

A CRITICAL REVIEW OF AYURVEDIC AND SCIENTIFIC EVIDENCE OF DIETARY MANAGEMENT OF OBESITY

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Article Received on
29 Sept. 2021,

Revised on 18 October 2021,
Accepted on 09 Nov. 2021

DOI: 10.20959/wjpr202114-22168

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ABSTRACT

Obesity is a state of excess adipose tissue mass. BMI greater than or equal to 25 kg/m² is overweight; BMI greater than or equal to 30 kg/m² is called obesity. This is a complex condition. Many individuals who have obesity also struggle with issues related to their mood, self-esteem, quality of life, and body image. Management of co-morbidities and improving quality of life of obese patients are also included in treatment aim. Obesity is a burning issue and a major public health challenge in today's era. Food is very important for nourishing not just the body, but also the mind and conscience. Hence, the time of eating, the right kind of posture while eating and amount of food consumed

matters equally as much as the type of food eaten. Overall, about 13% of the world's adult populations (11% of men and 15% of women) were obese in 2016. The worldwide prevalence of obesity nearly tripled between 1975 and 2016. An escalating global epidemic of overweight and obesity "Globesity" is taking over in many parts of the world. Studies show that diet plays a major role in weight loss and management. Analogous to this, classics mentioned a detailed description of *Sthaulya* which is a *Santarpanjanya Vyadhi*. Appropriate *Pathya Ahara* is equally important and promising when combined with therapeutic drugs.

KEYWORDS: *Ayurveda*, *Pathya-Apathya*, Obesity, *Sthaulya*.

INTRODUCTION

Ayurveda is the science of the knowledge of *Ayu* and art of life.^[1] It is not only an ancient Indian Medical science but it is a science which gives integral knowledge about life itself. The uniqueness of *Ayurveda* is that it sets value on physical, mental, social and spiritual health. *Sthaulya* is a *Santarpanjanya Vyadhi*^[2] (disease of over nutrition) and can be

correlated with obesity. In 2016, more than 1.9 billion adults aged 18 years and older were overweight, of these over 650 million adults were obese. Overall, about 13% of the world's adult populations (11% of men and 15% of women) were obese in 2016. The worldwide prevalence of obesity nearly tripled between 1975 and 2016. Obesity is caused due to over-nourishment, intake of heavy, sweet, cold and fatty diet, lack of physical as well as mental work, abstinence from sexual intercourse, sleeping during the day, steady cheerfulness and genetic defects. The conventional concept of etiopathogenesis, prognosis, and management of obesity is very similar to those mentioned for *Sthaulya* in *Ayurveda*.

Ayurveda describes a unique concept of *Pathya*. It is not a substitute of medicine but an addition to commonly prescribed *Ayurvedic* medication that changes the landscape of diseases when combined with therapeutic drugs. *Ahara* (food) is believed to be one of the *Upastambha* (pillars) of life. It is considered as the *Mahabhaishajya* i.e. the great medicine. There is nothing else except diet for sustaining the life of living beings. Complexion, clarity, good voice, longevity, astuteness, happiness, satisfaction, nourishment, strength and intellect are all conditioned by food. Diet supports the body constantly just like the house (is supported) by the pillars.

AIMS AND OBJECTIVES

To critical review analysed *ayurvedic* and scientific evidence of dietary management of obesity.

MATERIAL AND METHODS

To fulfil the aims and objectives, relevant *Ayurveda* and Modern literature & available information on internet were searched. The result on search is described hereafter.

The disease *Sthaulya* originates due to consumption of *Kapha Vriddhikara Ahara*, *Vihara* and *Manasa Nidana*. These factors derange *Jatharagni* causing *Ama-Annarasa*, which results in *Medo-dhatvahnimandya*. This condition leads to the excessive growth and accumulation of *Medodhatu*, causing the disease *Sthaulya*.

The reason for the selection of this text is that the entire gamut of *Ayurvedic* recipes has been updated in this text along with the description of all necessary *Pathya-Apathya*. *Tikta-Katudravayas*, *Deepanadravyas*, *Ama-pachanadravyas*, *Srotoshodhak dravyas*; *Pathya* as advised in *sthaulya* include the *Ahara* and *Vihara* which helps in potentiating these functions

in the body. The *Pahya Ahara* which has *Tikta-Katu rasa*, *katuvipaka*, *ushna veerya* is mainly used in this. This is so because it will help in *Ama Pachana* from the *Amashaya* and various other minute bodily channels. This also helps in clearing the *Srotorodha*. Therefore, employment of a multi-dimensional approach is needed *rasa* is said to be, *kledopshashak* (the one which correction of Agni), *Pachana* (~Digestive, as it works on digestion and excretion of dries o the excessive *Dravansha* of *Kleda*), *Deepana* (~appetizer, as it works on excess *Ama* formed in the body), *medhohara* (remove excessive fat) *Ruchikarak* (it enhances appetite), *Srotoshadhaka* (it purifies the minute channels of the body from the various *Samadoshas*),

Tikta rasa has *Akash* and *Vayumahabhuta* while *Katu rasa* has *Agni* and *Vayumahabhuta* predominance. We know that for the origin (*utpatti*) and differentiation (*Prithkatva*) of *Dravyas*, three *mahabhutas* are pre-requisite i.e., *Akasha*, *Agni* and *Vayu*. *Akash dravya* are *vishada*, *laghu*, has *shabdaguna* and causes *Saushiryata* and *laghuta* in the body. *Vayavyadravyas* possess *ruksha*, *laghu*, has *sparshadhikya guna* and causes *rukshata*, *laghuta*, *vishadata*, and *vichara* (different actions, *sancharane tccheshta*). *Agneya dravya* are *ruksha*, *teekshna*, *ushna*, *vishada*, *sukshma*, has *rupadhikya* and causes *pachana* (digestion), improves colour and complexion. These properties of *Rasa* and their *mahabhuta* predominance contain various 20 types of *Gurvadigunas*. They improve the digestive power by *Deepana* property. Therefore, by correcting *Mandagni* by *deepana* property and by *Pachana* (digestion) of excess *medodhatu* and *Kapha*, the obstruction in the *Srotas* will be removed.

DISCUSSION

All living beings in the universe require food. *Ahara* nourishes all the bodily elements vital essence, vitality, complexion and other things, but its action is dependent on the proper function of *Jatharagni*. The *Àhàra Dravyas* comprising of six *Rasas*, get transformed into three kinds of *Vipaka* (*Madhura*, *Amla* and *Katu*) by the action of *Jatharagni*. Wholesome food is responsible for the growth of the living beings while unwholesome food for the growth of diseases. Proper growth and maintenance of the body depends on the balanced diet. The whole world is made up of *Panchamahabhutas* (five basic elements).^[3] Every element or somatic component known or unknown to us are the result of *panchabhautic* association. To follow the nature's law of equilibrium, consumption of *panchabhautic* substances is essential to maintain the status of *panchabhautic* components of body. The obese person has eight

inherent faults in them: shorter lifespan, limited ambulation (hampered due to loose, tender and heavy fats), reduced sexual activities or impotence (due to small quantity of semen produced and obstruction of the channel of semen by *medas*), debility (due to *dhatu* imbalance), foul odour (due to the inherent nature of fatty tissues as well as excessive sweating), profuse sweating (since *medas* and *kapha* are vitiated), and excessive hunger and thirst (due to excessive digestive *agni* and *vayu* in the body). These aetiologies lead to excessive accumulation of adipose tissues in the body that subsequently depletes the bodily *dhatu*s. The obese person constantly suffers from diseases and deteriorated quality of life therefore they need to be constantly managed by bulk-reducing therapies. Diet plays a major role in combating this. *Ayurvedic* classics have mentioned a variety of *pathya ahara* and *vihara* in *Medo Roga*. Following list has been made from the above advised *Pathya* in *medorog*. *Pathyas* has been divided according to the 12 classes/*vargas* told by *Acharya Charak*.

Table No. 1: *Pathya ahar* in *sthaulya*.

1. <i>Shukadhanya varga</i> (Cereals and millets) - <i>Yava-anna</i> and <i>Kordusha-anna</i> (chapatti made of Barley and <i>kodo</i>), <i>Shyamak</i> (jungle rice grass), <i>PuraanShaali</i> and <i>Shashtik</i> (1 year old variety of rice and rice harvested in 60days).
2. <i>Shimbidhanya varga</i>(pulses and legumes) - <i>Kulathhi daal</i> (horse gram), <i>Mudga/moong daal</i> (yellow lentil), <i>arhar daal</i> (pigeon pea), <i>chana daal</i> (chickpea)
3. <i>Shaakavarga</i>(Vegetables) - <i>Karvellaka shaaka</i> (Bittergourd/Karelasabzi), <i>Patolashaaka</i> (Pointedgourd/ <i>parvalsabzi</i>), <i>Vaastukashaaka</i> (Lamb'squarters/bathhuasaag) <i>vartaak</i> (<i>brinjal</i>) <i>tikata</i> and <i>kashay dravya</i> and <i>patrashaak</i> etc .
4. <i>Ambu/Jalavarga</i> (Water) - <i>TaptaNeer</i> (Luke warm water), drinkg water befor meal.
5. <i>Gorasavarga</i> (Milk and its products) - <i>Takra</i> (Buttermilk)
6. <i>IkshuVikaravarga</i> (Sugarcane and related products) - None
7. <i>Krutannavarga</i> (FoodPreparations) - <i>Kulathhidaal Yusha</i> (soup), <i>Chanakyusha</i> (chickpea soup),
8. <i>Aahara Upyogivarga</i>(Adjuvants of food) - <i>SarshapTaila</i> (use of mustard oil in food), <i>tila taila</i> (sesame oil) honey and <i>rukshan dravya</i> etc.
9. <i>Phalavarga</i> (Fruits) - <i>Tikta</i> and <i>vata-kaphanashak phala</i> (fruits with bitter taste and <i>vata-kapha</i> pacifying qualities) eg., <i>Dadima</i> (pomegranate/ <i>anar</i>), <i>karkandhu</i> (chhotaber), unripe <i>bilwa</i> fruit (<i>bela</i>),
10. <i>Madyavarga</i>(Alcoholic Preparations) - <i>Jeerna Madya</i> (old wine in modest amount)
11. <i>Mamsavarga</i>(Meat) -

Table no. 2: Classification and properties of *Annadravya Dravya*.

Latin Name	<i>Hordeumvulgare</i> Linn.	<i>Paspalum</i> <i>scrobiculatum</i> Linn.	<i>Oryzasativa</i> Linn.	<i>Echinochloa</i> <i>esulenta</i>
Family	Poaceae	Poaceae	Poaceae	gramineae
English Name	Barley	Kodo millet	Rice, Paddy	Barnyard millet
Sanskrit name	<i>Dhanyaraja</i> , <i>Teekshnashuka</i> , <i>Hayeshta</i>	<i>Koradushah</i> , <i>Koradushakah</i>	<i>Tandulama</i> , <i>Dhanya</i>	<i>Shyamaka</i>
Part Used	Dried Fruit	Dried Fruit	Dried Fruit	Dried Fruit
Varga	<i>Shuka Dhanya</i>	<i>Shuka Dhanya</i>	<i>Shuka Dhanya</i>	<i>Dhanyakvarga</i>

Table no. 2: Classification and properties of *Annadravya Dravya*.

Latin Name	<i>Phaseolus</i> <i>radiates</i> Linn.	<i>Macrotyloma</i> <i>uniflorum</i> Lam.	<i>Cajanus cajan</i> Linn.	<i>Cicerarietinum</i> l.
Family	Fabaceae	Leguminosae	Fabaceae	Leguminosae
English Name	Green Gram	Horse gram	Pigeonpea, red gram	Bengal gram, chickpea
Sanskrit Name	<i>Mungalya</i>	<i>Khalva</i> , <i>Vardhipatraka</i>	<i>Tuvari</i>	<i>Chanaka</i>
Part Used	Seed	Dried seed	Dried root	Dried Fruit
Varga	<i>Shami Dhanya</i>	<i>Shami Dhanya</i>	<i>Shami Dhanya</i>	<i>Dhanyak varga</i>

Table no. 3: Classification and properties of *Annadravya Dravya*.

Name	<i>Yava</i> ^[4]	<i>Kordusha</i> ^[5]	<i>Puranashali</i> ^[6]	<i>Shyamaka</i>
<i>Doshakarma</i>	<i>Kaphahara</i> , <i>Pittahara</i> , <i>Vatakrita</i>	<i>Kaphahara</i> , <i>Pittahara</i> ,	<i>Kaphahara</i> , <i>Pittahara</i> ,	<i>Kaphakara</i> , <i>Pittahara</i> , <i>vatavardhak</i>
<i>Karma</i>	<i>Balya</i> , <i>Lekhana</i> , <i>Mutrahara</i> , <i>Medahara</i> , <i>Purishakrita</i> , <i>Sthairyakara</i> , <i>Svarya</i> , <i>Vrishya</i> , <i>Varnaya</i> .	<i>Lekhana</i> , <i>Vishaghna</i>	<i>Lekhana</i> , <i>Vishaghna</i>	<i>Sangrahi</i> , <i>vishdoshanuth</i> , (<i>Vishaghna</i>),
<i>Rasa</i>	Kasaya, madhura	<i>Madhur</i> , <i>Kashaya</i>	<i>Madhur</i> , <i>Anuras</i> <i>Kashaya</i>	<i>Madhur</i> , <i>Kashaya</i>
<i>Guna</i>	Ruksha, laghu	<i>Laghu</i> , <i>Ruksha</i>	<i>Lagu</i> , <i>Ruksha</i>	<i>Lagu</i> , <i>rukshshan</i>
<i>Veerya</i>	Sita,	<i>Sheeta</i>	<i>Sheeta</i>	<i>Sheeta</i>
<i>Vipaka</i>	Katu,	<i>Katu</i>	<i>Madhura</i>	<i>Madhura</i>

Table no. 4: Classification and properties of *Annadravya Dravya*.

Name	<i>Kulattha</i> ^[7]	<i>Mudga</i> ^[8]	<i>Adhaki</i> ^[9]	<i>Chanadaal</i> ^[10]
Doshakarma	<i>Kapha-Vatahara</i>	<i>Kaphahara, Pittahara</i>	<i>Kapha-Vatahara</i>	<i>Kaphakara, Pittahara, vatavardhak</i>
karma	<i>Vidahi, Swedasangrahaka, Krimihara</i>	<i>Grahi, Varnya, Balaprada, Netrya</i>	<i>Varnya, grahi, ruchikara, visaaghana</i>	<i>Vishtabdhi, rochna</i>
Rasa	<i>Kashaya</i>	<i>Madhura, Kashaya</i>	<i>Madhura, Kashaya</i>	<i>Kashaya</i>
Guna	<i>Lagu, sara</i>	<i>Laghu, Ruksha, Vishada</i>	<i>Laghu, Ruksha,</i>	<i>Lagu, rukshana</i>
Veerya	<i>Ushana</i>	<i>Sheeta</i>	<i>Sheeta</i>	<i>Sheeta</i>
Vipaka	<i>Katu</i>	<i>Madhura</i>	<i>Katu</i>	<i>Katu</i>

APATHYA

1. Avoid *Vegavarodha* (Natural Suppression of Urges)
2. Avoid *DivaNidra* (Sleeping during day time)
3. Avoid *Purva Vaata* (cool breeze, direct expose of air conditioners, fans)
4. Avoid *Asatmaya and Vishamaashan* (untimely, incompatible and irregular dietary habits)
5. Avoid intake of *Dadhi* (curd), *Matsaya* (fish), *Guda* (jaggery), *Ksheera* (milk), *Upodika* (Indian Spinach), *Maasha* (black gram/ udada daal), *Pishtamaya padartha* (pithhi form substances).
6. Avoid excessive intake of water after consumption of food.

Important Instructions

- Patient may select from the above listed choice either in breakfast, lunch or dinner or all as per his/her likeness, availability and cultural acceptance.
- Patient will be advised to take *Pathya- Tribhaaga sauhityam*² (3/4th full abdomen).
- Patient will be advised diet only when he/she actually feels hungry.

CONCLUSION

It was observed that Obesity is most common in patients of 3rd to 6th decade of life, & is commonly found in individuals having sedentary lifestyle, faulty dietary habits and those who are psychologically disturbed individuals. Human body requires a balance diet to produce energy for body growth, repairs and maintenance. In *Ayurveda*, *Ahara*, *Vihara*, *Dincharya*, *Ritucharya*, *Yoga*, *Rasayana* are described which have good role in prevention & cure of the obesity. *Vaidya Lolimbraj* has described given a very important principle regarding *Pathya* and *Apathya*.^[11]

पथ्येऽसततर्गदातस्कयकर्मोषधतनषेवणैःपथ्येऽसततर्गदातस्कयकर्मोषधतनषेवणैः॥

The planning of diet mentioned in our classical literature is very rational and based on certain principles. Lot of importance is given to the diet with regard to its processing, quality, quantity and soon. Due consideration is given to the atmosphere, psychological condition, status of health, digestion etc. of the person while dealing with this issue. The diet should also be planned according to the age, season, habitat and the preference of the person. *Pathya* regimen is also discussed in detail in *Ayurveda* which play an important role in prevention as well as cure of different diseases.

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