

## A REVIEW ON LIFESTYLE INTERVENTION IN *STHOULYA* (OBESITY)

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### ABSTRACT

*Ayurveda* which is not only a system of holistic medicine but a way of life, advocating prevention of disease as its primary aim and following holistic approach in dealing with different diseases. *Acharya Caraka* has described *Sthoulya* under *Asta ninditha purusha* (eight undiserable constitutions) based on their appearance, victim to public abuse and unmanageable health condition. *Sthoulya* is one among *Kaphaja Nanatmaja Vyadhi* (*Kapha* predominant disease) involving *Kapha* and *Medas* (adipose tissue) as main *Dosha* and *Dushya* in pathogenesis. The related risk of health problems associated with obesity are type 2 diabetes, coronary artery diseases, hypertension, dyslipidaemia, osteoarthritis, polycystic ovarian syndrome etc. Though modern medical science sustains on the advanced technologies and therapeutic for the diagnosis and management of obesity. Nowadays a large numbers of population is returning towards natural way of life and holistic approach for the management of *Sthoulya*. *Sthoulya*. It includes modification in lifestyle through proper *Ahara* (diet), *Vihara* (activities). *Ahara* should have the property to alleviate *Kapha Dosha* and *Dushita MedaDhatu* and *Vihara*'s like *Vyayama*, *Yoga*

**Keywords:** *Ahara*, *KaphaDosha*, *MedaDhatu*, *Vihara*, *Sthoulya*

### INTRODUCTION

The maintenance of positive health and the treatment of disease are the aim of *Ayurveda*. Positive health implies the notion of "perfect functioning" of the body and mind. It conceptualizes health biologically, as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body; psychologically, as a state in which the individual feels a sense of perfect well-being and of mastery over his environment, and socially, as a state in which the individual's capaci-

ties for participation in the social system are optimum.<sup>1</sup> The observance of regimens like proper diet and exercise regularly explained under *Dinacharya* (daily regimen), *Ritucharya* (seasonal regimen), *Sadvritta* (good code of conduct) are helps to maintain positive health in *Sthoulya* individuals.

*Sthoulya* is one among *Asta Nindita purusha* and present with excessive *Meda* and *Mamsa* (muscle), *Chalatra* (movement) in buttock, abdomen and breast, strength is disproportion with the physical

growth.<sup>2</sup> It is caused due to over intake of food having the qualities like heavy, sweet, unctuous, lack of physical activity, day sleep, cheerfulness, lack of worries and hereditary. Hence the accumulation of *Meda* takes in excess result in obstruction in *Kosta* (food passage) for the movement of *Vayu*, this stimulates the digestive fire and the food get digested and assimilated quickly so the obese individual have craving for food. Excessive *Meda Dhatu* produce several types of diseases all of a sudden by *Prakupita* (vitiating) *Vata Dosha* which may lead to instantaneous death.<sup>3</sup> *Charaka* classified *Sthoulya* into *sthula* and *Atisthula*, *Vagbhata* includes three types of *Sthoulya* they are *Adhika*, *Madhya* and *Hina*. Where *Sharangadhara* called it as *Medodosha*, *Sushruta* gives explanation about *Sthoulya* and *Medoroga*.<sup>4</sup>

There are eight problems associated with *Sthoulya* individual they are reduced life span, slow bodily movements, difficulty in sexual act, weakness, bad odour, excessive sweat, thirst and hunger.<sup>5</sup> Diagnosis can be done through *Dasha Vidha Pareeksha* as and *Asta sthana Pareeksha*. *Acharya charaka* says the *Sthula*'s are treated by *Karshana* therapy hence a diet accompanied with *Guru* (heavy), *Atarpana* (non nourishing) having the property of *Vatahara*, *Kapha* and *Medohara* is given to make obese slim.<sup>6</sup> Regimens like *Ratrijagarana*, *Udvaratana*, *Vyayama*<sup>7</sup> and *Yogasana*'s like *Trikonasana*, *Shashankasana*, *Paschimothasana*, *Ardhamatsendrasana*, *Pavanamuktasana*, *Bhujangasana*, *Shalabhasana*, *Dhanurasana*, *supthavajrasana*, *Pranayama* should be followed regularly to maintain healthy weight.<sup>8</sup>

#### AIM AND OBJECTIVES:

To review lifestyle intervention in *Sthoulya*

#### MATERIALS AND METHOD:

Here the source of data for the conceptual study are taken from *Ayurvedic* classical texts like *Charaka Samhita*, *Astanga Hridaya*, *Bhaishajya ratnavali*, *Yogaratanakara* and modern medicine text like Park's Text book of Preventive and social medicine,

*Yoga* therapy for holistic health and A Textbook of Human nutrition.

Review of the disease *Sthoulya* (Obesity), *Pathya Ahara & Vihara* and *Apathya Ahara & Vihara* are done with the help of *Ayurvedic* classical texts, modern medicine texts, *yoga* text and Nutrition text books

## DISCUSSION

**On Definition of *Sthoulya*:** *Sthoulya* (obesity) is an abnormal growth of the adipose tissue in the body due to an enlarged fat cell size or an increased in fat cell number or a combination of both. Obese individuals differ not only in the amount of excess fat that they store, but also in the regional distribution of the fat within the body. The distribution of fat in abdomen (android obesity) increases the risk of other diseases. Whereas peripherally distributed around the body called gynoid obesity is less serious.<sup>9</sup> Our science considered same *lakshanas* (symptoms) like *Meda Mamsavridhi* (increased fat and muscles), *chalatva* in *Sphick* (buttock), *Udara* (abdomen) and *sthana* (breast)

**On Classification of *Sthoulya*:** while explaining about *shodhana vidhi* (methods of purification) in *sthoulya*, *Vagbhatacharya* has classified *sthoulya* into *Adhika*, *Madhyama* and *Heena*. Emetic and purgation is conducted in excess obese person complaints with *Ama dosha*, fever, vomiting, diarrhea, chest diseases, constipation, heaviness, belching, regurgitation etc. moderately obese may be treated by way of administering digestants and appetizers. Less obese may be treated by controlling hunger and thirst. By considering the line of treatment and complications with increase in body mass it can be easily understood by correlate with body mass index classification. If BMI between 25-30kg/m<sup>2</sup> with mild degree of overweight without complications or secondary disease then it can be considered as *Heena Sthoulya*. BMI between 30-40kg/m<sup>2</sup> with least complications without secondary disease can be considered as *Madhyama Sthoulya* and BMI >40kg/m<sup>2</sup> with excessive degree and complications associated with

secondary diseases can be taken as *Adhika Sthoulya*.<sup>10,11</sup>

**On Diagnosis of Sthoulya:** Diagnosis can be made by examining *Akruthi* and *Pramana Pareeksha*, these two comes under *Asta sthana Pareeksha* and *Dasha Vidha Pareeksha* respectively. *Akriti of a sthula* determines whether the individual is having android or gynoid obesity where as *pramana pareeksha* determines height, weight, and waist circumference and waist hip ratio. There is an increased risk of metabolic complications for men

with a waist circumference >102cm, and a women with >88cm. A high Waist Hip Ratio >1.0 in men and >0, 8 in women indicates abdominal fat accumulation.<sup>12</sup>

**Diet in Sthoulya:**

According to *Acharya Charaka* the principle of treatment for *sthoulya* is heavy and non-nourishing diet. The diet and drinks should alleviate *Vata* and *Kapha dosha* and reduces *medadhātu*. Heavy diet minimizes the increased *Agni* and non-nourishing nature would help to reduce fat.<sup>13</sup>

**Table 1:** *PathyaApathya Aahara* for *Sthoulya* are given<sup>14,15</sup>

	<i>Pathya Aahara</i>	<i>Apathya Aahara</i>
<i>Charaka</i>	<i>Yavaka, Kodrava, Shyamaka, Yava, Jurna, Mudga, Kulatha, Adhaki, Vibhitaki, Haritaki, Amalaki, Bilvapatra, Patola, Madhu, Takra, Arista</i>	<i>Guru, Madhura, Sheeta, Snigdha Aahara</i>
<i>Bhaishajya ratnavali</i>	<i>Shyamaka, Nivara, Priyangu, Masura, Yava, Kulatha, Chanaka, Mudga, Varthaka, Sarshapa, Madhu, Laaja, Takra, Sura, Vaaripaana, Vibhitaki, Haritaki, Amalaki</i>	<i>Godhuma, Ksheera, Ikshu vikara, Matsya, Mamsa, Masha, Tila, Bhojana paschat Jalapaana</i>

High fiber low calorie foods like fruits, vegetables, whole grain cereals, pulses can be included in the diet. It has many advantages they are low in calorie density, provides vitamins and minerals, give satiety, help in regulating bowel movements, reduces blood cholesterol, promotes chewing and reduces the rate of ingestion. Higher intake of fibers automatically cut down fat and calories.

- Due to presence of Beta glucan, soluble fibers, thiamine, riboflavin, niacin selenium tocotrienol and thus have antioxidant capacity, low in fat easily digestible hence *Yava* (Barley) is useful in weight management.
- Millets like *Syamaka*(barnyard millet), *Jurna* (Jower), *Kodrava* (Kodo millet) are good source of protein, thiamine, riboflavin, niacin ,fibers useful weight reduction
- Pulses like *Mudga* (green gram), *Kulatta* (Horsegram), *Adaki* (red gram) are highly valued for reducing the risk of obesity due to presence

of omega 3 (ALNA) and other unsaturated fatty acids, phytosterol, isoflavones, lignans.<sup>16</sup>

Hence *Pathya Aaharas* (low glycemic foods) helps in weight control in two ways i.e by promoting satiety and by promoting fat oxidation at the expense of carbohydrate oxidation. Mixed meals with low glycemic index induce greater cholecystokinin secretion and greater satiety. Due to slower rate of digestion and absorption in the intestine, nutrient receptors in the gastrointestinal tract are stimulated for a long period of time resulting in prolong feed back to the satiety center in the brain.

When *Apathya Aaharas* (high glycemic food) like *Guru, Madhura, Sheetha Aaharas* consumed, rise in glucose and insulin concentrations increase carbohydrate oxidation through rate limiting enzymes. Malonyl-CoA, an intermediate of glucose oxidation, strongly inhibits fatty acid transport into mitochondria resulting in decreased fatty acid which is linked with greater weight gain.<sup>17</sup>

**Table 2:** A sample of dietary plan for *Sthoulya* (obesity)

6.30am	<i>Dashamoola Kashaya</i> (50ml)or <i>Amalaki</i> juice(200ml) or honey water (150ml)
8.30am	<i>KulattaYusha</i> (200ml)/ <i>MudgaYusha</i> (200ml)/ <i>ChanakaYusha</i> (200ml)/ sprouts (150gms)

11.00am	Carrot soup (150ml)/ buttermilk (200ml)/ fresh fruit juice (200ml) (papaya)
1.00pm	<i>Yava chapatti</i> (2)+ boiled vegetables (150gms)+ buttermilk (200ml)/ veg salad (cucumber+carrot)150gms+buttermilk (200ml)
5.00pm	Herbal tea (100ml)/ lemon juice(100ml)
7.30pm	Fruit salad (150gms)/ khichdi (150gms)

### Discussion on *Vihara* (activities):<sup>18,19</sup>

**Table 3:** *Pathya* and *Apathya Vihara* in *Sthoulya* (Obesity)

<i>charaka</i>	<i>PathyaVihara</i>	<i>ApathyaVihara</i>
	<i>Jagarana</i> (awaken in night) <i>Cinta</i> (worries) <i>Vyayama</i> (exercise)	<i>Avyayama</i> (lack of exercise) <i>Divaswapna</i> (day sleep) <i>Nityaharsha</i> (happy), <i>Achinta</i> (free from worries))
<i>Yogaratanakara</i>	<i>Srama</i> (exertion) <i>Jagarana</i> (awaken in night) <i>Vyayama</i> (exercise) <i>Cinta</i> (worries)	<i>swapna</i> (Excess sleep) <i>Shayya sukha</i> (Comfortable bed) <i>Abhyanga</i> (oil Massage)

Psycho-social factors such as *Achintana*, *Nitya Harsha* will provide extra calorie due to consumption of sweet and oily foods. *Vyayam*, *Srama*, *Jagarana* the energy expenditure is increased in obese due to the extra effort involved in the moving or supporting a body mass and more energy expenditure take place. In cold climate, basal metabolic rate increases because of increase in food consumption. *Divaswapna*, *Avyayama*, *Avyavaya*, *AtiShayyaSukha* increases energy storage than energy expenditure.<sup>20</sup>

#### Discussion on exercise and *Yoga*:

Regular exercise will improve general health and often enable to control their diet. Exercise must be done gradually on a regular basis. Walking is considered as supreme and it is like taking an internal bath. Mind is also cleansed as fresh thought enters. Brisk and vigorous walk for about thirty minutes to one hour at a stretch with deep and rhythmic breathing in a pollution free atmosphere strengthens the muscles of chest, back etc. Morning walks are the best and it is said that in the morning a person walks with whole body, in the evening walks with his legs.<sup>21</sup> Exercise accelerates the rate of weight loss, Effect on body composition by increasing the loss of adipose tissue and minimizing the amount of body cell mass, Metabolic effects manifested by a greater

decrease in insulin level, increase in insulin sensitivity, decrease in serum triglyceride level, increase in HDL cholesterol, improved physical work capacity. Increased physical activity help to reduce body fat and prevent the decrease in muscle mass often found during weight loss<sup>22</sup>

#### Discussion on *Yoga*:

*Yoga* techniques affect body and mind complex. various *yoga* techniques like, *Trikonasana*, *Shashankasana*, *Paschimothasana*, *Ardhamatsendrasana*, *Pavanamuktasana*, *Bhujangasana*, *Shalabhasana*, *Dhanurasana*, *supthavajrasana* and *Pranayama* practiced effectively to reduce the weight and achieve a normal healthy condition of body and mind

Each *Asanas* practiced 2 times tone up all muscles, moreover, the internal organs are stretched increasing blood and oxygen supply to these parts, with breathing gives good exercise to the lungs and has relaxing effect. *Pranayamas* like *Nadishuddhi*, *Bhastrika* for 5 rounds increase the lung capacity and help burning fat. *Kapalabhati kriya* for 3 rounds, fast rhythmic movement of abdominal muscles in and out is very good method to get rid of the accumulated fat in the abdominal region. It also helps in streamlining the digestive system.<sup>23</sup>

## CONCLUSION

Obesity is an lifestyle disease in later life may produce life threatening complications hence here an effort is made to review the life style modification include daily observing the diet having *Kapha Medahara* quality and regimens like *Vyayama*, performing *Yoga pranayama* helps to restore complete positive health.

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