

# A Comparative Study on *Nidana Panchaka* of *Atisthaulya* and Obesity in Modern Era: A Review Article

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## Abstract

**Background:** Obesity, or *Atisthaulya*, is a global epidemic recognized by WHO as one of the leading causes of preventable death. With industrialization and sedentary lifestyles, the prevalence of obesity has skyrocketed across all age groups. In Ayurveda, *Atisthaulya* is considered a *Santarpanajanya Vyadhi* caused by an imbalance of Medo Dhatu, whereas modern medicine identifies obesity as a multifactorial metabolic disorder. This article aims to bridge the classical Ayurvedic *Nidana Panchaka* framework with modern etiopathogenesis of obesity for integrative understanding and management.

**Materials and Methods:** Classical Ayurvedic texts including *Charaka Samhita*, *Sushruta Samhita*, *Kashyapa Samhita*, *Ashtanga Hridaya*, *Ashtanga Sangraha*, *Madhava Nidana*, *Bhava Prakash*, and *Yogaratanakara* were reviewed. Additionally, modern medical literature, journals, and WHO reports were consulted through electronic databases. Data were analyzed qualitatively and comparatively, structured using flow charts and tabular comparisons. **Observations and Results:** Ayurveda describes *Sthaulya* as a result of *Santarpana* (overnutrition), characterized by Meda and Mamsa excess, impaired *Agni*, and obstructed *Srotasa*. The *Nidana Panchaka* framework in Ayurveda categorizes causative factors as *Aharatmaka* (dietary), *Viharatmaka* (behavioral), *Manasika* (psychological), and other associated causes. The *Samprapti Ghatakas* of *Sthaulya* include deranged *Kapha* and *Medodhatvagni*, blocked *Medovaha Srotas*, and vitiation of *Rasa* and *Mamsa Dhatus*. Modern complications like diabetes, hypertension, cardiovascular diseases, infertility, and psychosocial stigma correlate with *Upadrava* mentioned in Ayurvedic texts. Both disciplines highlight the chronicity, incurability in congenital cases, and the difficulty in treatment compared to *Karshya*.

**Conclusion:** The study highlights the relevance and depth of Ayurvedic *Nidana Panchaka* in understanding obesity. *Atisthaulya* is not merely a metabolic disorder but a systemic imbalance rooted in lifestyle, diet, mental state, and hereditary factors. Integrative approaches combining Ayurvedic preventive measures (*Ahara*, *Vihara*, *Manoviyapara*) and modern diagnostics may offer a sustainable solution for prevention and management. Further interdisciplinary clinical studies are warranted.

**Keywords:** *Atisthaulya*, Obesity, *Nidana Panchaka*, Ayurveda, Medoroga, Lifestyle disorders, *Kapha*, *Meda Dhatu*, *Sthaulya Samprapti*

## 1. Introduction

The concept of *Srotas* in Ayurveda refers to an intricate system of bodily channels responsible for the transport of various essential and waste substances including Dhatus (tissues), Malas (excretory products), and Doshas (functional bioenergetic principles: Vata, Pitta, and Kapha) across the body.

## 1. Introduction

In the modern world, obesity has emerged as a significant global health issue, impacting millions. According to the WHO, overweight and obesity are the fifth leading risk factors for global death. Worldwide, obesity has nearly doubled since 1980. Since 1975, the obesity rate has tripled, and by 2016, 650 million people were obese. Obesity affects all age groups, reducing lifespan and causing life-threatening complications such as stroke, ischemic heart disease, diabetes mellitus, hypertension, and reproductive disorders, ultimately diminishing quality of life.

Industrialization, work-related stress, faulty dietary habits, lack of exercise, and an increase in sugar and fat intake have exacerbated obesity and its associated problems. According to a survey by the Nutrition Foundation of India, 55% of urban women and 39% of men are overweight. India ranks third in the global obesity index. Initially considered a lifestyle issue, obesity is now classified as a disease by the WHO. Ayurveda emphasizes a balanced state of body tissues as essential for health and defines obesity as an abnormal increase in Medodhatu (fatty tissue).

Obesity is no longer merely a cosmetic concern but an epidemic requiring effective preventive and management measures. While modern medicine has not discovered a definitive cure, alternative therapies are increasingly utilized.

## 2. Aims and Objectives:

- To study the concept of Atisthaulya w.s.r. to obesity.
- To analyse the Nidana Panchaka of Atisthaulya.
- To study the pathophysiology of obesity

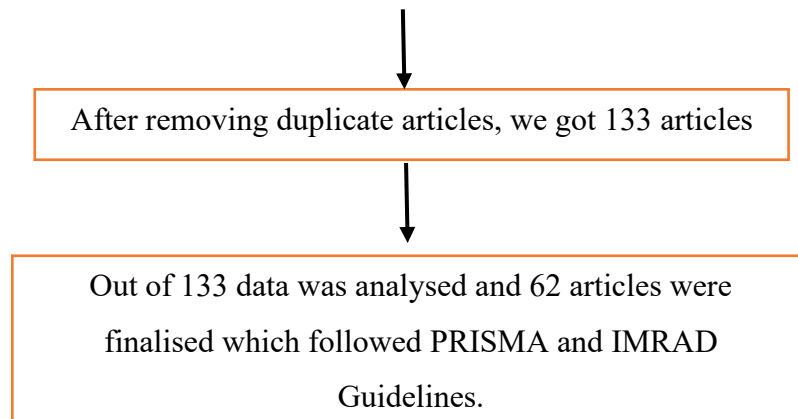
## 3. Material and Methods

### Study Characteristics

*Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Astang Hridaya, Astang Sangraha, Yoga Ratnakara, Madhav Nidana, Bhava Prakash*, Medical textbooks, journals and online data bases were seen thoroughly for the study. Relevant data was collected and analysed critically to explore the concept shown in flow chart 1.

Out of 150 articles initially identified, 62 met the inclusion criteria.

Total articles accessed through academic databases like Google Scholar, PubMed, Scopus Web of Science -150



**Flow chart no. 1: Process of review**

#### **4. Observations and Discussion**

##### ***Atisthauilya* and Obesity:**

- The word *Sthauilya* (Obesity) is delivered from root ‘*Sthu*’ with the addition of the suffix ‘*Ach*’; which stands for thick or solid <sup>[2]</sup> ‘*Sthula Paribrumhane*’ <sup>[3]</sup> ‘*Sthulasya Bhava Sthauilya*’.<sup>[4]</sup> In modern medical science *Sthauilya* is compared with Obesity.<sup>[5]</sup>
- *Sthoola* means the substances, which do excessive growth of the body.<sup>[6]</sup> (*Amarkoshananartha Varga* 204)
- The heaviness of body is called *Sthauilya*.<sup>[7]</sup> (*Vachaspatyam* 6/5358)
- According to *Kautilya*, the word & quot; *Sthulata* & quot; means largeness or bigness or bulkiness or stoutness of body.<sup>[8]</sup> (*Kautilyapatal* 1/190).
- *Acharya Charaka* mentioned that a person in whom excessive and abnormal increase of *Medodhatu* along with *Mamsadhatu* is found which results into pendulous appearance of buttocks, belly and breasts and whose increase bulk is not matched by a corresponding increase in energy is called *Atisthula Purusha*.<sup>[9]</sup> *Acharya Charaka* has kept *Sthauilya* (obesity) under *Santarpan janya vyadhi* (diseases caused due to overnutrition).
- Body mass index of 30 kg/m<sup>2</sup> or higher is used to identified individuals with obesity.<sup>[10]</sup>

##### ***Nidana Panchaka* of *Sthauilya*:**

##### ***Nidana*:**

**Table I: Aharatmaka Nidana** <sup>[11-16]</sup>

S. No.	Aharatmaka Nidan	Ch.	Su.	A.H	A.S.	Y.R	B.P	M.N
1	Atisampurnata	+	+	+	-	-	-	-
2	Adhyashana	-	+	-	-	-	-	-
3	Guru Ahara Sevana	+	-	-	+	-	-	-
4	Madhur Ahara Sevana	+	-	+	-	-	+	+
5	Shita Ahara Sevana	+	-		-	-		
6	Snigdha Ahara Sevana	+	-	+	+		+	+
7	Navanna Sevana	+	-	-	-	-	-	-
8	Nava Madhya Sevana	+	-	-	-	-	-	-
9	Gramya Mamsarasa Sevana	+	-	-	-	-	-	-
10	Audaka Mamsarasa Sevana	+	-	-	-	-	-	-
11	Mamsa Sevana	+	-	+	-	-	-	-
12	Dadhi Sevana	+	-		-	-	-	-
13	Sarpi Sevana	+	-	+	-	-	-	-
14	Payas Vikara Sevana	+	-	+	-	-	-	-
15	Ikshu Sevana	+	-	-	-	-	-	-
16	Masha Sevana	+	-	-	-	-	-	-
17	Shali Sevana	+	-	-	-	-	-	-
18	Godhuma Sevana	+	-	-	-	-	-	-
19	Ikshuras Vikara Sevana	+	-	-	-	-	-	-
20	Shleshmala Ahara Sevana	-	+	+	+	+	+	+
21	Bhojanottara Jalapana	-	-	-	+	+	+	-

**Table II: Viharatmaka Nidana** <sup>[17-22]</sup>

S. No.	Viharatmaka Nidana	Ch.	Su.	A.H	A.S.	Y.R	B.P	M.N
1	Avyayama	+	-	-	-	+	+	+
2	Avyavaya	+	-	-	-			
3	Divaswapa	+	-	-	-	+	+	+
4	Atinidra	+	-	+	+	-	-	-
5	Asana Sukha	+	-	+	+	-	-	-
6	Atisnanasevana	+	-	+	+	-	-	-
7	Gandhamalyanu Sevana	+	-	-	-	-	-	-
8	Bhojanottar Nidra	-	-	-	-	+	+	-

**Table III: Manasika Nidana** <sup>[23-28]</sup>

S. No.	Nidana	Ch.	Su.	A.H	A.S.	Y.R	B.P	M.N
1	Harsh-nityatvat	+	-	+	-	-	-	-
2	Achinta	+	-	-	-	-	-	-

3	<i>Manaso Nivriti</i>	+	-	+	-	-	-	-
4	<i>Saukhyena</i>	-	-	+	-	-	-	-
5	<i>Priyadarsana</i>	+	-	-	-	-	-	-

**Table IV: Other Nidana** <sup>[29-34]</sup>

S. No.	Nidana	Ch.	Su.	A.H	A.S.	Y.R	B.P	M.N
1	<i>Amarasa</i>	-	+	-	+	+	+	+
2	<i>Beejadosha Svabhavat</i>	+	-	-	-	-	-	-
3	<i>Tailabhyanga</i>	+	-	+	+	-	-	-
4	<i>Snigdha Udvardana</i>	+	-	-	-	-	-	-
5	<i>Snigdha Madhura Basti Sevana</i>	+	-	-	-	-	-	-

**Causes of overweight and obesity:**<sup>[35]</sup>

Overweight and obesity result from an imbalance of energy intake (diet) and energy expenditure (physical activity) shown in fig 1.

In most cases obesity is a multifactorial disease due to obesogenic environments, psycho-social factors and genetic variants. In a subgroup of patients, single major etiological factors can be identified (medications, diseases, immobilization, iatrogenic procedures, monogenic disease/genetic syndrome).

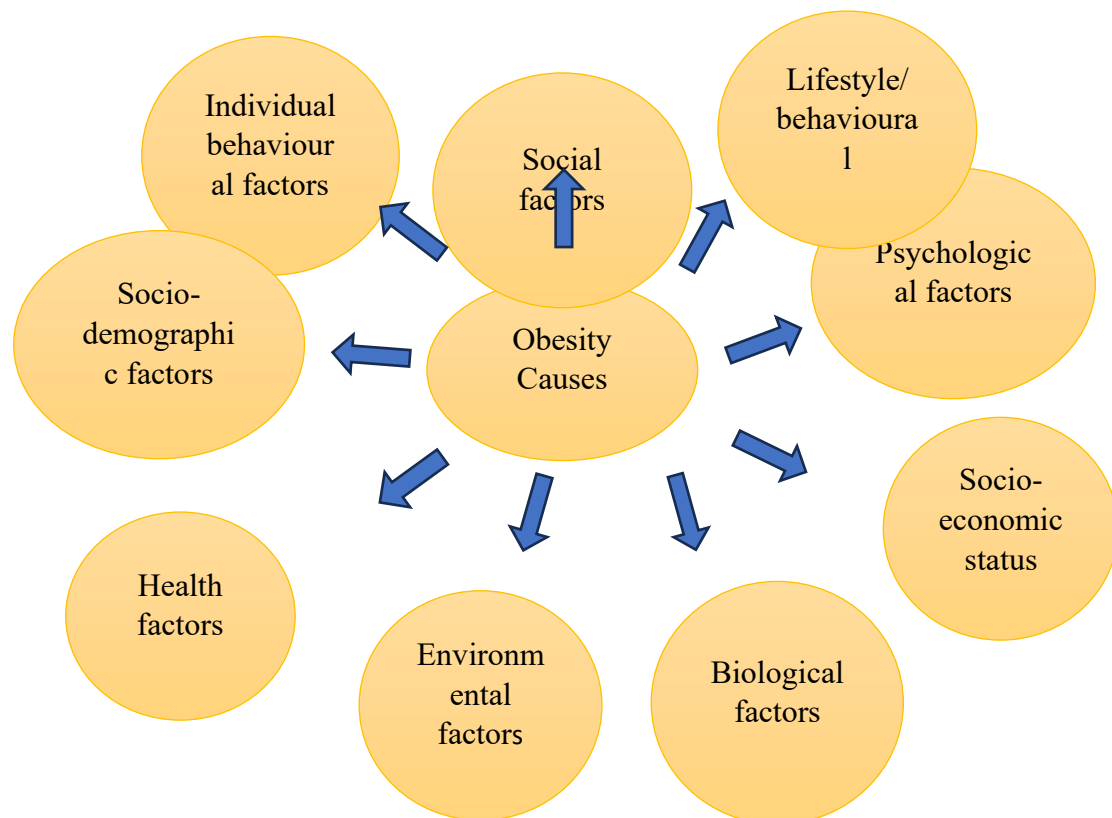
The obesogenic environment exacerbating the likelihood of obesity in individuals, populations and in different settings is related to structural factors limiting the availability of healthy sustainable food at locally affordable prices, lack of safe and easy physical mobility into the daily life of all people, and absence of adequate legal and regulatory environment.

At the same time, the lack of an effective health system response to identify excess weight gain and fat deposition in their early stages is aggravating the progression to obesity.

**Other factors:** <sup>[36]</sup>

Sometimes other medical conditions or medicines that you take may lead to overweight and obesity. These conditions or medicines may disrupt the delicate balance of hormones that control how we use and store energy.

- **Cushing's Syndrome:** It is a disorder that happens when your body makes too much of the stress hormone cortisol.
- **Hypothyroidism:** It is a condition in which your body does not produce enough thyroid hormone. This slows down your body's use of energy (food), called metabolism.
- **Polycystic ovary syndrome:** It is a condition that affects the ovaries and results in hormone imbalance.



**Fig 1: causes of obesity**

**Purvarupa:** <sup>[37]</sup>

Because of the vitiation of *Kapha* and *Meda* in both *Prameha* and *Medoroga*, *Acharya Charaka* has referred to their parallel etiology. As a result, *Medovaha Shrotodushti Lakshanas* and *Prameha Purvarupa* might be regarded as *Sthaulya Purvarupa*. These are listed below.

- *Atinidra*
- *Tandra*
- *Alasya*
- *Visra Sharira Gandha*
- *Anga Shaithilya*
- *Ati Sweda*

**Rupa:**

All the symptoms of *Sthaulya* described by various *Acharyas* are tabulated as below <sup>[39-43]</sup>

**Table V: Rupa**

S. No.	<i>Rupa</i>	Ch.	Su.	A.S.	Y.R.	B.P.	M.N.
1	<i>Alpayu</i>	+	+	+	+	+	+
2	<i>Javoparodha</i>	+	-	+	-	-	-
3	<i>Kricchvyavayata</i>	+	+	-	+	+	+
4	<i>Daurbalyam</i>	+	-	+	-	-	-
5	<i>Daurgandhyam</i>	+	+	+	+	+	+
6	<i>Swedabadhah</i>	+	+	+	+	+	+
7	<i>Kshudhadrhikya</i>	+	+	+	+	+	+
8	<i>Trishadrhikya</i>	+	+	+	+	+	+
9	<i>Chal Sphika</i>	+	-	+	+	+	+
10	<i>Chal Udara</i>	+	+	+	+	+	+
11	<i>Chala Stana</i>	+	+	+	+	+	+
12	<i>Utsahahani</i>	+	-	+	+	+	+
13	<i>Ayathopchaya</i>	+	-	+	+	+	+
14	<i>Kshudrashwasa</i>	-	+	+	+	+	+
15	<i>Nidradhikya</i>	+	-	+	+	+	+
16	<i>Krathana</i>	-	+	-	+	+	+
17	<i>Gatrasada</i>	-	+	-	+	+	+
18	<i>Gadgadatva</i>	-	+	+	-	-	-

19	<i>Sarvakriyasu Asamarthata</i>	-	+	-	+	+	+
20	<i>Moha</i>	-	-	-	+	+	+
21	<i>Udar Vriddhi</i>	-	+	-	+	+	+
22	<i>Parsva Vriddhi</i>	-	+	-	-	-	-
23	<i>Kasa</i>	-	+	-	-	-	-
24	<i>Jadyam</i>	-	-	+	-	-	-

### Sign and Symptoms of overweight and obesity:

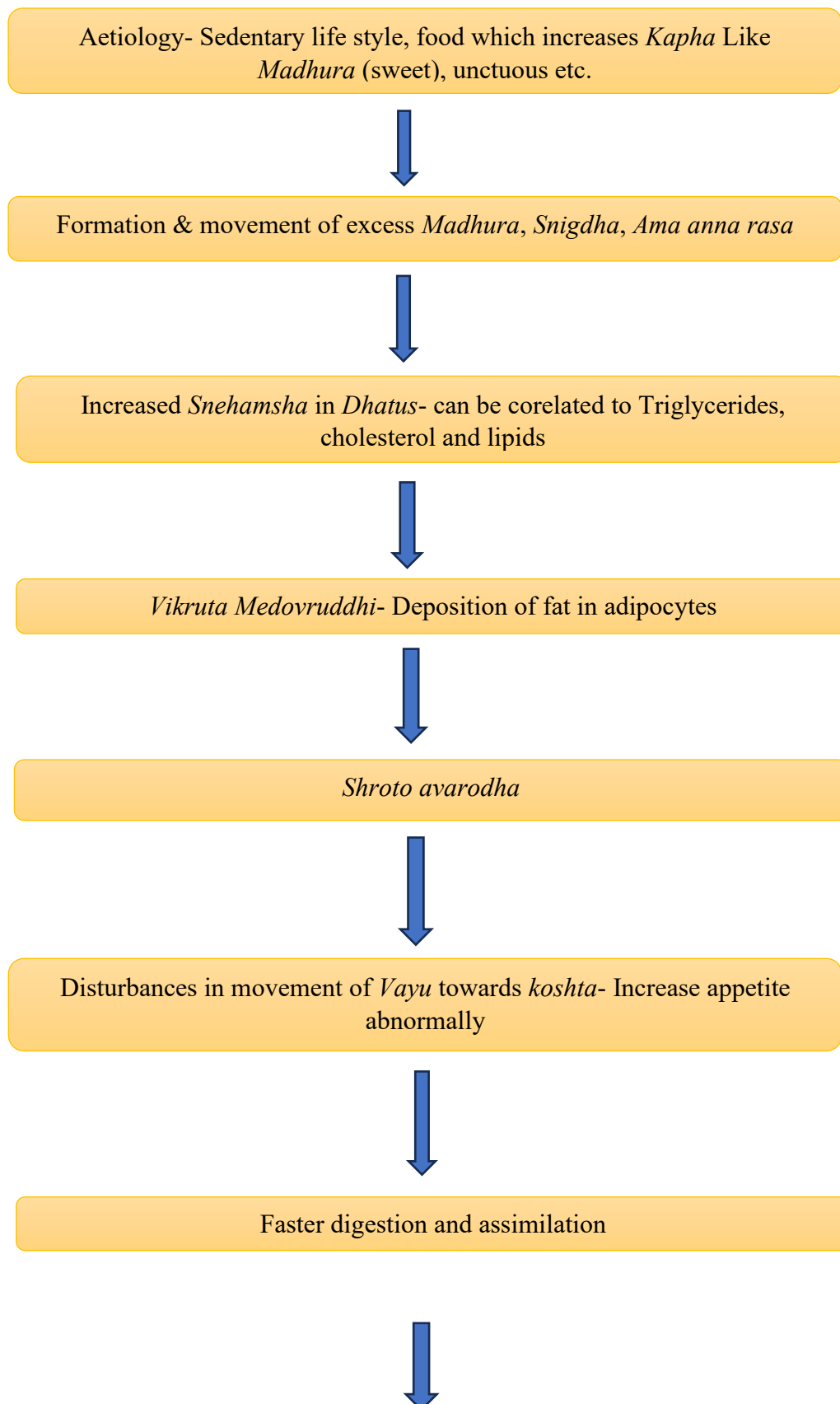
Compared to people with a BMI in the healthy range, people with obesity are at increased risk of: <sup>[44]</sup>

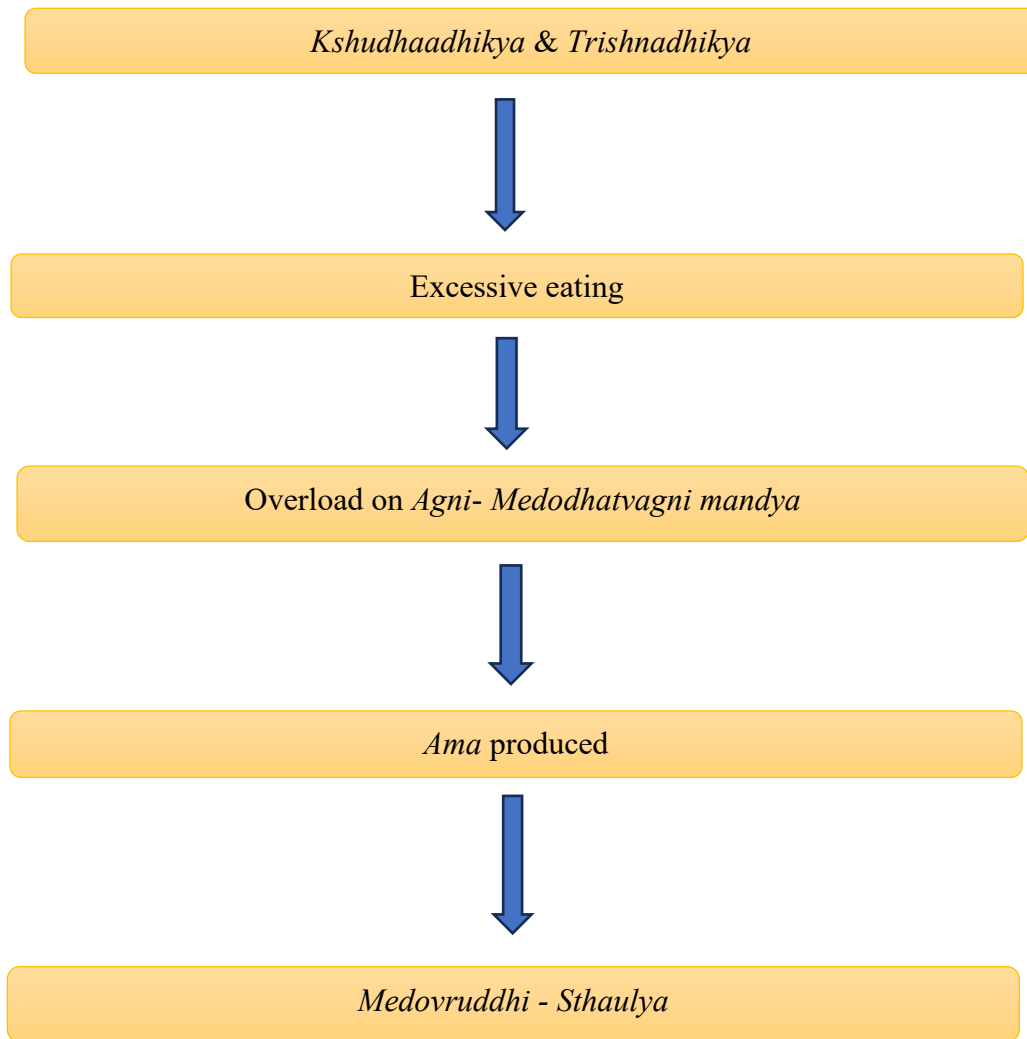
- Cardiovascular diseases, including coronary heart disease and stroke
- Type 2 diabetes
- High blood pressure
- Sleep apnea
- Breathing problem
- Joint problems and pain
- Certain cancers
- Gallbladder disease
- Fatty liver disease
- High cholesterol
- Mental health issues
- Arthritis
- Infertility and irregular menstrual cycles

While there are physical reasons for many of these complications, others are caused or worsened by how society treats people with obesity. Research shows that people with obesity get lower quality care from healthcare professionals when compared with people of lower weight. <sup>[45]</sup> Stigma, judgment, and shame from family, colleagues, or self can also contribute to mental and emotional complications of obesity.



**Flow chart no. 2: Samprapti (Pathogenesis) of Sthaulya:**





***Samprapti Ghataka:***

- ❖ *Dosha: Kapha – Kledaka, Pitta – Pachaka, Vata – Samana, Vyana*
- ❖ *Dushya: Rasa, Mansa, Meda*
- ❖ *Agni: Jatharagni, Dhatvagni (Medodhatvagni)*
- ❖ *Srotasa: Rasvaha, Medovaha Srotasa*
- ❖ *Srotodushhti: Sanga*
- ❖ *Adhithana: Vapavahan, Medodharakala*
- ❖ *Udbhavasthana: Amashya*
- ❖ *Prasara: Rasayani*
- ❖ *Rogamarga: Bahya*
- ❖ *Vyaktisthana: Sarvanga, especially Sphika, Udara, Stana*

❖ *Swabhava: Chirakaleena****Upadrava:*****Table VI: *Upadrava* <sup>[46-49]</sup>**

S. No.	<i>Upadrava</i>	Ch.	Su.	A.H	A.S.	Y.R	B.P	M.N
1	<i>Pramehapidika</i>	-	+	-	+	+	+	-
2	<i>Jwara</i>	-	+	+	+	+	+	+
3	<i>Bhagandara</i>	-	+	+	+	+	+	+
4	<i>Vidradhi</i>	-	+	-	+	+	+	-
5	<i>Vatavikara</i>	-	+	-	-	+	+	-
6	<i>Kustha</i>	-	-	+	-	-	+	-
7	<i>Prameha</i>	-	+	+	+	-	+	+
8	<i>Kasa</i>	-	-	+	-	-	-	-
9	<i>Visarpa</i>	-	-	-	-	-	+	+
10	<i>Atisara</i>	-	-	-	-	-	+	+
11	<i>Arsha</i>	-	-	-	-	-	+	+
12	<i>Shlipada</i>	-	-	-	-	-	+	+
13	<i>Apachi</i>	-	-	+	-	-	+	+
14	<i>Kamala</i>	-	-	-	-	-	+	+
15	<i>Udararoga</i>	-	-	+	+	-	-	-
16	<i>Urustambha</i>	-	-	-	+	-	-	-
17	<i>Sanyas</i>	-	-	+	-	-	-	-
18	<i>Mitrakriccha</i>	-	-	+	-	-	-	-

***Sadhyasadhyata:***

*Sthaulya* is a *Kricchrasadhya Vyadhi* and *Sahaja Sthaulya* is considered incurable. *Acharya Charaka* emphasized that the treatment of *Sthaulya* is more difficult than *Karshya*, <sup>[50]</sup> if an obese person is not duly managed; he is prone to death due to excessive hunger, thirst and complications. <sup>[51]</sup>

**Table VII: Pathya - Apathya Ahara, Vihara & Manasa Bhava** <sup>[52,53]</sup>

Guru and Aptarpana (Kaphahara and Vatahara) Ahara Kalpana are considered as Pathya.

S. No.	Varga	Pathya	Apathya
1	<i>Suka Dhanya</i> (Cereal grain)	<i>Puran Shali, Kodrava, Shyamak, Yava, Priyangu, Laja, Nivara, Koradushaka, Jurna, Prashatika, Kanguni</i>	<i>Godhum Naveen Dhanya (Shali)</i>
2	<i>Shami Dhanya</i> (Pulses)	<i>Mudga, Rajamasha, Kulatha, Chanaka, Masur, Adhaki, Makusthaka</i>	<i>Masha, Tila</i>
3	<i>Shaka Varga</i> (Vegetables)	<i>Patol, Patrashaka, Shigru, Vrutaka, Katutikta Rasatmak etc. Vastuka, Trapusha, Vartaka, Evaruka, Adraka, Mulaka, Surasa.</i>	<i>Kanda Shaka, Madhura, Rasatmak</i>
4	<i>Phala Varga</i> (Fruits)	<i>Kapittha, Jambu, Amalki, Ela, Bibhitaki, Haritaki, Maricha, Pippali, Erand Karkati, Ankola, Narang, Bilvaphala</i>	<i>Madhura Phala</i>
5	<i>Drava Varga</i>	<i>Honey, Takra, Ushnajala, Tila &amp; Sarshapa Tail, Asava, Arishta, Surasava, Jeerna Madhya</i>	<i>Milk Preparations, (Dugdha, Dhadhi, Sarpi) Ikshuvikara</i>
6	<i>Mamsa Varga</i>	<i>Rohita Matsya</i>	<i>Aanupa, Audaka, Gramya Mamsa Sevana</i>
7	<i>Vihara</i>	<i>Shrama, Jagarana, Nitya Bhramana, Udvarana, Pragbhojana Jalpana</i>	<i>Diwaswapa, Avyayam, Ati Ashana, Sukha Shaiya</i>
8	<i>Manasa bhava</i>	<i>Chinta, Shoka, Krodha</i>	<i>Nitya Harsha, Achintana</i>

## 5. Conclusion

Ayurveda is an ancient holistic science that mainly deals with the knowledge of life and is practiced as a healthcare system in India. Ayurvedic understanding of this comorbid condition and experimental therapeutic base may offer a great strategy for management

and prevention of lifestyle disorders. Since this is a lifestyle disorder through change in lifestyle (*Ahara -Vihara*) and treatment the symptoms of *Sthaulya* can be reduced to lead a good quality of life.

#### 6. Competing interests

There are no competing interests, according to the authors

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