. Pranayama techniques like *Bhastrika* and *Kapalabhati* aid in purifying the body and igniting the metabolic fire. Furthermore, mindfulness-based practices and *Dhyana* (meditation) enhance healthy lifestyle choices, reduce stress-induced eating, and support emotional balance. As a result, consistent *yoga* practice provides a long-term approach to managing weight while improving overall physical and mental well-being.

## DISCUSSION

Due to a number of factors, such as sedentary lifestyles, poor eating habits, and inactivity, *sthaulya*, or obesity, is becoming increasingly prevalent in today's society. Ayurveda's comprehensive approach classifies *Sthaulya* as a *Santarpanajanya Vyadhi*, a disease caused by an imbalance in the body's natural metabolism and overeating. An individual's entire metabolic state is determined by the interplay of *Ahara* (diet), *Vihara* (lifestyle), and *Vyayama* (physical activity). Excessive development and buildup of *Meda Dhatu* is caused by an unhealthy diet that is dominated by heavy, greasy, and sugary meals. This aggravates *Kapha Dosha*, which further suppresses digestive fire (*Agni*) and causes a slow metabolism when combined with sedentary lifestyles and inactivity. This Ayurvedic concept is supported by contemporary research, which links insulin resistance, dyslipidaemia, and increased adiposity to high calorie consumption and inactivity.

On the other hand, reestablishing metabolic equilibrium is aided by including a light and balanced diet, consistent exercise, and a disciplined lifestyle. For the treatment of *Meda Vriddhi* (fat accumulation), Ayurvedic principles emphasize *Langhana* (lightening therapy) and *Rukshana* (drying therapy), which is consistent with contemporary weight loss

techniques that emphasize calorie restriction and fat metabolism. Furthermore, stress management, yoga, and adequate sleep all promote long-term adherence to healthy routines and enhance both physical and mental well-being. Therefore, the holistic therapy of *Sthaulya* requires coordinated adjustments in diet, lifestyle, and exercise rather than focusing on any one factor. This comprehensive strategy treats the underlying causes of metabolic imbalance in addition to its symptoms.

## CONCLUSION

*Sthaulya* (obesity) is a reflection of a disturbed diet, lifestyle, and mental equilibrium as well as a physical disorder. *Ayurvedic* and contemporary viewpoints concur that behavioural changes play a major role in management and prevention. The foundation of treatment and prevention is a disciplined, mindful lifestyle (*Sadvritta*), frequent exercise (*Nitya Vyayama*), and appropriate nutrition restriction (*Ahara Parimarjana*). A well-rounded strategy that includes healthy daily routines, regular exercise, and light, nutritional foods improve metabolism, encourages *Agni* (digestive power), and stops the pathological buildup of fat. Additionally, by lowering stress and emotional eating, focusing on mental health through yoga and meditation promotes long-term weight control.

Essentially, the combination of a healthy diet, an active lifestyle, and positive lifestyle choices not only aids in the management of *Sthaulya* but also fosters longevity, vitality, and overall health.

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