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Obesity in Children - An alarming problem in *Kaumarbhritya*

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ABSTRACT

A roly-poly child obviously attracts many attentions but if the trend remains unchanged it could be a reason of worry as this is the primitive sign of childhood obesity which is the leading problem in today's era. With continuous change in life style and dietary habits, child has become the victim of many diseases and obesity (*Sthaulya*) is one of them. There are and were some human activists talking about reducing the weight of study bags; but none is thinking about the weight our babies are carrying. In present era both parents are working, to earn the luxuries and amusements, so the kids are left with the food packets at home with idiot boxes to see some "de-shaped" cartoons resulting in the reduction of healthy nutritious diet and also reducing their body activity. The body weight of our babies is putting pressure on their "cuteness", their "happiness", their "emotions" and on their "being". In Ayurveda it needs step by step examination and treatment to break the 'Dushtasamprapti Chakra' of *Sthaulya* by both non pharmacological such as Yoga and pharmacological remedies such as Panchakarma therapy, Shamana therapy etc. to achieve the goal.

Key words: *Sthaulya*, *Dushtasamprapti*, *Panchakarma*, *Shamana*.

INTRODUCTION

Children are the hands by which we take hold of heaven. Parents are responsible for helping children grow physically, intellectually, emotionally and spiritually. A roly-poly child obviously attracts many attentions for good reason which makes his parents show beaming joy with pride; but if that trend remains unchanged throughout his formative years, it could be reason of worry as this the primitive sign of childhood obesity.^[1]

Obesity can be seen as the first wave of a defined

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cluster of non-communicable diseases called "new economic syndrome" creating an enormous socio-economic and public health burden in poor countries. Even in India, malnutrition has attracted the focus of health workers as childhood obesity was rarely observed, but over the past few years childhood obesity is increasingly being observed. In developed countries, children of low socio-economic status are more affected than their affluent counterparts. The opposite is observed in developing countries i.e. children of the upper socio-economic status are more likely to be obese than poor children.^[2]

Sthaulya has been described in previous and oldest recorded credentials which gives a strong clue about the existence of disease since *Vedic* period. The word *Sthaulya* itself indicate the nature of disease i.e. the disease with heaviness and bulkiness in the body. In *Ayurveda*, there is no direct reference like hyperlipidaemia but *Acharaya Charaka* has mentioned the knowledge of *Sthaulya Roga* (Obesity) in the context of *Ashtaninditya Purusa* as well as prodormal features of *Prameha Roga*.^[3]

IS CHILD OBESE?

BMI uses height and weight measurements to estimate body fat. Kids ages 2-19 fall into 4 categories:

1. Underweight : BMI below the 5th percentile.
2. Normal weight : BMI at the 5th and less than 85th percentile.
3. Overweight : BMI at the 85th and below 95th percentile.
4. Obese : BMI at or above 95th percentile.^[4]

BMI calculations are not used to estimate the body fat in babies and younger toddlers. For kids younger than 2, we use weight for length charts.

Cause of Obesity

A number of factors contribute to becoming overweight. Genetics, lifestyle habits or a combination of both may be involved. Genes help determine body type and how the body stores and burns fat. In some cases, medications and endocrine problems may be associated. Plus now more than ever, life is sedentary; kids spend more time playing with electronic devices like computers etc. than actively playing outside. *Kaphavardhaka Ahara Vihara* and *Mansika Hetu* leads to an increase in *Kapha* and *Meda* in the body due to *Samanya Vridhikarma*. This increased *Kapha* and *Meda* causes hypo functioning of *Jatharagni* and leads to production of *Amarasa*. If *Nidana Sevana* is still continued, this *Amarasa* is circulated in the whole body by *Vyanavayu*. *Amarasa*, while circulating in the whole body, gets combined with *Medodhatu* due to its affinity for *Dhatu*s having similar *Guna*. This causes vitiation of *Medodhatvagni* and *Apakvamedodhatu* is formed which causes obstruction of *Medovahasrotas* and obstruction of *Samanavayu*. This obstruction again causes vitiation of *Samanavayu* and *Jatharagnisandhukshan* in *Kostha* which produces *Kshudhatimatram* making the person a voracious eater.

Sthaulya results due to the disproportionate increase of one particular *Dhatu* viz. *Medas* and envisaged an obstruction in *Srotas* (metabolic pathways) resulting in an impairment of *Agni Vyapara* (metabolism) which is concerned with intermediate metabolism.^[5]

Acharya Sushruta mentioned that *Kaphavardhakaahara*, *Adhyasahana*, lack of exercise, day sleep are main etiological factors that cause *Sthaulya* by vitiation of *Meda*.^[6] *Sthaulya* has been considered as *Rasa Nimittaja* disorder.^[7]

So, *Ayurveda* explains the pathology of obesity as, increase of *Agni* - digestion strength, leading to increase of appetite and food intake hampered conversion of *Medodhatu* to *Asthidhatu*, leading to increased production of *Medodhatu*.^[8]

Classification of Obesity

Obesity can be classified into different divisions. The commonest type is alimentary in origin. The person eats too much and does not exercise regularly. With the same amount of food and more exercises, obesity would not occur. Some people are more prone to accumulate the fat than others. Some can apparently eat excessively, with no exercise and yet show no tendency of putting on weight. This is due to *Vata* nature, *Pitta* nature or combination of both.

Sign and Symptoms

Atisthula person is a person in whom there is excessive abnormal increase of *Medadhatu* and *Mamsa Dhatu* which results in pendulous movement of buttocks, abdomen and breast and that increase in bulk is not matched by corresponding increase in energy.^[9] Obesity affects every organ system in a child's body, and it can do so in a much more profound way than in adults because children are still in growing and developing period. One can't expect to enjoy and maintain good health in a state of excessive obesity. It leads to sluggishness, heaviness in breathing and lethargy, keeping us physically inactive and causing serious malfunctioning of various organs. When such a stage is reached, obesity is considered a disease. That is why it is said, your waist line is your life line.

Effect of Obesity

Obesity increases the risk for serious health conditions like type 2 diabetes, high blood pressure and high cholesterol. Kids who are unhappy with their weight may be more prone to depression, be at risk for substance abuse. Overweight and obese kids are at

risk for developing medical problem that affect their present and future health and quality of life including; high BP, high cholesterol, abnormal blood lipid levels, type 2 diabetes, bone and joint problems, shortness of breath and may aggravate the symptoms or chances of developing asthma, disordered sleep patterns like OSD, tendency to mature earlier, overweight girls may have irregular menstrual cycle and fertility problem in adulthood, liver and gall bladder disease, depression.^[10]

Disease become chronic and complications occurs if no treatment is given and still *Nidana* is continued. *Sthula* has been considered as *Alpabala Purusha* in whom every disease manifests in severe form.^[11]

Due to *Srotorodha*, nourishment of all *Dhatus* is hampered leading to complications because of decreased immunity. *Upadrava* like *Jwara*, *Bhagandra*, *Visarapa*, *Atisara*, *Meha*, *Arsha*, *Shleepada*, *Apachi*, *Kamala*, *Prameha*, *Pidika*, *Vataroga* occurs in this stage.^[12]

Prevention of overweight and obesity

The key to keeping kids of all ages at a healthy weight is taking a whole family approach. Make healthy eating and exercise a family affair, and avoid falling into these common foods/eating behavior traps. Avoid rewards kids for good behavior or try to stop bad behavior with sweets or treats. Don't maintain a clean plate policy.

- Don't talk about bad food or completely eliminate all sweets and favorite snacks from kid's diets.
- Obese must avoid preserved food.
- Avoid sleeping in afternoon help to increase the burning of calories.
- If you eat well, exercise regularly and incorporate healthy habit into your family's daily life, you are modeling a healthy lifestyle for your kid that will last.

Most of all let your kids know you love them, no matter what their weight and that you want to help them be happy.

Principle of Therapy

In Modern system of medicine some anti obesity drugs are also suggested like anorectic drugs etc. but their effectiveness for short time, weigh regain after cessation of drugs and side effects limit their usefulness. Hence, there is need for proper evaluation of predisposing and causative factors of obesity and its management which is a critical health care issue.

The principles of therapy are generally same as in prevention;

- a) Reduced calorie intake
- b) Increased activity levels
- c) Decreased sedentary behavior
- d) Family involvement
- e) Behavioral changes

How can Ayurveda help in weight loss

In *Ayurveda*, general principal of the management is as follows;^[13]

1. *Nidana Parivarjana*
2. *Shamana*
3. *Samshodhana*

Nidana Parivarjana

Nidana Parivarjana is first fundamental principle of management of obesity.^[14] Hence, all such factors which cause *Brimhana* should be avoided like sedentary lifestyle, *Snigdhaahara* and *Madhurarasa* etc. because these are considered to be etiological factor of different diseases of *Kapha* and *Meda*.^[15]

Shamana

Administration of *Guru* and *Apatarpaka* articles which possess additional *Vataghna*, *Shleshmahara* and *Medohara* properties is considered as an ideal for *Samshamana* therapy.^[16] Also *Guruguna* is sufficient to alleviate vitiated *Agni* and *Atikhsudha*.^[17]

Ayurveda believe that the body is controlled by three energies, *Vata*, *Pitta* and *Kapha*. These energies maintain the balance of body in a healthy individual, these energies are in natural harmony with each

other, any disease or uneasiness can therefore be explained as an increase or decrease of any of these energies. *Ayurvedic* herbs help to bring these energies to equilibrium. *Ayurveda* has ample number of herbs that help to increase and maintain the body metabolism thereby reducing fat from the body also the *Ayurvedic* herbs reduce the bad cholesterol and increase the good cholesterol level in the body and hence maintain the required weight. it is safe and natural system of medicines some of the best *Ayurvedic* herbs for obesity are; *Guggulu*, *Mustaka*, *Triphala*, *Arjuna*, *Zingiber officinalis*.

Yoga for obesity prevention

The disease is supposed to be a gift of modern life style and it's a breeding ground for so many diseases. *yoga* poses like *Asanas*, *Pranayama*, meditation and relaxation techniques are helpful for weight loss, lessening of body fat and weight management. shedding of excess fat and weight and attaining ideal body can be achieved by practicing Yoga.

- *Sarvangasana* - improves the efficiency of the thyroid gland, which is responsible for correcting body weight.
- *Padahasthasana* - improves the metabolic process of the body by acting on thyroid and pituitary gland and thus control it.
- *Dhanurasana* - helps to burn excessive fat in the body.
- *Paschimottanasana* - helps to remove excess fat in abdominal region.
- *Bhujangasana* - massages the abdominal organs, increase the flexibility of back and also regulates the throid gland. It is good for childhood obesity.^[18]

Samshodhana Chikitsa

The *Samshodhana* therapy act directly on the root causes of *Sthaulya* and help to cure the disease. There is minimum chance of reoccurrence of disease and is helpful in restoration of normal strength and complexion.^[19]

It can be divided into two categories,

1. *Bahya Shodhana*
2. *Abhyantra Shodhana*

Bahya Shodhana includes *Udvartna*, *Avagaha*, *Parisheka*. In *Sthaulya*, use of *Ruksha Udvartna* has been mentioned as *Bahya Shodhana*^[20] as it is *Kaphahara*, *Medasapravilayana*, *Sthirikaranam* and *Twakprasadkara*.^[21]

Abhyantra Shodhana include *Vamana*, *Virechana*, *Nasya*, *Niruhabasti* and *Raktamokshana*.

DISCUSSION

Like diet and exercise, the goal of medication treatment has to be realistic. With allopathic medication treatment, one can expect an initial weight loss. It is also important to remember that these medications only work when they are taken. When they are discontinued, weight gain can occur. The first class (category) of medication used for weight control cause symptoms that mimic the sympathetic nervous system. They cause the body to feel "under stress" or "nervous" As a result, the major side effect of this class of medication is high blood pressure. *Sthaulya* occurs mainly due to consumption of *Kaphavardhka Ahara* and *Vihara*. These factors are responsible for impaired *Jatharagni* and formation of *Ama*, which causes impairment of *Medodhatvagni* also. A drug should have properties like *Deepana*, *Pachana*, *Kapha-vatashamaka*, *Srotoshodhana* and *Medonashaka* for obesity.

Most people who are able to maintain their weight loss for more than a year get regular exercise, even simple walking.

CONCLUSION

Maintaining ideal body weight is a balancing act between food consumption and calories needed by the body for energy. The kinds and amounts of food we eat affect ability to maintain ideal weight and to lose weight. The goal of obesity treatment is to reach and stay at a healthy weight. Increased physical activity or exercise also is an essential part of obesity treatment.

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