



Review Article

CHILDHOOD OBESITY AND ITS AYURVEDIC UNDERSTANDING - CRITICAL ANALYSIS

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ABSTRACT

Ayurveda, the science of life, recognized lifestyle (*Vihara*) and diet (*Ahara*) as potential causes of disease. Childhood obesity in India is caused by factors such as altered lifestyle, food patterns, diet quality and quantity, increased physical inactivity, preserved junk foods, increased sedentary lifestyle, and more. The eight avoidable patients list (*Ashtaunindit purushas*) described by Ancient *Ayurvedic* scholars includes the disease *Sthaulya* (obesity) along with the multi-channel approach of management, with the details of factors causing *Sthaulya*, pathophysiology (*Samprapti*), and treatment with exercise (*Vyayam/Vihar*), dietary (*Ahar*) interventions, remedies, and the body - purification/detoxification (*Panchakarma*) procedures. The importance of limiting/avoiding disease-causing factors, followed by medicinal management based on *Dosha-Dhatu-Mala* conditions, is described by ancient *Ayurvedic* scholars. This article examines the factors that contribute to childhood obesity using *Ayurvedic* principles.

INTRODUCTION

Ayurveda emphasizes prevention of disease through a healthy lifestyle, dietary plan, and diet as well as psychological, spiritual, and moral well-being for an individual's overall development and health status. Ayurveda consistently emphasizes the importance of *Ahara* and lifestyle choices in preserving the body's balance. People are diverging from the timeless *Ayurvedic* principles, becoming more mechanical and commercialized, and experiencing unwelcome continuous stress as a result of several preventable and inevitable reasons, it has been noted in recent decades. This had a negative impact on the average level of health, leading to some non-communicable lifestyle illnesses. Prevalent in children, this is a big cause for concern.

Obesity is a nutritional condition. The sudden increase in the prevalence of childhood nutritional obesity in recent decades is attributed to parents' desire to make their children stronger through the introduction of early complementary feeding, excess feeding, high caloric feeding, along with an increase in

the trend of fast food and junk food. Childhood obesity has been greatly influenced by the disappearance of Indian culture in daily activities such as eating home-cooked food together at a set time, using seasonable vegetables, developing sedentary habits, and having fewer places for growing children to play.

Acharya Sushruta described a person as being in good health if all of their *Doshas*, *Agni*, *Dhatu*s, and *Malas* all in balance and if their *Aatma*, all of their senses, and their mind are all in *Prasanna* (happiness). There is a branch of Ayurveda called *Kaumarbhritya* that deals with children's lives, with a focus on their nutrition in particular^[1]. The most crucial area of medicine, in accordance with *Kashyapa*, is pediatrics because the other specialties come into play once children have grown into adults. Obesity is one of the major etiologies of many disorders in the modern period, including *Sthaulya* (obesity). Modernization has altered man's way of life, which has resulted in significant food habits changes. Man has developed various ailments as a result, with obesity being one among them.

MATERIAL AND METHOD

Review of different Ayurveda literatures as a primary source of data along with the literature journal paper and other e-resources documenting the concept of Childhood obesity and its *Ayurvedic* understanding and critical analysis.

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DISCUSSION

Modern view

Accumulation of the excess/abnormal fat in adipose tissue level, which impairs the normal health pattern called as obesity (WHO). The imbalance between the energy intake and energy expenditure results in overweight/obesity. Even though having high energy storage the overweight/obese children do not have less energy needs but have high energy demands to neutralize the high energy requirements of the high body weight. [1]

Body mass index (BMI) is good marker to identify the overweight/Obesity or increased adiposity; which directly measures the body fat. $\text{Chang in BMI} = \frac{\text{weight (kg)}}{[\text{Height (M)}]^2}$. Children with >2year age having BMI >95th percentile fulfils the obesity criteria, and those having BMI between 85th and 95th percentiles comes under the range of overweight. Khadilkar et al revised the BMI, Overweight & Obesity criteria of overweight/obese children of India as per the clinical presentation and concluded the 23 adult equivalent overweight range BMI and 27 adult equivalent BMI for labeling the overweight/obese children respectively. [2]

Factors leading to childhood obesity

Obesity is a complex disease with a multifactorial a etiology and is linked with numerous adverse health conditions. Overweight/Obesity research in the past several decades has generated considerable information about various aspects of obesity, including genetics, physiology, biochemistry and socio-epidemiology.

1. Dietetic factors

Overweight is due to imbalance between high energy intake and low output. Faulty dietary habits, patterns, fast food/junk food, frequently intake, fruit juices, cold drinks/high energy drinks, etc. leads to energy accumulation and adiposity. Most packed foods have low fiber, high simple carbohydrates (fructose, sucrose), high fat and low micronutrient content. A high incidence of consumption of such foods is noted in childhood.

2. Physical activities and habits

Sedentary life style, physical inactivity, less play grounds in school/society, sweeten beverages and prolonged TV viewing (reduces activity, increases calorie intake, pushes wrong message about food, encourages intake of junk food), computer gaming, less sport activities, low organized physical activity in children lead to overweight. Increased screen time lead to decrease physical fitness, decrease self-esteem, lower school performance.

3. Psychological factors

That is eating for emotional reasons, low self-esteem, tendency of fast/junk food intake, mass effect of high energy drinks, typical Indian mentality of chubby child means healthy child.

4. Genetic & pathologic factors

Obesity runs in families, as they share both genes and environment; parental obesity is a strong risk factor. Weight gain during the prenatal period, maternal weight, and diabetes are the important predictors. Some genetic factors (several mental retardations, Muscular dystrophy, Cushing syndrome, Prader-willi syndrome, Laurence-Moon biedl syndrome, Growth hormone deficiency, Hypothyroidism, etc.) plays important role in gaining the weight.

5. Others

Drugs (sedatives like sodium valproate, Corticosteroids), changed life styles (sedentary), continuous bombarding of high calorie food advertisements on multimedia, internet, T.V. etc. Industrialization, lack of grounds/play area due to urbanization/industrialization, changed approach towards the quality of life, miss concepts about the healthy child in typical scenario with chubby child (i.e. big child is healthy child), lesser access to quality medical care, etc. plays an important role in gaining the weight in children.

AYURVEDIC VIEW

Charaka Samhita describes the dietary regimen, and psychological causes of *Sthaulya* in addition to the genetic component (*Beeja-Dosha*). These tend to be external in nature.

Other than these elements, those that could taint *Meda* and *Sleshma* could be regarded as *Sthaulya* causes. *Acharya Sushruta* and *Vagbhata* both refer to endogenous causes. According to *Vagbhata*, *Dhatwagni-mandya* is the primary cause in addition to other factors in the *etiopathology* of *Sthaulya*.

A substance will increase the *Bhavas* (qualities) of *Medo-dhatu* that it inherits; it has the same qualities as *Meda* and increases the bad quality of fat (*Meda*) in the body. There are three type:

1. *Dravya Samnya (Ahara)*

Substances with properties similar to a specific body part (*Dhatu*) increase the quality and quantity of that specific body part (*Dhatu*). Similarly, substances such as *Vasa* (animal fat), *Meda* (fatty substances), *Mamsa* (flesh), and so on increase fat (*Meda*).

2. *Guna Samnya*

Substances with similar properties to *Meda*, such as *Guru* (heavy for digestion), *Snigdha* (oily, unctus), *Sheeta*, and so on, increase *Meda*.

3. Karma Samnya (Vihara)

Sukhasana (sedentary life style), Avyayam (low physical activity), Divaswapna (day sleep), and other daily activities contribute to fat accumulation and vitiation. Many causative factors (Nidanās) described by various Acharyas for Medoroga can be classified under four broad categories.^[3-5]

Aharatmaka (Dietary causes)

Atibhojana (Overeating), Guru Aharasevana (excessive consumption of heavy food), Madhura Aharasevana (Sweet food), Sheeta Aharasevana (excessive consumption of cold diet), Snigdha Aharasevana (excessive consumption of unctuous food), Navanna Sevana (Use of Fresh Grains), Nava Madyasevena (Excessive use of fresh alcoholic preparation), Gramya Rasa Sevana (Excessive use of domestic animal meat and soups), Paya Vikara Sevana (Excessive use of wheat), etc. usages of milk and its products), Dadhi Sevana (Excessive use of curd), Sarpi Sevana (Excessive use of ghee), Sleshmala Aharasevana (Kapha increasing food), Ikshu Sevana (use of

sugarcane), Guda Vikara Sevana (use of jaggery preparation), Mamsa Sevana (excessive use of meat), Shali Sevana (excessive use of rice), Masha Sevana (excessive use of *Phasiolus munga*) Audak Rasa Sevana (Meat and soups from aquatic animals), Godhuma Sevana (Excess wheat), etc.

Viharatmaka (Daily activities/ Life style)

Svapna Prasangat, Gandhamalyanu Sevana (sedentary life), Sukha Shaiyya (constant seating), Avyayam (physical inactivity), Snana Sevana (bath), Divaswapa (during the day), and etc.

Manas Vyaparatmaka (psychological factors)

Saukhyena (relaxing life), Harshanityava (happiness), Pryadarshana, Mansonivruti (lack of mental work), Achinta (lack of worry), etc.

Other

Various Tailabhyangas (oil application on the body), Beeja Doshavbhavat (genetic causes, familial causes), Snigdha Udvartana, Snigdha Madhura Basti Sevana, etc.

Ayurvedic Management of Sthaulya

Charaka samhita	Susruta samhita	Vagbhata samhita
Guru apatarpan aahar ^[6]	Virukshana, Chedana	Langhana
Vaataghna annapaan ^[7]	Lekhan basti ^[8]	Guru apatarpan
Langhan rukshan ^[9]		Medo anil shlesmaa Haranaam

Ayurvedic medicines	Rasakalpa	Basti
Musta (<i>Cyperus rotundus</i>) ^[10]	Rasbhasma yoga	Lekhan basti
Guggul (<i>Commiphora mukul</i>)	Trimurti rasa ^[11]	Ushakadi basti
Haridra (<i>Curcuma longa</i>)	Vadvagni rasa ^[12]	

CONCLUSION

Ayurveda The science of life thoroughly describes all of the factors that contribute to obesity. As obesity management necessitates a multifaceted management approach, a multidisciplinary management approach should be considered to control childhood obesity based on the causative factors of individuality principle. While controlling childhood obesity, the process of the disease and the details causative factors, as well as their different management plans at different stages, should be taken into account, which will help to plan the dietary, lifestyle, and medicinal interventions, as well as the time of intervention to control the overweight in children.

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