



HOLISTIC APPROACH FOR CHILDHOOD OBESITY THROUGH AYURVEDA –A GROWING HEALTH PROBLEM

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ABSTRACT

Obesity comes with many health hazards and numbers of overweight person are in increasing rapidly worldwide and our country also. *Sthoulya* is a disease of *medovaha srotas* and *kapha-vata pradana tridoshaj vyadhi*. Change in diet and life style, weakens the digestive fire leading to the formation of *Aama*. The *Aama* obstructs the *srotasas* (micro and macro channels), hampers the nourishment of *uttarottara dhatu* and disrupts the formation of tissues. This increase the *medodhatu* and cause imbalance in *kapha dosha*. *Aama* causes imbalance in naturally flowing *vata*. Imbalanced *vata* increases *agni* leading to increase in appetite and thirst further increasing the *medo dhatu*. Need is to control overweight along with improvement in general health aspect. There are many *Ayurvedic* drugs under research for obesity management.

Keywords: *Sthoulya*, Children, *Ayurveda Agnimandhya*

INTRODUCTION: The incidence of childhood obesity has increased rapidly in the last decade. Childhood obesity has serious short and long-term medical consequences increased morbidity and mortality throughout adult life. Most of the world's population lives in countries where overweight and obesity kills more people than underweight. Worldwide obesity has nearly tripled since 1975. In 2016, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 650 million were obese. 39% of adults aged 18 years and over were overweight in 2016, and 13% were obese. 41 million children under the age of 5 were overweight or obese in 2016 .Over 340 million children and adolescents aged 5-19 were overweight or obese in 2016¹. Our modern medical view of treatment for this epidemic condition utilizes Calorie Reduction diet & Lifestyle Changes exercise often moving on to Weight Loss Medications Weight Loss Surgery if

patients don't see results. This approach could be seen as a two-dimensional view for a multi-dimensional challenge, and often falls short in long term treatment. *Ayurvedic View of Obesity*,

Charaka Samhita states that obesity is the most challenging of the 8 undesirable physical constitutional ailments.²It is a difficult condition to balance because it must be treated with *Reduction* therapies, which become especially challenging due to the intense appetite that accompanies obesity.

Definition of Obesity (*Sthulata*): The term *Sthula* derived from the root "*sthula brimhane* " with an addition of "ac" *pratyaya*. Which stand probably is thick or solid or strong." It means a person in whom excessive and abnormal increase of *Meda* along with *Mamsa Dhatu* in the body, which results into pendulous appearance of *Sphika*, *Udara*, and *Stana*. Obesity is defined as the excessive accumulation of fat in the subcutaneous

and other body tissues and parts. Whereas in case of overweight, body weight is increased over 110% of the standard weight (corresponding to >30 mm triceps skin fold thickness), in obesity the increase exceeds 120% of the standard weight³.

WHO had used Body mass index (BMI) to define obesity. Based on BMI obesity can be classified as follows⁴ (Gray, Fujioka 1991).

BMI = Weight in kilograms / height in meters²

BMI Classification

Underweight -	< 18.5
Normal weight -	18.5–24.9
Overweight-	25.0–29.9
Class I obesity -	30.0–34.9
Class II obesity -	35.0–39.9
Class III obesity	40.0

Etiological Factors: Obesity results from an imbalance of caloric intake and energy expenditure. Even incremental but sustained caloric excess results in excess adiposity. Individual adiposity is the result of a complex interplay among genetically determined body habitus, appetite, nutritional intake, physical activity, and energy expenditure. Environmental factors determine levels of available food, preferences for types of foods, levels of physical activity, and preferences for types of activities⁵.

Prenatal factors including high pre conceptual weight, gestational weight gain, high birth weight, and maternal smoking are associated with increased risk for later obesity.

Genetic determinants also have a role in individual susceptibility to obesity. In obesity one important example, the *FTO* gene at 16q12, is associated with adiposity in childhood, probably explained by increased energy intake⁵.

Mental health problems can coexist with obesity, with the possibility of bidirectional effects. These associations are modified by gender, ethnicity, and socioeconomic status. Self-esteem may be lower in obese adolescent girls compared to non obese peers. Some studies have found an association between obesity and adolescent depression⁵.

Ayurvedic Factors with Modern Correlations^{6,7}

<i>Avyayama-</i>	Lack of exercise
<i>Sleshmala ahara-</i>	Fattening diet and foods
<i>Diva svapna-</i>	Obesity sleep apnea
<i>Avyavaya-</i>	Difficulty in intercourse
<i>Achinta-</i>	Affect disorders
<i>Beeja-dosha-</i>	Genetic factors
<i>Prameha-poorvarupa-</i>	Features of Hyperinsulinemia
<i>Agnimandya-</i>	Low energy expenditure
<i>Medavrittavayu-</i>	Defective satiety cascade
<i>Ahara-asamyama-</i>	Environmental food clues
<i>Dhatvagnimandata-</i>	Stress and hormones

Pathophysiology of Obesity:

The classical etiology of the obese condition explains that there is obstruction caused by *Kapha dosha* (water and earth). This obstruction is created by factors such as: excessive intake of heavy, sweet, spicy and cool foods such as sweets, meats, fried foods, or low quality foods, sedentary lifestyle/lack of exercise, day-sleeping, emotional eating, lack of healthy fats in the diet and alcohol or drugs. This obstruction of stratus by *Kapha dosha* blocks movement in the digestive system and the *Vata dosha* (air and ether), is trapped in the abdomen. This results in an increase of the digestive fire (or Agni), creating a

tornado of hunger in the individual, which can become insatiable.⁶ Low quality *dhatu*s and excessive fat that is raw and unprocessed is therefore produced. According to *Vasant Lad*, In cases of obesity, the excess *medas dhatu* (fat) retains increasing amounts of water and oil, which can lead to “fatty tumors, gallstones, tartar on the teeth, fatty stools, diabetes and hypertension”.⁸

This ancient text states that there are 8 particular challenges for the obese:^{6,7}

- ***Aayusho hraso***- Deficient longevity: Other tissues (*dhatu*s) do not grow to the extent of fat
- ***Javouprodh***a - Slowness in movement: Fat creates heaviness, looseness and slowness
- ***Krikshvyayata***- Difficulty to engage in sexual intercourse due to small amounts of semen as well as obstruction³⁸
- ***Daurbalya*** - Weakness: Due to disturbed equilibrium of the tissues
- ***Daurgandhya*** -May emit a bad, fleshy smell: Due to the unhealthy nature of the fat tissue and excess sweating
- ***Swedabadh*** -Excess sweating: The excess fat cannot withstand physical activity and brings about sweating
- ***Kshudatimatra*** - Excess hunger: Due to sharp, excessive digestive power
- ***Pipasa atiyoga*** -Excess thirst: Due to sharp, excessive digestive power

Evaluation: The evaluation of the overweight or obese child begins with examination of the growth chart for weight, height, and BMI trajectories; consideration of possible medical causes of obesity; and detailed exploration of family eating, nutritional, and activity patterns.

Consideration of possible medical causes of obesity is essential, even though endocrine and genetic causes are rare

.Growth hormone deficiency, hypothyroidism, and Cushing syndrome are examples of endocrine disorders that can lead to obesity.

Parental obesity is an important risk for child obesity. If all family members are obese, focusing the intervention on the entire family is reasonable. The child may be at increased risk for developing type 2 diabetes if a family history exists cardiovascular disease, or metabolic syndrome indicates increased risk for developing these obesity-associated conditions. Physical examination should be thorough, focusing on possible comorbid conditions. Careful screening for hypertension using an appropriately sized blood pressure cuff is important. Systematic examination of the skin can reveal acanthosis nigricans, suggesting insulin resistance, or hirsutism, suggesting polycystic ovary syndrome.

In some children with congenital disorders such as myelodysplasia or muscular dystrophy, lower levels of physical activity can lead to secondary obesity. Some medications can cause excessive appetite and hyperphagia, resulting in obesity. Atypical antipsychotic medications often have this dramatic side effect.

Laboratory testing for fasting plasma glucose, triglycerides, low density lipoprotein and high-density lipoprotein cholesterol, and liver function tests are recommended as part of the initial evaluation for newly identified pediatric obesity. Other laboratory testing should be guided by history or physical examination findings⁵.

Overview of Ayurvedic Treatment For Obesity⁹⁻¹²

- ***Laghana Chikitsa*** (Reduction Therapy): This is complete detoxification and removal of *Aama*, which can be done

through immersion method of *Pancha Karma* or slower methods like Palliation. This would generally be done at the start of obesity treatment and would include an initial weight loss diet that will reduce *Kapha dosha & Medas dhatu*, while working to pacify *Vata dosha* as well.

- Establishing a Balanced Long Term Diet

- Appropriate to the individual's healthy constitution, following seasonal changes.

- **Herbs:** Intake of herbs that are pungent, bitter and astringent can be helpful, as well as herbs with the following reducing actions: alterative, diaphoretic, *dipana*, diuretic, *lekhana*, and purgative like. Ginger, Cinnamon, Clove, Cumin, *Trikatu*, *Chitrak*, Fennel, *Gurmar*.

Lekhana or *Medohar* Herb that assists weight loss by scraping away, burning up, or starving excess fat tissue i.e., *Guggulu*, *Chitrak*, *Shilajit*, BlackPepper, Turmeric, *Bibitaki* Channel Clearing Herb that aids the body in clearing channels and reducing blockages i.e. *Guggulu*, Calamus, Camphor, *Manjistha*, Ginger

- **Liver Cleansing:** The liver is the most important of all the organs to the digestion and conversion of fats.

- **Pranayama:** (Breathing Techniques): Breathing and *Pranayama* ;Due to fast passed life style many of us do shallow breathing. Practicing diaphragmatic breathing is beneficial. By simply observing the breath, we can be aware of what is happening inside. The more we become aware of breath, the disturbance, the negativity of the mind disappears and it becomes pure and peaceful. *Bhasrika* is a very powerful *Pranayama*. It strengthens the heart and lungs, improves the digestion and calms the mind. Right Nostril

breathing (*surya bhedi*) will also be helpful.

- **Yoga:** Certain gentle yoga *asanas* are helpful, including the Palm Tree pose, and the Triangle Pose. Also, while sitting on the floor, bend forward as far as you can, with the goal of eventually touching the head to the knees. The Fish, Camel, Cobra and Cow poses are simple, helpful postures. (The complete book of *Ayurvedic Home Remedies* by *Dr. Vasant Lad*) 10 minutes of Sun Salutations every morning is helpful. The "sun salute" is a complete *Ayurvedic* exercise, also known as *Surya Namaskara*. This series of postures simultaneously integrates the whole physiology including mind, body, and breath. It strengthens and stretches all the major muscle groups, lubricates the joints, conditions the spine, and massages the internal organs. Blood flow and circulation is increased throughout the body.

- **Body Therapies:** Used in *Panchakarma* and throughout the weight loss period: *Svedhana*, *Shirodhara*, *Shirobasti*, *Pinda Svedana*, *Daily Abhyanga*, *Udvaartana*, or Dry Skin Brushing can be especially helpful.

Preventive Measures of Obesity:The National Institutes of Health and Centers for Disease Control and Prevention recommend a variety of initiatives to combat the current obesigenic environment, including promotion of breastfeeding, access to fruits and vegetables, walkable communities, and 60 min/day of activity for children.

The Pediatric prevention efforts begin with careful monitoring of weight and BMI percentiles at healthcare maintenance visits. Those who have an obese parent are at increased risk. Prevention efforts begin with promotion of exclusive breastfeeding

for 6 mo and total breastfeeding for 12 mo. Introduction of infant foods at 6 mo should focus on cereals, fruits, and vegetables. Lean meats, poultry, and fish may be introduced later in the 1st year of life. Parents should be specifically counseled to avoid introducing highly sugared beverages and foods in the 1st year of life. Instead, they should expose their infants and young children to a rich variety of fruits, vegetables, grains, lean meats, poultry, and fish to facilitate acceptance of a diverse and healthy diet. Physicians should counsel parents to limit screen time for their children. Snacking during television watching should be discouraged.

General Guidelines for Treating Obese:

- Eat in a peaceful environment, with a peaceful state of mind
- Pray, meditate, offer gratitude, chant, or say some sort of blessing before eating
- Practice slow & mindful eating, without engaging in talking or multi-tasking
- Thoroughly chew food to an even consistency
- Eat food when it is warm and avoid cold food and drinks, as they weaken *agni*.
- Eat food with minimal liquid. If it is a dry meal, drink up to 4 oz. of water during the meal, and refrain from drinking fluids 30 minutes before or after eating.
- Eat to $\frac{3}{4}$ full, avoid a full expanded stomach; as it creates *ama* and increases *Kapha*, contributing to obesity.
- Relax after meals to allow digestion
- Take food only after the previous meal has been digested, 3 hours minimum
- Intermittent Fasting : Do not eat from sun-down to sun-rise
- Drinking water before meal will dilute *agni*, which will hinder digestion and lead to weakness. Drinking water right after meal will increase *Kapha*, causing weight

gain. Ideal time to drink water is right after waking up in the morning and one hour before and one hour after each meal.

- Avoid cruciferous vegetables, fried foods and heavy foods
- Do not talk or laugh while eating. Do not eat on the run or while watching TV
- Mindful eating means it is about being conscious and present while eating. When food is eaten mindfully, the brain sees, tastes, smell and feels and sends signals to the stomach to release enzymes and juices to digest the food.
- Avoid overeating and/or eating heavy foods in large quantities
- Avoid ice cold water and drinks and cold foods
- Quit drinking alcohol and smoking Eat fresh and seasonal vegetables and fruit.
- Eat freshly cooked warm food. It will strengthen *agni*, digests food better, reduces excess *Kapha* and *Vata*
- Eating sequence: First eat carbohydrates or sweet taste, next eat salty, sour, pungent and bitter foods. Finally eat astringent food.

CONCLUSION: The most frightening aspect of obesity is that shortens the lifespan. Apart from that it reduce the quality of life and causes to chronic heart diseases, high blood pressure, various physical mental disorders etc. it is most commonly linked to the shifting dietary patterns, a decline in energy expenditure associated with a sedentary life style. The guidelines mentioned in *Ayurveda* about lifestyle, personal, social and spiritual are very easy to assimilate and easy to adapt in routine life. *Ayurveda*, the age old science of life, has always emphasized to maintain the health and prevent the disease by proper diet and life style regimen rather than treatment and cure of the disease.

Holistic approach to obesity management is based on dietary pattern; physical activity and behavioral modification have been clearly described in the *Ayurveda*. Though *sthoulya* (obesity) is considered as *nindita vyadhi*, needs of the hour is to treat him rationally so that complications can be reduced or prevented. In this regard approach of *Ayurveda* is more safe, comprehensive and rational.

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