



## ROLE OF *DINACHARYA* FOR PREVENTION AND MANAGEMENT OF OBESITY IN CHILDREN

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### ABSTRACT

Obesity always occurs with group of diseases that's why this is the big burden in the society in today's era. Both obese and emaciated children - are to be deprecated always. Of the two, emaciation is less harmful than Obesity even though both of them are equally in need of treatment. Obesity is most commonly caused by a combination of excessive food intake, lack of physical activity, day sleep and genetic susceptibility. Now a day over indulgence in the faulty dietary habits and unhealthy lifestyle leading to this major health problem among children, globally. So, need for lifestyle correction is prior requirement. In our Classics, *Acharya Sushruta* in *Chikitsasthana* and *Acharya Vagbhatta* in *Sutrasthana* mentioned *Swasthrittapa* or *Dinacharya* in which *Brahmamuhurta Uttishthte* (Waking up early 2 hours before sunrise), *Vyayama* (Physical Exercise), *Udvardana* (Massaging the body with coarse powder), *Guru, Aptarpana Ahara* given beneficial daily regimen for Obesity. By Exercise, Lightness of the body, ability to do work, enhances *agni*, depletion of excess fat, stable and proportionate the body parts. *Udvardana* mitigates *kapha*, liquifies the fat and produces stability.

**Keywords:** Obesity, *Brahmamuhurta Uttishthte*, *Vyayama*, *Udvardana*, *Aptarpana Ahara*

**INTRODUCTION:** Due to the faulty life style and diet pattern the incidence of obesity is increasing day by day all over the world among children. A crude population measure of obesity is the body mass index (BMI) of children for which metric formula is  $\text{weight} \div (\text{height} \times \text{height}) \times 10,000$ . To calculate this, measure the child weight in kilogram and height in centimeters. The BMI above the 85<sup>th</sup> percentile to below the 95<sup>th</sup> percentile is considered overweight. BMI greater than or equal to the 95<sup>th</sup> percentile is considered obese by using BMI chart.<sup>1</sup> The word *Sthula/ Sthaulya* and *Atishaulya* is described in different *Ayurveda* text. Here *Sthaulya* can be called as Overweight and *Atishaulya* can be called as Obese.

*Acharya Charaka* described *Sthoulya* in eight despicable. In the context of body, eight persons are despicable such as over-tall, over-short, over-hairy, hairless, over-black, over-fair, over-obese and over-lean<sup>2</sup>. The person is called as *Atishaulya* who, due to excessive increase of fat & muscles, has pendulous buttocks, abdomen and breasts & suffers from deficient metabolism and energy<sup>3</sup>. Changes in diet pattern, life style and lack of physical exercise have increased the incidence of Obesity in the society. So, need for the lifestyle correction is prior requirement. From the past time, *Ayurveda* is known for serving the society. Prevention and cure of *Ayurveda* is exactly applicable in the Obesity. In *Ayurveda*, *Dinacharya* has

been prescribed as daily regimen from morning to evening for the maintenance of good health. In which *Brahma muhurta uttishthe*<sup>4</sup>, *Vyayama*<sup>5</sup>, *Udvardana*<sup>6</sup> and *Ahara*<sup>7</sup> are suitable for prevention as well as management of Obesity. We can combine this healthy lifestyle with safe and effective treatment of Ayurveda to prevent and manage Obesity.<sup>8</sup>

### Incidence

According to latest report by WHO, around 22 percent prevalence rate of

obesity was reported in children and adolescents aged between 5-19 years over the last 5 years in India. Globally, the trend is high among children under 5 years of age with at least 41 million found to be obese in 2014.<sup>9</sup>

### AIMS & OBJECTIVE

- To prove the role of *Dinacharya* for prevention and management of obesity.
- To show the effect of *Brahmamuhurta*, *Vyayama*, *Udvardana* & *Ahara* as preventive and curative measures in obesity.

**Table no 1. Etiology of Obesity (Sthoulya)<sup>10</sup>**

S.No.	Diet related	Life style related	Other causes
1	Intake of heavy, sweet, cold and fatty diet <i>Madhura</i> , <i>Sheeta Ahara</i> .	Indulgence in day sleeping, exhilaration	<i>Beeja Svabhava</i> (Genetic Defect)
2	Over-saturation of food	lack of mental work	

### Pathogenesis of Obesity<sup>11</sup>

The persons who are habituated to *kaphavardhaka Ahara*, intake of excessive food, lack of physical exercise and sleep during day time the food remains

undigested and more sweet; this rasa dhatu circulating throughout the body produce *Medas* because of its great unctuousness, which finally results in *Sthoulya*.

**Table no. 2**

S. No.	Symptoms <sup>12,13</sup>	Complications <sup>14</sup>
1	<i>Ati Sveda</i> (Excessive Sweating)	<i>Prameha</i> (Diabetes)
2	<i>Daurgandhya</i> (Foul odour of the body)	<i>Pidka</i> (Eruptions)
3	<i>Dorbalyata</i> (Debility)	<i>Jwara</i> (Fever)
4	<i>Javoparodha</i> (Hampering in movement)	<i>Bhagandara</i> (Fistula in Ano)
5	<i>Alpa Ayu</i> (Short life span)	<i>Vidradhi</i> (Abscess)
6	<i>Kshudrashvasa</i> (Mild dyspnea)	<i>Vata vikara</i> (Diseases of <i>Vata</i> origin)
7	<i>Ati Nidra</i> (Excessive sleep)	
8	<i>Pipasa</i> (Severe thirst)	
9	<i>Gadgadatva</i> (Unclear voice)	
10	<i>Kshudha Vridhhi</i> (Excessive hunger)	
11	<i>Kratahan</i> (Snoring)	

### **Brahmamuhurta uttishthe (Early Rising)**

The healthy person in order to protect his life, should get up during *brahma muhurta*, after considering the condition of digestion of food (of previous night) whether properly done or not.<sup>15</sup>

### Importance of *Brahmamuhurta uttishthe*:

The morning is also *sattvika*, meaning it is the time for the mental temperament of *sattva* - the poised, mature temperament. It is the best time for study and obtain knowledge. Now a day, there is a lot of pollution in the environment. And in the morning hours it will be clean without pollution. Along with the clean air, the pleasant atmosphere, absence of noise, the morning rays of the rising sun is very

beneficial to the health. Sun is the God of health. Health is got from the sun. So, one should get up early in the morning before sunrise.

### **VYAYAMA (Physical Exercise)<sup>16</sup>**

Activities which produces tiredness to the body are known as *Vyayama* (Exercise). Lightness of the body, improves work capacity, enhance digestion power, depletion of body fat, part of the body become distinct and firm are the good effects of exercise<sup>17</sup>, resistance to discomfort and alleviation of *doshas* (especially *Kapha*).<sup>18</sup>

### **Importance of Vyayama**

There is no anti-obesity measure equal to *Vyayama*; one who performs *vyayama* regularly can't be overcome by enemies. Disease do not move towards him, like trifling animals to lion, which sweats with *vyayama*. *Vyayama* makes a person charming. Even incompatible food, cooked or uncooked, is digested without any difficulty in persons performing *vyayama* daily<sup>19</sup>.

### **Vyayama Matra**

In every season, daily *vyayama* should be performed by persons desiring their wellbeing by *balardha* (half of strength) otherwise it harms. When *prana vayu* situated in heart comes out to mouth while performing exercise it is the sign of half of strength<sup>20</sup>, thus to prevent over exertion, *acharyas* recommended to stop *vyayama* after getting these symptoms.

### **Vyayama according to Vaya (Age), Kala (Season)**

*Vyayama* is not recommended for the persons who are below 16 years and who are above 70 years.<sup>21</sup> *Vyayama* is advised in winter and spring seasons, in other seasons only mild *vyayama* should be done.

### **Light Exercises feasible for Children**

Brisk walking, jogging in morning time, riding bicycle, Skipping, Yoga – Surya Namaskar

### **Ativyayama Sevana Janya Vyadhi**

Excessive physical exercise leads to thirst, emaciation, *Pratamaka* (severe difficulty in breathing, paroxysmal respiration), bleeding (from the nose, throat, lungs etc.) exhaustion, tiredness (even without work), cough, fever and vomiting,<sup>22</sup> fatigue, internal hemorrhage, darkness before eyes,<sup>23</sup> and even excess practice of *Vyayama* causes *Ura kshata*, because of which blood, pus and mucus come out while coughing.<sup>24</sup>

### **Contraindications of Vyayama**

The persons who are much emaciated on account of singing, reading, drinking, weight carrying, travelling on foot and evacuative measures and are victims of anger, grief, fear and exertion, the children, the old and those having aggravated *vata*, those who speaks too much and loudly, who are hungry and thirsty should abstain from *vyayama*.<sup>25</sup> *Vyayama* should be avoided by one suffering from intrinsic hemorrhage, emaciation, consumption, dyspnea, cough and wound, after taking food.<sup>26</sup>

### **UDVARTANA**

*Udvartana* (massaging the body with coarse powder) mitigates *kapha*, liquifies the fat, hence it is one of the therapy that used as anti-obesity treatment. *Udvartana* also brings stability to the body parts and excellence of the skin.<sup>27</sup>

It is a procedure of massaging the whole body (below the neck region) with the powder of herbs in direction of foot to head (*Pratiloma direction*)

**Indication:** - *Sthaulya* (Obesity),  
Neuromuscular Disorders,  
Musculoskeletal Disorders.

**Requirement:** - Table for *Udvaratana*, coarse powder of *Yava* and *Kulattha*

**Purva Karma-** Make *Yava* and *Kulattha* powder mild hot.

**Pradhana Karma-** Application of powder first in supine position in opposite direction with gentle pressure, same procedure has to be followed in prone position.

**Pashchata Karma-** Allow patient to take rest after wiping powder from whole body with cotton cloth.

**Advice:** -To take bath with the Luke warm water after 30 minutes.

**Time Duration-** 20 to 30 minutes.

**Complication:-** Constipation and Skin rashes.

**Table no.3 DIET & LIFE STYLE MODIFICATIONS FOR OBESE CHILDREN  
PATHYA-APATHYA AHARA:**

<i>Pathya Ahara</i> <sup>28</sup>	<i>Apathya Ahara</i>
<i>Purana Shali</i> (1 yr. Old rice), <i>Yava</i> , <i>Kodo</i> , <i>Munga</i> (Green gram), <i>Chana</i> (Bengal gram), <i>Bajara</i> , <i>Makka</i> , <i>Arhara</i> , <i>Masoor</i> (Red gram), <i>Kulathi</i> (Horse gram), <i>Parwal</i> , <i>Sahijana</i> (Drum Sticks), <i>Lauki</i> (Bottle gourd), <i>Karela</i> (Bitter gourd), <i>carrot</i> , <i>Ridge gourd</i> , <i>Cabbage</i> , <i>Leafy vegetables</i> , <i>Amalki</i> , <i>Watermelon</i> , <i>Takra</i> (Buttermilk), <i>Lukewarm Water</i> , <i>Drinking of water before meal</i>	<i>Godhum</i> (wheat), <i>Nava Shalidhanya</i> , <i>Masha</i> ( <i>Udada</i> ), <i>Guda</i> , <i>Ghrita</i> , <i>Makkhan</i> (butter), <i>Aloo</i> (Potato), <i>Milk</i> , <i>Kheer</i> , <i>Dahi</i> , <i>Meat</i> , <i>Egg</i> , <i>Guda</i> , <i>Fish</i> , <sup>29</sup> <i>Bakery items</i> , <i>Processed food</i> , <i>fermented food</i> , <i>Chinese food</i> , <i>fast foods</i> ( <i>Pizza</i> , <i>Burger</i> , <i>French fries</i> etc.), <i>Nonveg</i> , <i>Pulpy fruits</i> , <i>Maggi</i> , <i>Pasta</i> , <i>Chocolates</i> , <i>Ice cream</i> , <i>Wafers</i> , <i>Kurkure</i> ,

**Table no .4 PATHYA-APATHYA VIHARA:**

<i>Pathya Vihara</i>	<i>Apathya Vihara</i>
<ul style="list-style-type: none"> <li>Physical exercise for minimum 1-2 hours like brisk walking, cycling, skipping, swimming, playing outdoor games etc.</li> <li>Practice Yoga, Asana, Pranayama daily</li> <li>Walk after taking meal</li> <li>Drink a glass of Luke warm water after waking up in the morning.</li> </ul>	<ul style="list-style-type: none"> <li><i>Avyayama</i> (No/Less exercise)</li> <li><i>Divasvapna</i> (Day sleep)</li> <li>Excessive sleeping</li> <li>Sitting in one position and on foam seat</li> <li>Avoid watching T.V. while eating</li> <li>Excess food intake</li> <li>Screen time &lt;2-3 hours</li> </ul>

**DISCUSSION:** Obesity is one of the non-communicable diseases which become a very serious problem in the society. Faulty life style, diet pattern, sedentary life style and lack of exercise are the main reasons behind the increased incidence of Obesity. In Ayurvedic Classics, specific daily regimens described for the prevention as well as management of Obesity that are *Brahmamuhurta uttishthe*, *Vyayama*, *Udvaratana* and *Ahara*. Wake up before 6 am, during these hours, the *Vata* element is dominant. As *Vata* governs movement in

the body and the nervous system. By waking up during the time *Vata* energy is naturally dominant, body becomes in tune with nature. By doing *Vyayama*, *Kapha Dosh* *kshaya* occurs due to that *Vata vriddhi* occurs that stimulates *Jatharagni* which helps in *Amapachana*, remove obstruction of *Srotas*, and also metabolize the body fat. *Udvaratana* helps in removing *Aama* and vitiated *Kapha dosha* which open up the *Srotas* that finally resulting in reduction of deposited fat from

the body. *Pathya Ahara Vihara palana* is mandatory for obese children.

**CONCLUSION:** Obesity is one of the lifestyle disorders, so correction of faulty dietetic habits & lifestyle is mandatory among children. The ideal lifestyle for a

day is daily regimen (*Dinacharya*), in which specifically *Brahmamuhurta uttishthe*, *Vyayama*, *Udvardana* and *Ahara* are proved to be effective measures in the management of obesity as both preventive as well as curative.

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