



## ROLE OF AYURVEDA IN THE MANAGEMENT OF LIFE STYLE DISORDER OBESITY (*Sthaulya*).

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### ABSTRACT

‘lifestyle disorder’ includes physical and mental diseases which are mostly caused by an unhealthy lifestyle. Most frequent medical conditions are; cardiac diseases, metabolic disorders like obesity, diabetes due to unhealthy diet. Obesity is a very common problem found now a days. Obesity has reached epidemic proportions in India in the

21st century, with morbid obesity affecting 5% of the country's population. It is caused by the combination of excessive food energy intake, lack of physical activity, genetic susceptibility, endocrine disorders, medications or psychiatric illness. Obesity adversely affects health, and reduced life expectancy of the individual. Despite continuing efforts to find solutions it has reached epidemic proportions in many countries. In Ayurveda there is also description of the standard objectives for a beneficiary life, and good long life based on it. A similar type of disease described in Ayurveda is *sthulya roga*, which is due to disorder of *meda* and *kaphaja dosha*. Various types of dietary articles like barley, old rice, oat, Bengal gram etc. mentioned in Ayurveda, which reduce the kapha and meda. Low energy food articles with a huge amount of fiber are effective in the management of obesity. Many researches have proved that fruits and vegetables with anti-inflammatory phytochemicals can counteract obesity. Most at risk of acquiring a physical or mental lifestyle disease are adults who are socio-economically disadvantaged, with a low level of education and those with a migration background belong to the groups of adults. Thus Ayurveda plays a very important role to manage the lifestyle disorder obesity (*Sthaulya*).

**KEYWORDS:** Life style disorder, Obesity, *sthulya roga*, Diet.

## 1. INTRODUCTION

Obesity is a state of excess adipose tissue mass. “Overweight” refers to an excessive amount of body weight that includes muscle, bone, fat, and water (A.P.I. text book of Medicine 2005). Major causes of the increasing prevalence of obesity include behavioural and environmental factors, such as excessive consumption of energy-dense foods and a sedentary lifestyle (Chantel S 2002). In Ayurveda Obesity is regarded as Medoroga –A disorder of Meda dhatu- Adipose tissue and fat metabolism and one of the undesirable Constitutions. Sthaulya is considered as a santarpan janya vikar. (An excess nutritional disorder). Acharya Charaka was the first to present a detailed account of Sthaulya (Pandit Kashinath Shastri 2011). Atisthula is one among the Ashtaunindita Purusha described by him. He has described its causative factors mainly to be exogenous and hereditary type (Bijadosha), its etiopathogenesis, prognosis and management. Exogenous causes are meda (fat) potentiating diet and regimens, whereas dosha, dhatu, Mala, Srotas etc. come under the endogenous factors. In the pathogenesis of sthauilya, all the three doshas are vitiated, especially Kledaka Kapha, Pacaka Pitta, Samana and Vyana Vayu are the Doshika factors responsible for the samprapti of sthauilya. Aama annarasa traveling in the body channels gets obstructed in the Medovaha Srotas owing to the khavaigunya due to bijasvabhava or sharir shaithilya and combines with kapha and meda, decreasing the medo dhatvagni which in turn gives rise to augmentation of meda. Vitiated Vyana Vayu propels this augmented meda dhatu to its sites viz. udara(abdomen), sphika(hip region), stana(breast), gala(neck) etc. resulting in sthauilya or ati Sthula. Chala sphika, chala udar, chala Stana and ati meda-mamsa vrddhi are very obvious in all the patients of sthauilya. Manifestations of these Rupas are associated with either excessive accumulation of meda dhatu or diminished nourishment of other dhatus or obstruction in various Srotas(channels) by medojanya margavarodha or the aama or vitiation of vata and slesma Dosa, so excessive accumulation of Medo Dhatu produces various signs and symptoms in Sthauilya patient. High intensity and severity of sthauilya due to ati ksudha (increased appetite) and ati pipasa(increased thirst) and manifestations of severe complications and even death due to its ignorance have been mentioned with example of Davanala by Charaka (Pandit Kashinath Shastri 2011). Obesity is caused by various series of factors like genetic factors carried by genes such as Leptin, Lep R, POMC, MC4R and PC-1 and environmental factors such as life style, behavior, diet, physical activity, social factors like poverty and a lower level of education. Diseases like Hypothyroidism, Cushing syndrome, polycystic ovarian syndrome and Drugs like steroids, antidepressant can make a person obese. Pathophysiology of obesity seems simple: a chronic excess of nutrient intake

relative to the level of energy expenditure (O.T westheral 2005). WHO estimates that at least 500 million adults are obese in 2008, with higher rates among women than men, and the rate of obesity also increases with age. In the puberty phase and adolescent, hormonal changes causes more fat accumulates in body particularly in females so women are more prone to be obese than men. The persons of developed countries are more suffer than developing countries.

## 2. CONCEPTUAL STUDY

### 2.1 Causes of obesity

Obesity is most commonly caused due to the combination of excessive food energy intake, and lack of physical activity. A limited number of cases are primarily due to genetics, medical reasons, or psychiatric illness. In contrast, increasing rates of obesity in the community are felt to be due to an easily accessible and palatable diet, and increased sedentary lifestyle. Some other identified possible contributions to recent increase of obesity are: (a) insufficient sleep, (b) endocrine disruptors (environmental pollutants that interfere with lipid metabolism), (c) decrease variability of ambient temperature (d) decreased rates of smoking, because smoking suppresses appetite, (e) increased use of medications that can cause weight gain (e.g., atypical antipsychotics), (f) proportional increases in ethnic and age groups that tend to be heavier, (g) pregnancy at a later age (which may cause susceptibility to obesity in children), (h) epigenetic risk factors passed on generationally, (i) natural selection for higher BMI (j) assertive matting lead to increased concentration of obesity risk factor (Keith SW 2006 and <http://en.wikipedia.org/wiki/Obesity>). Ayurveda describes many etiological factors of *Sthaulya roga*, which are related to all aspects at life and affect the body. These factors are classified into.

- *Aharatmaka Nidana* (Dietary)
- *Viharatmaka Nidana* (Regimens)
- *Manas Nidana* (Psychological)

#### **Aharatmaka Nidana**

*Ati sampurana* (Over eating), *Santarpana* ( over nourishing), *Guru Aharasevana* (Excessive consumption of Heavy food), *Madhura Aharasevana* (Excessive consumption of sweet food), *Snigdha Aharasevana* (Excessive consumption of unctuous food), *Sleshmala Aharasevana* (Kapha increasing food), *Navannasevana* (Usage of fresh grains), *Nava madya sevana* (Usage of fresh alcoholic preparation), *Gramya Rasasevana* (Usage of domestic animal's

meat & soups), *Mamsa sevana* (Excessive use of meat), *Paya Vikar sevana* (Excessive usage of milk and its preparations), *Dadhi Sevan* (Excessive use of curd), *Sarpi sevana* (Usage of Ghee), *Ikshu Vikara sevana* (Usage of sugarcane's Preparations), *Guda Vikara sevana* (Usage of jaggery's preparations), *Shali sevana* (Excessive use of Rice), *Godhum sevana* (Excessive use of wheat).

### Viharatmaka Nidana

*Avyayam* (Lack of physical exercise), *Avyavaya* (Lack of sexual life), *Divaswap* (Day's sleep), *Asana Sukha* (Luxurious sitting), *Bhojanotar Nidra* (Sleeping soon after meal).

### Manasvyaparatomaka Nidana

*Harshnityatvat* (Uninterrupted cheerfulness), *Achintanat* (Lack of anxiety), *Manasonivritti* (Relaxation from tension), *Priyadarshana* (Observations of beloved things).

## 2.2 The international classification-

The international classification of overweight and obesity according to BMI as per WHO (Anonymous 2003).

**Table no.1: The international classification.**

Classification	BMI (KG/M2)
Normal range	18.50-24.99
Overweight	>25.00
Pre-obese	25.00-29.99
Obese	>30.00
Obese class 1	30.00-34.99
Obese class 2	35.00-39.99
Obese class 3	>40.00

$$\text{BMI} = \frac{\text{Actual weight in}}{(\text{Height in meter})^2}$$

□ Waist to Hip ratio If it is more than 1 in male and 0.85 in females is Obesity.

## 2.3 Pathogenesis of obesity

The three main factors involved in the pathogenesis of obesity:

- Excessive lipid deposition
- Diminished lipid mobilization and
- Diminished lipid utilization.

Excessive lipid deposition is due to either increased food intake, hypothalamic lesions, adipose cell hyperplasia or hyperlipogenesis. Increased food intake in form of carbohydrates, proteins, and fats by metabolic process lastly converts in fat and get stored at fat depots. Diminished lipid mobilization is due to either decrease lipolytic hormones or defective cells or abnormality of autonomous innervations. Thyroxin and adrenaline stimulate mobilization of unsaturated fatty acids from adipose tissue, abnormality of these two causes diminished lipid mobilization and excessive lipid deposition ultimately leads to obesity. Diminished lipid utilization is due to ageing, defective lipid oxidation, defective thermogenesis or inactivity. It is the main pathology in middle age obesity (Guyton AC, Hall JE 2006).

## 2.4 Factors influencing obesity

In spite of dietary intake and expenditure so many factors are responsible for obesity like emotional state, behaviour, life style etc. Expenditure of energy may occur by 3 ways (Guyton AC, Hall JE 2006).

A - Resting metabolic rate

B - Thermogenesis

C - Physical exertion

### 2.4.1 Eight consequences of *stulata* as described in Charak

**sambhita<sup>3</sup>**:-Reduced life span, Laziness, Difficulty in sex, Weakness instead of having good weight, Smelling body and perspiration, increased appetite and thirst.

## 2.5 Measurement of obesity

It is very easy to label a person as an obese, because in most of the cases it can be detected by visual inspection. However number of factors are needed to be considered to arrive at the conclusion, it can be assessed in several ways which are mentioned as follows: Weight and Height ratio,

- \_ Measurement of skin-fold thickness
- \_ BMI
- \_ Circumference ratio (Waist/Hip ratio)
- \_ Density – Immersion – Plethysmograph
- \_ Potassium isotops
- \_ Conductivity
- \_ Bio-electrical impedance
- \_ Fat soluble gas

- \_ Ultra sound
- \_ Computed tomography etc.

The measurement of body circumferences with a measure tape provides the same advantages of portability, ease and acceptability as height-weight measurement. Waist circumference is the minimum circumference between the costal margin and iliac crest, measurement in the horizontal plane, with the subject standing. Hip circumference is the maximum circumference in the horizontal plane, measured over the buttocks (W.B. SAUNDERS Company, 1989).

### 3. MANAGEMENT OF OBESITY

The primary focus of dietary approach in obese is to reduce overall calorie consumption. If calorie consumption is less than the calorie intake in daily routine, then the calories are accumulated in the form of fats. Increase in fat reduces body movements, which again increases the weight (Fauci AS 2008). So as to reduce the fat one must control the food habits. Foods with low-energy density include soups, fruits, vegetables, oatmeal, and lean meats. Dry foods and high-fat foods such as pretzels, cheese, egg yolks, potato chips, and red meat have a high-energy density so they should be avoided. Diets containing low-energy dense foods have been shown to control hunger and result in decreased caloric intake and weight loss. In Ayurveda foremost and very important principle of weight loss is Nidana Parivarjana. It has a great importance in the management and also in the prevention of various diseases. The *Sthaulya* Rogi should avoid the causative factors of obesity, such as lack of exercises, Sleeping in daytime, Kapha Dosha aggravating diet, Excessive intake of foods, which are difficult for digestion, such as consuming sweet, cold and unctuous food contents in excess quantity (Yadavji Trikamaji Acharya 2001). Diet is the one of the unique aspects described in details for healing every disease. If a proper diet is followed, there is little need of any kind of medicines, and if not followed, medicines alone can accomplish. Many foods in Ayurveda described for prevention and control of obesity such as heavy and non-unctuous food, Old Rice, oats, barley, green gram, bengal gram, horse gram, red lentil, Sponge gourd, horse radish, brinjal, cucumber, ginger, radish, carrot, jamun, bilva, Triphala, cardamom, black pepper, long pepper, citrus fruits, honey, buttermilk, lukewarm water, intake of water before meal. Gary D. Foster *et al.* in 2003, in a randomized trial found the direct relation between diet and obesity (Foster GD 2003). The herbs reported to have effect on obesity by either animal studies or clinical trials are mentioned below (Ms. Priyanka Goswami).

1) *Euterpe oleracea* (Family: Arecaceae), Syn. Cabbage palm

- 2) *Embllica officinalis* (Family: Phyllanthaceae), Syn. Amla
- 3) *Theobroma cacao* (Family: Malvaceae), Syn. Chocolate
- 4) *Ceratonia siliqua* (Family: Leguminosae), Syn. Locust bean
- 5) *Cocos nucifera* (Family: Palmae), Syn. Coconut
- 6) *Oenothera biennis* (Family: Onagraceae), Syn. Hog-Weed
- 7) *Foeniculum vulgare* miller (Family: Umbelliferae), Syn. Fennel
- 8) *Trigonella foenum-graecum* (Family: Fabaceae), Syn. Fenugreek
- 9) *Camellia sinesis* (Family: Theaceae), Syn. Tea
- 10) *Tinospora cordifolia* (Family: Menispermaceae), Syn. Guduchi
- 11) *Gymnema sylvestre* (Family: Asclepediaceae), Syn. Gurmar
- 12) *Hoodia gordonii* (Family: Apocynaceae), Syn. Hoodia
- 13) *Bauhinia variegata* (Family: Fabaceae); Syn. Orchid.

#### 4. CONCLUSION

Obesity (*Sthulya*) is not only confined to developed countries but it is spreading globally. As the obesity exposes human body, it is the risk of various chronic disorders. So it is essential to prevent obesity (*sthulya*) to avoid others terrible disorders like diabetes mellitus, chronic heart disease, dyslipidaemia. Change in dietary pattern plays a significant role in weight loss. *Ayurveda* also give sufficient focus on *sthulya* and serves as a guideline to advise diet to prevent the disease.

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