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REVIEW ARTICLE

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## Preventive aspect of Obesity in Ayurveda

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### ABSTRACT

Background: In this present scenario, over stress and unhealthy food habits with faulty lifestyle reduces individual happiness and predispose to many lifestyle disorders. Obesity is one among them. Obesity has significant negative effects on an individual's quality of life as well as their life expectancy. Obesity becomes prime etiological factors for other comorbidities. Purpose: The treatment for obesity through modern sciences which involves multi-drug regimens which can be associated with a variety of side effects as well as they are expensive. Here Nidānaparivarjana and lifestyle modifications can play a key role in the management Obesity. Material & Methods: Review of relevant literature for subject available in Ayurveda Samhitas, previous research works, medical text books, journals, database and internet. **Discussion:** The preventive aspect of the *Ayurveda* is shown in various do's and don'ts forms such as Dincaryā, Rātricaryā, Sadvṛtta, Rasāyaṇa, and Samśodhana therapy. Nidānaparivarjana -The prime approach of an Ayurvedic treatment is analyzing the root of the disease and evading the causal or the contributory aspects of a disease is the best way to get rid of it and prevent the same in the future as well. Lifestyle modification involves altering long-term habits, typically for eating or physical activity, and maintaining the new behavior for months, years, and till lifetime. Lifestyle modification can be used to treat a range of diseases, including obesity. **Conclusion:** Ayurveda can manage the obesity in better way through modification in  $\bar{A}h\bar{a}ra$  (Diet), Vih $\bar{a}ra$ (Lifestyle) and Nidānaparivarjana. The role of the Ayurveda as in preventive aspect in Obesity is trying to explain in the article.

Key words: Obesity, Nidāna, Nidānaparivarjana, Lifestyle modification

### **INTRODUCTION**

The presenting era is more challenging for medical sciences on account of emerging of various lifestyle diseases. Lifestyle disease is a disease associated with the way a person or group of people lives. Lifestyle diseases are ailments that are primarily based on the day-to-day habits of people which detract people from activity and push them towards a sedentary routine can cause a number of health issues that can lead

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to chronic Non communicable diseases that can have near life threatening consequences. Obesity is one among them. Unhealthy diet sedentary lifestyle results in building up of adipose tissue in the body resulting in weight gain and obesity. Physical activity lessens the energy imbalance between calories consumed on one hand, calories expended on the other hand resulting in weight gain and obesity. Hence, intake of healthy diet comprising of sufficient fibres, adopting active lifestyle and practicing Yoga and Meditation to manage weight gain and are highly recommended for the prevention of Obesity and other lifestyle diseases.

### **OBESITY**

Obesity is often expressed in term of body mass index (BMI), but pathophysiologically may be considered to be present when sufficient body fat has accumulated to adversely affect health.

### Type of body fat distribution

Gynoid distribution (Pear type): Fat accumulates mainly around hips and thighs region, particularly this characteristic seen in female.[1]

Android distribution (Apple type): In this type of obesity fat storage mainly occurs in the middle body region (abdomen and thorax), found in both sexes but mainly in male.<sup>[2]</sup> Android type has larger fat (Hypertrophy) cells whereas Gynoid type has increased number of fat cells (Hyperplasia).<sup>[3]</sup> Android obesity is clearly associate with a cardiovascular risk than gynoid obesity.<sup>[4]</sup> Android obesity is associated with metabolic anomalies which also characterize the syndrome X(resistance to insulin, arterial hypertension and dyslipidemia).<sup>[5]</sup>

In Ayurveda, *Sthaulya* has been described in various *Saṁhitās*, *Sangraha Graṅthas* etc. *Ācārya Caraka* has described *Atisthaulya* among the eight despicable personalities (*Aṣṭa Nindita Purūṣa*)<sup>[6]</sup> and *Samtarpanajanita Roga*.<sup>[7]</sup>

**Endogenous** 

**Exogenous** 

Diet and sedentary lifestyles are included - (Āhārātmaka Evum Vihārātmaka Nidāna)	Genetics & Endocrine disorders are considered here.
<ul> <li>The dietary causes can be explained under two types. It is due to increased energy intake or decreased energy expenditure or both.</li> <li>Increased energy intake i.e., high carbohydrate, fat and protein intake i.e., consumption of food which is Madhura Amla Rasapradhānaāhāra, Śleşmala Āhāra, Guru Snigdhaāhāra and Adhyaśana like dietary habits. [8]</li> </ul>	(Bīja Duṣṭi Evum Cayāpacayavikṛtijanit Nidāna)  As per modern sciences, Obesity is a complex disease resulting from the interactions of a wide variety of hereditary and environmental factors.  Obesity risk is two to eight times higher for a person with a family history as opposed to a person with no family history of obesity, and an even higher risk is
<ul> <li>Decreased energy         expenditure includes         Sedentary Life Styles like         Avyāyāma, Avyavāya,         Divāsvapna and         psychological aspects         such as</li> </ul>	observed in cases of severe obesity. Weight gain and adiposity increase with age, also influenced by heredity.
Harśanityaevumaciṅtā. [9]	Food intake is regulated by 2 centres in

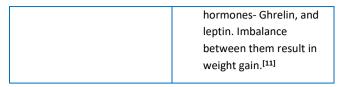
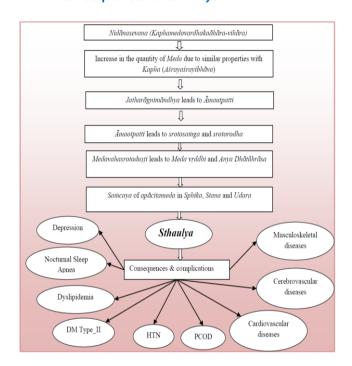


Figure 1: Shows probable pathogenesis (Samprāpti)
[12] and consequences of Sthaulya



### Role of Ayurveda

With the changing demand and awareness among populations nowadays, the role of *Ayurveda* is an emerging reality. Every aspect and method of treatment in *Ayurveda* has been explained through *Auṣadha* (drugs), *Āhāra* (food) and *Vihāra* (conduct/lifestyle). The preventive aspect of the system is shown in various do's and don'ts forms such as *Dīncaryā*, *Rātricaryā*, *Sadvṛtta*, *Rasāyaṇa*, and *Saṁśodhana* therapy. *Ayurveda* also gives diet and dietary guidelines for well-maintaining health in the form of *Āhāravidhiviśeṣaāyatana*.

• Nidānaparivarjana (Evade the causative aspects): As the name suggests 'Nidāna' stands for 'the contributing factors' and 'Parivarjana' means 'to give up'. The prime approach of an Ayurvedic treatment is analyzing the root of the disease and evading the causal or the contributory aspects of a disease is the best way to get rid of it and prevent the same in the future as well.

hypothalamus - Feeding

centre and Satiety centre

and also regulated by 2

Lifestyle modification: Lifestyle change is a complex and difficult task to understand and achieve. Lifestyle modification involves altering long-term habits, typically for eating or physical activity, and maintaining the new behavior for months, years, and till lifetime. Lifestyle modification can be used to treat a range of diseases, including obesity.

Table 2: Shows *Nidānaparivarjana* and life style modification in Obesity.

Nidānaparivarjana (Person should evade the following diet)	Diet and Lifestyle modification
<ul> <li>Madhura Snigdhaāhāra</li> <li>Packed Fruit juice</li> <li>Refined wheat flour preparation- Cakes, pasties, sweets</li> <li>Rice, Potatoes, Wheat and their preparation etc.</li> <li>High GI &amp; High GL fruits</li> <li>Sugary beverage/ teacoffee, energy drink etc.</li> </ul>	<ul> <li>Eat whole fruits</li> <li>Choose the fruit with low GI &amp; GL like apple, orange, pears, berries etc.</li> <li>Prepared chapattis with Oats, Ragi or Barley's flour</li> <li>Take more proteins - lentils.</li> <li>Drink green tea (2-3 time/day)</li> <li>Drink warm water whole day</li> </ul>
	<ul> <li>Take more green leafy vegetables in diet</li> </ul>
Ati Snehayukta Āhāra  Fried food and excessive oily food	<ul> <li>Use vegetable/ virgin oil         <ul> <li>e.g., Olive oil, Sesame</li> <li>oil etc.</li> </ul> </li> <li>Use less oil to prepare</li> </ul>
<ul> <li>Use excess refined oil in food</li> </ul>	food
Chips, namkeens, bhajiya	<ul> <li>Take boiled or steamed or backed food<sup>[13]</sup></li> </ul>
<ul> <li>Food with excessive cheese, butter, mayonnaise etc</li> </ul>	<ul> <li>Use Skimmed/ low fat milk</li> </ul>
<ul> <li>Food prepared with Dalda ghee</li> </ul>	<ul> <li>Use cow ghee (moderate quantity)</li> </ul>
<ul> <li>Sweet prepared with heavy fat, Cream</li> </ul>	

<ul> <li>Whole milk (with fat)</li> </ul>	
<ul> <li>Śleşmala Āhāra</li> <li>(Food has properties like -         Gūrū, Śīta, Snigdha, Picchila,         Abhiṣyandī etc. which         promotes Kapha)</li> <li>Food prepared from         refined wheat flour, e.g.,         Pizza, burger, bakery         items, biscuits, cakes,</li> <li>Ice creams, chocolates,         jelly etc</li> <li>Curd</li> </ul>	■ Take Healthy foods such as - oatmeal, walnuts, salads, bitter gourd (Kāravellaka), drumstick (Śigru), barley (Yava), Green gram (Mudga), honey (Madhu), Indian Gooseberry (Āmlā), pomegranate (Dādīma) and snake gourd and Buttermilk (Takra) etc.
<ul> <li>Faulty dietary habits especially Adhyashana, Ajirnashana etc.</li> <li>Fast food</li> <li>Processed food</li> <li>Junk food etc.</li> <li>Excessive salty and spicy food</li> </ul>	<ul> <li>Follow diet and dietary guideline (Aharavidhi visheshaayatana)</li> <li>Take frequent small meals to avoid food cravings.</li> <li>Avoid watching TV while having food.</li> <li>Practices of intermittent fasting or fasting a day per week.</li> <li>Use Saindhava instead of Normal Salt.</li> </ul>
<ul> <li>Avyāyāma/ Avyavāya/ Ceṣṭādveṣī</li> <li>Avoid sedentary habits</li> </ul>	<ul> <li>Stop the lazy attitude</li> <li>Regular habit of brisk morning walks for 30 minutes.</li> <li>Do Yoga and meditation for 15 initially then gradually increase</li> <li>Practices high intensity exercises and cardio exercises under observation</li> <li>Uses of stair instead of lift</li> <li>Choose to walk for school or work if possible</li> <li>Do physical move or stretching exercise (5-</li> </ul>

			10 min) in break time at work
•	Divāsvāpa/ Svapnasukha/ Śaiyyasukha		Take short nap/ dosing for 10 min in sitting position if needed
•	Avoid excessive sleep. Particularly daytime sleep after meal.	•	Make a habit of early morning awakening (Brahma Muhurte)
•	Avoid night vigils		

### **DISCUSSION**

"Everyday life is a series of decisions, small changes that add up to great changes"

Āhāra plays an important role for increasing Medo Dhātu in Sthaulya. Ācāraya Suśruta stated that both Shaulya and Kārśya are depending upon the quantity and quality of Ahāra.[14] On the basis of Sāmānya-Viśesa Siddhant the excessive food consumption of similar substance lead to the over production of same Dhātu. First step to cure the diseases is to avoid the etiological factors which are responsible for the diseases. A change is the rule of nature. So, second step is to make changes in lifestyles. Eat whole fruit instead of stored fruit juice because it has lost of preservatives, refined sugar, artificial food colors and less amount of fibers which only gives a short term energy with lots of side effect viz increased blood sugar, weight gain etc. Take chappatis prepared with oats, ragi or barley flour instead of refined wheat flour and bread, naan etc. In Cikitsā Sutra of Sthaulya, Ācārya Caraka mentioned that consume Guru and Atarpanam Āhāra. [15] So, here Java (barley) is good choice of grain; it also helpful in Diabetes Mellitus. Eat boiled / steamed or backed food instead of fried or raw food. Nowadays, the consumption of deep-fried food has gained popularity which may cause increased risk of obesity, because fried foods have lots of unhealthy fat and calories. Chronic consumption of repeatedly heated vegetable oils could be injurious to health. Study on rat shown that it has genotoxic and preneoplastic effect along with liver damage as well as increased cholesterol level was observed. [16] Always choose the fruits and vegetable with low GI and low GL, because fruits and vegetables with high GI and GL will immediately increases the glucose level in blood it will be became worsen for diabetic and prediabetic person. Make a habit of drinking warm water 3-4 liter whole day helps to increase metabolism and aid in digestion. Avoid Salty food because it leads to water retention which causes weight gain as well as it increases the risk of HTN and Cardiac problems. [17] One of the most and prime things to maintain the weight as well as health is to follow diet and dietary guideline (Āhāravidhiviśeṣaāyatana).

All the Vihārātmakanidāna shown decreased physical activity, which increases Kapha& leads to Meda deposition in body. Divāsvapna having Abhiṣyandi properties leads to blockage of micro channels of the body especially Medovahasrotas. Night vigils cause dizziness, fatigue, drowsiness etc. which assist sleepiness in the day time. Get up early morning is a best part of the day which adds extra hours in our day. Early morning awakening gives a much energy and freshness to work more energetically. Small changes can make a big difference. Initially the small steps like uses of stair instead of lift and choose to walk for school or work is help to maintain good health, save a fuel and control the pollution.

Harśanitya (always stay happy) and Acintana (worry less) are 2 Mānasikabhāva mentioned by Ācārya Caraka. "Don't worries be happy" These factors are Kapha aggravating and hence lead to Medasancaya. When you are happy and contentedness, your brain is releasing more serotonin. Peripheral Serotonin has been identified by researchers that it is important hormone which is elevated in overweight individuals and contributes to obesity and diabetes by hampering the body's ability to burn calories. Low levels of serotonin can also make you want to eat more refined carbohydrates, which lead to weight gain.[18] So we need a balance amount of serotonin. Stay to be calm by practices of meditation and yoga.

Over nutrition particularly with *Madhura Rasa* during pregnancy is mentioned as a causative factor of obese offspring.<sup>[19]</sup> A balanced diet and healthy lifestyle is to be maintained by both parents for at least three months prior to planning for a good progeny.

Panchkarma might be one of the good choices in Bīja Duṣṭijanya Sthaulya. Healthy seed bears healthy fruit, likewise the first step in producing healthy sperms and ovum is achieved through a deep internal cleansing to balance the doṣas and remove toxins by detoxifying the body with Pañcakarma. Healthy Bīja can be achieved by Pañcakarma, Rasayaṇa (rejuvenation) and Vajīkarana (aphrodisiac).

### **CONCLUSION**

Here an effort made in the article to enlighten the way that how to manage and prevent Obesity through *Ayurveda*. It can provide not only weight loss but sense of wellbeing and quality lifestyle to obese person. A well-integrated Diet, Lifestyle modification and *Nidanparivarjana* give excellent results in obesity as well as in other lifestyle diseases. This type of Strategies is more cost effective and safe as compared to other medicinal and surgically interventions particular in the patient with excess weight and co morbidities. The paper shows only conceptual literature, but Study or Survey on patients and data collection might be helpful in establishing the effective role more scientifically.

### **ABBREVIATION**

PCOD	Polycystic Ovarian Disease
HTN	Hypertension
DM	Diabetes Mellitus
GI	Glycemic Index
GL	Glycemic Load

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