

A Critical Analysis on the Ayurvedic Niadanapanchak Concept of Sthaulya (Obesity)

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Abstract: In today's generation everyone wants to be lean and fit. This has been said in Ayurveda as well. Further, Sthulapurusha is listed as one among the Ashthanindita - Purusha. In 21st century, continuously changing of life style, stress, environment and dietary habits have made man the victim of many diseases. Sthaulya is one of them. Obesity is considered as a metabolic disorder in modern literature. World Health Organization listed obesity in the 10 top risks to health.

Keywords: Sthaulya, Ashthanindita - purusha, Niadanapanchak

1. Introduction

Sthaulya disease details mention in Samhita period. In Acharya Charaka mention in Charak Samhita Sutrasthana 21 chapter as Ashthanindita - purusha. Acharya Madhava Kara explained In Madhavanidan in 34th chapter as used Medoroga, Medosvina, Ati sthula and Sthula. Acharya Charaka has mentioned the Beejadosh Swabhavata as one of the important etiological factors besides other for the disease. According to modern science also the basic cause of overeating diet containing more fats and calories than required leads to prolonged post prandial hyperlipidaemia and deposition of triglycerides in adipose tissues results in weight gain. Hence Ahararasa plays a major role for the increase of Meda Dhatu in Sthaulya. So, Acharya Sushruta as mentioned all AharatmakaNidana ultimately decreases physical activity, which aggravates Kapha and leads to Meda deposition.

Aim and objective

To study about Niadanapanchak Concept of Sthaulya vis a vis Obesity in Ayurvedic and Modern literature.

Definition of Sthaulya

Ayurvedic Review: According to Acharya Charaka one of the best definitions of Sthaulya is - “*medo mamsa ativrudhatvatchalasphik udara stana, ayathopachayautsahonaroatisthulauchyate*”

The increase of the medo & mamsa dhatu causes flabbiness and thus movement of the abdomen buttocks and breasts. The increase in bulk does not match the corresponding increase in enthusiasm; such a person is called Ati Sthula.

Modern Review: Obesity is a medical condition, sometimes considered a disease, in which excess body fat has accumulated to such an extent that it may negatively affect health. It's a medical problem that increases the risk of other diseases and health problems, such as heart disease,

diabetes, high blood pressure and certain cancers. In adults, obesity is defined as having a BMI of 30.0 or more, according to the Centres for Disease Control and Prevention (CDC).

Historical Review of Sthaulya

Vedic Kala: (10000 to 500 B. C.):

In Rigveda the words Meda and Vasa are mentioned.

In Yajurveda (12/97), there is mention of a disease named Upachita.

In Atharva Veda words like medini, pivasi, and medas are available for Sthaulya.

Samhita Kala (2000 BC – 400 A. D.):

Charaka Sanhita (200 B. C.): “Atisthauya Purusha” as one amongst the Ashtanindit Purusha is mentioned Sutrasthana 21st chapter.

Sushruta Sanhita (2 A. D.): In this text narrated the etiopathogenesis of Sthaulya Roga.

Ashtanga Sangraha (6 A. D.) and Hridaya (7 A. D.): “Vridha Vagbhata and Vagbhata has elaborated etiopathogenesis of Sthaulya on the basis of formation of Ama and altered Dhatu Parinama.

Madhava Nidana (7th A. D.): Madhava has elaborated the pathophysiology of this disease on the basis of increased meda and meda deposit site.

Sharangdhar Samhita (13th century): Sharangdhar has described sthauya as medodosha in Poorvakhandana Rogaganana adhyaya.

Bhav Prakash (16th century): Bhavmishra was the first person to name the chapter as Sthaulya Adhikar i. e., 39th chapter of Madhyam Khanda.

Adunikakala: Modern history of Obesity

Prehistory: Human Obesity is clearly depicted in Stone Age archaeological remains.

The ancient period:

Cook in Ankh - ma - Hor's tomb (Sixth Dynasty; 2340–2180 B. C.), and a fat man enjoying food presented to him by his servant, in Mereruka's tomb. Studies of the reconstructed skin folds of royal mummies suggest that some were fat, including Queen Inhapy, Hatshepsut and King Ramses III (Reeves, 1992).

Ancient Greece and Rome:

The health hazards associated with obesity were well known to the Ancient Greek physician Hippocrates, who stated that 'sudden death is more common in those who are naturally fat than in the lean' (Littre, 1839). Greek physicians also noted that obesity was a cause of infrequent menses and infertility in women. Some 500 years after Hippocrates, the leading Roman physician Galen distinguished 'moderate' and 'immoderate' forms of obesity.

1) Synonyms of Sthaulya

- Ati Pushti
- Ati Sthaulya
- Brimhatva
- Jatharya
- Meda Dushti
- Meda Pushti
- Medo Gada
- Medo Vriddhi
- Medodosha
- Medoroga
- Medo Vikara
- Pushti
- Sthaulya
- Sthavima
- Sthulata
- Sthulatva
- Sthulodara
- Tundika
- Upachaya

2) Nidana of Sthaulya

Hetu of Sthaulya according to different Samhita:
AetiologifactorsasperCharakSamhita:

- AtiSampooranat – Foodconsumptioninexcessquantity.
- AtiGuruUpayogat–Excessiveintakeoffood whichisheavytodigest.
- AtiMadhurUpayogat–Excessiveintakeofsweetfood.
- AtiSheetUpayogat– Intakeofcoldorsheetveeryadravyainexcessquantity.
- AtiSnigdhaUpayogat –IntakeofExcessUnctuousfood.
- Avyayamat– Lackofexercise.
- Avyavayat–Lackofsexualactivity.
- Divaswapnat–Sleepingduringdaytime.
- Harsha - nityayvat–Alwaysbeinghappy.
- Achintanat–Freefromtensionsandworries.
- Beejaswabhatvat–Hereditary.

3) Aharatmaka Nidana**Matra & Kala:**

- Adhyashana (Eating when the previous food is not digested),

- Ati Sampurana (Over eating), Santarpana (Eating foods high in calories).

Rasa & Guna:

- Guru Aharasevana (Foods which are heavy to digest),
- Madhura Aharasevana (Foods having sweet taste),
- Sheeta Aharasevana (Cold foods),
- SleshmalaAharasevana (Foods which increase kapha),
- Snigdha Aharasevana (Oily foods).

Shuka Dhanya Varga:

- Godhumasevana (Wheat),
- Navannasevana (Freshly harvested grains),
- Shali sevana (Rice).

Shami Dhanya Varga:

- Masha sevana (Black gram)

Mamsa Varga:

- AudakaRasasevana (Aquatic animal's meat & soup)
- GramyaRasasevana (Domestic animal's meat & soups)

Madya Varga:

- Nava Madyasevana (Freshly prepared alcohol)

Gorasa Varga:

- Dadhisevana (Curds),
- Paya Vikarasevana (Milk and its preparations),
- Sarpisevana (Ghee).

Iksuvikara Varga:

- Guda Vikara sevana (Preparations containing jaggery),
- Ikshu Vikara sevana (Preparations containing sugar).

Viharatmaka Nidana

- Asana Sukha (Remaining seated for a long time)
- Avyavaya (Lack of sexual intercourse, for men above 21 and women above 16 years)
- Avyayama (Lack of physical exercise)
- Bhojanottara Snana (Bathing after taking food)
- Divaswapna (Sleeping during the day time)
- Gandhamalyanusevana (Excessive use of fragrant substances like garlands)
- Swapna prasangat (Excessive sleep)

Manasika Nidana

- Achintanat (Lack of heavy mental activities)
- Harsha nityatvat (Always being cheerful)
- Manaso - nivritti (Relaxation of the mind)
- Priyadarshana (Constantly seeing those things which are liked)

Ahita karma janya Nidana

- Snigdha Madhura Basti (Medicated enema with substances which are oily and sweet in taste)
- Tailabhyanga (Application of oil, followed by centripetal massage)

Beejadasha swabhatvat:

- Bija dosha swabhatvat (Genetic factors).

Causes of Obesity**Exogenous:**

- Over eating
- Dietary habits
- Drinking habits
- Smoking

Endogenous:

- Endocrine factors

Miscellaneous

- Age
- Sex
- Occupation
- Socioeconomic status
- Psychogenic factors
- Environmental factors
- Drugs
- Hypothalamic factors
- Physical activity
- Caloric Balance

4) Samprapti of Sthaulya**Samprapti of Sthaulya can be divided in two categories**

- This is according to CharakaSamhita in which there is just increased Jatharagni which causes maximum ingestion and leads to maximum absorption of Prithvi and JalaMahabhuta dominant factors in the body leading to increased Medodhatu in the body.
- This is according to Dalhana in which there is a state of Medodhatvagni Mandya which leads to excessive formation of improper Medodhatu leading to Sthaulya.

Samprapti Ghatkas

- DoshaVata: Prana, Udana, Samana, Vyana, Apana
- Pitta: Pachaka, Bhrajaka
- Kapha: Kledaka, Bodhaka, Sleshaka
- Dushya: Rasa, Rakta, Mamsa, Meda, Shukra
- Agni: Jataragni, Rasa Dhathwagni & Medo Dhathwagni
- Ama: Medo dhathwagni manda janya
- Srotas: Medovaha, Rasavaha, Pranavaha, Shukravaha, Swedovaha
- Dusti prakara: Sanga
- Udbhava sthana: Amashaya
- Sanchara sthana: Sarva daihika
- Vyakthasthana: Sarva shareera
- Sadyasadyatha: Krucchrasadhya
- Roga marga: Bahya, madhyama and Abhyantara

5) Pathogenesis of Obesity

An obese person has one or both of the following conditions

- An increase in number of adipose cells, i. e., hyperplasia
- An increase in size of adipose cells, i. e., hypertrophy.

The three main factors in the pathogenesis of obesity are:

- Excessive lipid deposition:** Increased food intake, Hypothalamic lesions, Adipose cell hyperplasia or Hyperlipogenesis.

- Diminished lipid mobilization:** Mobilization of unsaturated fatty acids is under the control of thyroxin, adrenaline and glucocorticoids.
- Diminished lipid utilization:** It is due to ageing, defective lipid oxidation, defective thermo genesis or inactivity.

6) Purvarupa of Sthaulya

Purvarupa refers to the features, which indicates the fourth - coming disease. It usually happens during the fourth kriya kala called "Sthaana samshraya". According to Charaka, the Medovahasroto - DustiLakshanas which are also mentioned as Purvarupa of Prameha (Ch. Su.28/18). So, Shleshma Sanchya and Medodusti Lakshana related Purvarupa of Prameha and Medovaha Srotodusti Lakshanas described by Acharyas can be considered as Purvarupa of Sthaulya. The symptoms related with Meda Dushti like Atinidra, Tandra, Alasya, Visra Shariragandha, Angagaurav, Shaithilya etc. can be considered as Purvarupa of Sthaulya.

The initial manifestations of Sthaulya related symptoms could be considered as the premonitory symptoms or Poorva Rupa of Sthaulya.

- Coated feeling of teeth.
- Burning sensation of hands and feet.
- Smoothness of skin.
- Excess of thirst.
- Sweet taste of mouth.

According to Madhavidan, in purvarupavastha, increase in medo dhatu is observed especially at the abdominal area. This is due to increase in Kapha dosha and meda dhatu which is in the initial stage in samprapti.

7) Rupa

When the Vyadhi kriya kala is in fifth stage (Vyakthavastha), the disease produces the features called as "Rupa". These indicate the manifestation of disease. Charaka Samhita gives us the cardinal symptoms of Sthaulya as –

- Medomamsa ativrudhi,
- Chala sphik,
- Chala udara,
- Chala stana,
- Ayathaopachaya,
- Anutsaha etc

The 8 main symptoms (ROOPA) of Obesity:

- Ayushohrasa (Diminution of lifespan)
- Javoparodha (Reduced Physical activity)
- Kricchravyavaya (Impaired sexual performance)
- Daurbalya (Debility)
- Dargandhya (Foul smelling of body)
- Swedabadha (Excessive sweating)
- Kshudhatimatra (Excessive hunger)
- Pipasatiyoga (Excessive thirst)

Clinical features of obesity

Its manifestation depends upon a variety of factors. The clinical manifestation of obesity as described in modern medicine.

- Obesity diagnosed from gain in weight B. M. I. – above 30 in males and above 28.6 in females are called obese.

- Skin fold thickness – Obesity is indicated by a reading above 20 mm in a male, and above 28 mm in a female.
- Waist hip ratio –W. H. R. is above 1.0 in males and above 0.8 in females, the type of obesity is android; i. e., man pattern obesity and when W. H. R. is below this it suggests ganoids type i. e., female pattern obesity.
- Protuberant abdomen is a common clinical feature of an obese person.
- Development of skinfold around the axilla below the breast, peritoneal region.
- Dyspnea on exertion and general lassitude.
- Varicose veins and oedema of the ankles are most troublesome features of obesity patient.
- Obesity female menstrual disturbance and sterility is also observed.
- In obese person possibility of fungal infection is higher in the skin fold area.
- **Inferior lipodystrophy:** Involving the lower part of trunk & legs with wasting of upper half of the body.
- **Girdle type / fatty apron:** Involving the hips, buttocks and abdomen. It can be found in pituitary or hypothalamic lesions.
- **Breeches or trochanteric type:** Involving in buttocks only.
- **Lipomatous / multiple lipomatous:** It is characterized by localized deposits of fats over the body associated with tenderness and pain over the fatty lumps.
- **Android / Abdominal or Male obesity:** ‘Android obesity’ refers to the accumulation of body fat in abdominal region commonly found in men it has been considered as high - risk form of obesity.
- **Gynoid or gluteo femoral or female obesity:** ‘Gynoid obesity’ refers to the accumulation of body fat in gluteo femoral region commonly found in pre - menopausal women.

8) Classification

According to langhana upakrama, three types of Sthaulya

- Hina sthauilya
- Madyama sthauilya
- Adhika sthauilya

According to onset:

- Insidious
- Gradual
- Rapid

According to severity:

- Mild
- Moderate
- Severe

According to BMI

- Overweight - 25 – 29.9 Kg/m²
- Obesity (class - I) 30 – 34.9 Kg/m²
- Obesity (class - II) 35 – 39.9 Kg/m²
- Severe or morbid obesity (class - III) > 40 Kg/m²

On the basis of Etiological factors

- 1) **Physiological:** Observed in puberty, pregnancy and lactation.
- 2) **Pathological:** It can be further divided into three –
 - a) Exogenous: caused by overeating
 - b) Endogenous: caused due to endocrine glands - Hypothyroidism, Cushing’s syndrome, Hypothalamic, Hyperinsulinism, polycystic ovarian disease.
 - c) Idiopathic: where no cause is detected.

According to Fat distribution:

- **Generalized:** Generalized obesity is usually seen in exogenous obesity.
- **Central / Trunk type:** Involving trunk and neck, it is common seen in Cushing’s syndrome and Hypothyroidism.
- **Superior / Buffalo type:** Involving the face, neck, arm and upper part of trunk.

On the basis of histopathology:

- **Hyperplastic obesity** – In this increase in adiposity’s number, means number of fat cells.
- **Hypertrophic obesity** – It refers to increase in adiposity size and also increase in size of fat cells.

9) Shapeksha Nidana:

- Sthauilya,
- SthaulPramehi (C. Ch.6/15)
- KaphajGalgandS. Ni. (12/25) and
- Vriek Vikara like Prameha, MedowahaStrotus Dusti Janya Vikara (C. SU.28/15): These are different entities as explained in classics.
- In modern parlance, Differential diagnosis of Obesity, Hypoalbuminemia, Nephrotic Syndrome, Hypo - Proteinemia, Chronic Kidney Disease.

10) Upashaya – Anupashaya:

Those diets, regimens and medicines which bring pacifying effects are termed as upashaya whereas those factors which exacerbate them are considered as anupashaya. It gives diagnostic tool towards the gudalinga vyadhi. Upashaya is also said as satmya which refers to vyadhi satmya. Anupashaya is considered as asatmya.

11) Upadrava

Upadravas due to Agni Vikriti: - Upadravas like Ajirna, Atisara, Arsa, Udararoga etc. can emergedue to malfunctioning of Agni and formation of Ama. Upadravas due to MedaVikriti: Granthi, Arbuda, Galganda, Vriddhi etc. disorders resulting due to vitiation of Meda can be taken as upadravas of Sthauilya. Granthi and Vrana are narrated as symptoms of Medogata Vata (Su. Ni.1/26). Daha, Medoja Granthi and Vamana are the symptoms of Medogata Pitta which can manifest as Upadravas in patients of Sthauilya (AS. Su.19/26). Upadravas due to Avarana: Jvara, Urustambha, Vatavyadhi etc. Upadravas may occur due to obstruction of Vata by Meda, in patients of Sthauilya.

12) Complication of Obesity

Complications are either directly caused by obesity or indirectly related through mechanisms sharing a common cause such as a poor diet or a sedentary lifestyle.

Systemic complications of obesity:

- Cardio - vascular system
- Respiratory system
- Gastrointestinal system
- Metabolic system
- Neurologic
- Breast
- Uterus
- Urological
- Skin
- Endocrine system
- Pregnancy
- Musculoskeletal
- Ophthalmologic
- Cancer
- Post - operative events

13) Sadhya - Sadhyata

Acharya Charaka has mentioned in Chikitsa Sthana 6/57 bad prognosis for Sahaja (hereditary) disease. Hence Sahaja Sthaulya can be considered as Asadhya. As per the enumeration of Vagbhata (AH. Chi.22/5) Medogata diseases are curable only in uncomplicated patients with more bala and less chronicity. So, Vagbhata has mentioned Sthaulya as Asadhya Vyadhi. (A. H. Sa.5/12).

Yogaratakarn has clarified that sudden weight loss or gain could be fatal within six months. Therefore, Sadhyasadhya of Sthaulya can be constructed on the basis of general principles of Sadhyasadhya depicted in Ayurvedic Texts (Ch. Ni.8/33 - 35).

Sukh Sadhya: Jatotar Hina Sthaulya having duration of 1 to 5 years, without any complications or secondary disease, can be considered as Sukh Sadhya.

Krichrasadhya: Jatotara Madhyama Sthaulya having duration of 5 to 10 years with least complications but without secondary diseases can be considered as Krichrasadhya.

Asadhya: - Sahaja Sthaulya is Asadhya. JatotarAdhika Sthaulya having duration of more than 10 years, in the presence of complication and secondary diseases can be considered as Asadhya.

14) Prognosis of Obesity

Obesity is not just a health problem on its own; it can cause many other medical conditions that are detrimental to your health. Obesity health risks include high blood pressure, heart disease, diabetes, sleep apnea and high cholesterol, among others. In the United States, the problem of obesity is getting worse - the prevalence was more than 42% from 2017 to 2018.

Overall, obesity life expectancy is shorter than the life expectancy of normal - weight people, but there are many

factors affecting obesity health risks and prognosis, including coexisting conditions

2. Discussion

Because of improper modern life style, the individual is susceptible to a crippling disease called Sthaulya which is one amongst santarpantha vyadhi and is included under Astaninditya Purusha. Balance between the consumption of food and its utilization in the form of physical exercise establishes the health. If the consumption of food is excess in comparison to its utilization in the form of physical activity, the excess of nutrition acts as an etiology for the illness and is referred as santarpana nidana.

The accumulation of the kapha and medas within the channels of rasa and rakta dhatu predisposes to narrowing and obliteration of the same. This obliteration causes agitation and morbidity of kapha dosha. Thus, vitiated kapha dosha manifests as kapha vyadhi, and the resulting illness may involve the morbid kapha dosha alone, or may be associated with pitta and vata dosha, or else the kapha vyadhi may establish with the pathophysiology of avarana. "In Sthaulya pathological factors mainly vitiate meda - kapha and vata get avarita by excessive Meda".

A person is said to be sthula if there is excessive increase in the mamsa and medodhatu, leading to pendulous appearance of the spik, udara as well as stana. In patients suffering from sthaulya, the increased agni and vitiated vata are incriminated to cause voracious eating. In Sthaulya, Kapha, Vata and Medas are the major pathological factors.

In the conventional medicine, it is said that sedentary life style is the major cause of morbid accumulation of fat in the body leading to metabolic syndrome. It is characterized by dyslipidaemia which in long run leads to Adipose tissue become dysfunctional.

Symptoms of Sthaulya as described in the text says Dargandhya (Foul smell), Ayaseswaskastata (Dyspnoea), Anga Gaurava (Heaviness), Atikshudha (Poly phagia), Atipipasa (Polydipsia), Alpa Vyavaya, Chala Sphika, Chala Udara, Chala Stana, Utshah Hani /Alasya, Daurbalya (Alpa Vyayam), Nidradhikya, Anga Shaithilya were considered, whereas on the Medoroga considered as the cardinal feature of Metabolic syndrome.

3. Conclusion

Sthaulya has been narrated as Dushya dominant disorder i. e., Medaja Vyadhi. In the samprapti of Sthaulya, all the three Doshas are vitiated especially Kledaka - Kapha, Pachaka - Pitta, Samana and Vyana - Vayu. Dusti of these components results in indigestion, metabolic abnormality and formation of Ama leading to Medo Dhatu vriddhi causing Sthaulya.

Due to obstruction of srotas by Meda, the Vata specially activates in the koshta, whips up the Agni and increases the absorption of the food. Consequently, the food is digested quickly and the person craves for food inordinately. This over eating causes excessive and disproportionate accumulation of Medodhatu, ultimately leading to Sthaulya.

References

- [1] Amarkosha by Amarshinha - II Ed.1976.
- [2] AstangHridayaSarangasundari and Ayurveda RasayanaTika.
- [3] AstangSamgraha - InduTika.
- [4] BhelaSamhita - Edited by GirijaDayalu Shukla.
- [5] BhavaprakashaNighantu – Bapalal Vaidya.
- [6] BhaishajyaRatnavali – Edited by MotilalBanarasidas, Delhi, 1976.
- [7] CharakaSamhita – Ayurveda Dipika and JalpakalpataruTika.
- [8] CharakaSamhita (Eng.) – R. K. Sharma and Bhagwan Dash.
- [9] HaritaSamhita.
- [10] KashyapaSamhita.
- [11] MadhavaNidana with Madhukosha and VidhyotiniTika.
- [12] SharangadharaSamhita - Adhamalla&Kashiramtika.
- [13] SushurtaSamhita - NibandhaSamgrahatika.
- [14] A. P. I. Text Book of Medicine.
- [15] Oxford textbook of Medicine Vol - I, 13th Edition.
- [16] Principles of Internal Medicine Harrison.
- [17] Cecil text book of Medicine.