



DIETARY INTAKE IN THE MANAGEMENT OF *STHAULYA* W.S.R. TO OBESITY

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ABSTRACT

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. Obesity is a leading but preventable cause of death worldwide. Incidences are increasing in adults and children due to faulty dietary habits including junk foods, lack of physical exercises and sedentary life style. Obesity increases the risk of many diseases such as cardiovascular diseases, type 2 diabetes, depression and hypertension etc. The main treatment for obesity consists of dieting and physical exercise. Dieting includes right choice of food substances which fulfill the energy requirements without increasing the body fat. In Ayurveda, this condition is named as *Atisthula* or *Medo-roga*. An extensive description pertaining to *Medo-roga* and its treatment is available in classical texts. In *Ayurveda*, treatment for obesity is based on *Guru* (diet fulfilling energy requirements) and *Aptarpana* (diet reducing body fat) *Chikitsa Siddhanta* (treatment modality). The nature, advantages, and disadvantages of the dietary assessment methods are reviewed: 24-hour recall, diet history interview, questionnaire and self-monitoring. When used on an ongoing basis in treatment, self-monitoring enhances weight-loss outcomes. However, compliance with self-monitoring varies widely across patients and over time. Possible methods of increasing compliance are discussed. Recent technological advances in software and hardware systems offer promise in improving compliance and effectiveness of self-monitoring.

KEYWORDS: *Atisthula, Medo-roga, Aptarpana Chikitsa Siddhanta, Ayurveda.*

INTRODUCTION

Obesity is an abnormal accumulation of fat usually 20% or more over an individual's ideal body weight. People are generally considered obese when their body mass index (BMI) is 30kg/m², with the range 25-30kg/m² defined as overweight.^[1] In *Ayurveda*, obesity (*Medo-roga*) is described as a condition in which buttocks; abdomen and breast become flabby due to fat accumulation and move while walking.^[2]

The incidences of obesity are increasing very rapidly. In 2015, 600 million adults and around 100 million children were obese.^[3] Obesity is most commonly caused by a combination of excessive food energy intake and a lack of physical activity. Some genetically factors, medical reasons or psychiatric illness also causes obesity. In *Ayurveda*, high calorie food, frequent eating, avoidance of physical work and sleeping in day time are described as causative factors of obesity (*Medo-roga*).

Prevalence of Obesity

In 2014, 58% of women and 65% of men were overweight or obese.^[4] Obesity prevalence has increased from 15% in 1993 to 26% in 2014. Obesity in India has reached epidemic proportions in the 21st century, with morbid obesity affecting 5% of the country population.^[5]

Obesity being a major risk factor for cardiovascular disease has become a major health hazard and its prevalence is rising in India due to unhealthy, processed food and sedentary life.

Purposes of Dietary Assessment in Obesity Treatment

In the treatment of obesity, dietary assessment is useful for a number of reasons. Initial assessment establishes a baseline of eating patterns used to determine the most important targets of intervention and against which to gauge progress. Ongoing assessment of intake provides a means of monitoring change in the targeted dietary areas and behaviors. Furthermore, such assessments allow for ongoing feedback to the patient and can be a basis for problem-solving efforts to overcome challenges.

Obesity in Ayurveda

Obesity has been named as *Atisthula* and *Medo-roga* in *Ayurveda*. It is described under the *Santarpanotha vikara* (diseases occurring due to high calorie diet and lack of physical exercises).^[6] Acharya Charaka has described the causes of obesity and these are^[7]:

- Overeating (*Atisampurna*)
- Indulgence in high calorie diet (*Guru, snigdha, madhura*)

- Not performing physical and mental exercises (*Avyayama, Achinta*)
- Due to inheritance (*Beeja-Dosha*)

All these causes are still relevant and considered as main cause of obesity. In present time, a combination of excessive food intake and a lack of physical activity are considered the main cause of obesity. A limited number of cases are primarily due to genetics, medical reasons or psychiatric illness.

Sthaulya (obesity) is considered as one of the eight types of undesirable conditions as described by Acharya Charaka.^[8] He has also mentioned 8 reasons explaining why obese person should be considered as unhealthy.

Obesity as a major health problem

Obesity is a major public health problem due to its association with serious chronic diseases such as type 2 diabetes, hypertension and hyperlipidaemia (high levels of fats in the blood that can lead to narrowing of blockages of blood vessels). Complications fall into two broad categories: those due to increased fat mass (such as osteoarthritis and obstructive sleep apnea etc.) and those due to increased number of fat cells (diabetes, cancer, cardiovascular disease, non-alcoholic fatty liver disease).

Ayurveda emphasised on healthy body weight. One should neither be obese nor malnourished. But when comes in comparison between obese and malnourished, Ayurveda considers that being obese is more harmful as it increases the risk of many physical and mental conditions.^[9]

Management of obesity

Modern treatment of obesity includes:

1. Dietary plan
2. Physical exercises
3. Use of anti-obesity drugs
4. Bariatric surgery

Dietary and lifestyle changes are considered as main treatment for obesity. Diet programs may produce weight loss over the short term and long term. Low carbohydrates and low-fat diet is beneficial. Some drugs are also used for treatment of obesity. The most effective treatment for obesity is bariatric surgery. But these surgeries are costly and risky too.

In *Ayurveda*, treatment of obesity is described very systemically. Various single herbs, compound formulations, exercises and life style modification have been mentioned. In *Ayurveda* management of any disorder is divided into 3 parts:

1. *Nidana Parivarjana* (Avoidance of causative factors)
2. *Shodhana* (Purification therapy for removal of body toxins)
3. *Shaman* (Medication therapy)

Nidana Parivarjana

It is the 1st line of treatment for any disease. *Nidana* (causative factors) must be avoided for best management of the disease. In case of obesity high calorie diet, fast foods, sweetened drinks should be avoided.

Shodhana

Ruksha, Ushna and Tikshana Basti (administration of medication through anal route) are also suggested by *Acharya Charaka*. *Ruksha Udvartan* (massage with herbs' powder) is indicated for the management of *Sthaulya*.^[10]

An effort has been done by Chaturvedi sonal et al. to study the role of *Lekhana basti* and *Virechana karma* in the management of obesity. According to this, *Basti* provides better results than *Virechana* in the management of obesity.^[11]

Shamana

It includes use of medication which reduces *Vayu, Kapha and Meda*. Administration of *Guru* and *Apatarpana* substances which possess additional *Vata Slesma* and *Meda Nasaka* properties is considered as an ideal for *Sanshamana* therapy. According to *Acharya Charaka*, an obese person should be advised to do more exercise and physical and mental work.

A study has been done by Patil Y.R. et al. on a classical preparation "*Karshniya Yavagu*" to evaluate its efficacy in the management of obesity. Intergroup comparison of *Karshniya Yavagu* and starch capsule 500mg with low calorie diet was done. *Karshniya Yavagu* showed better results as compared to starch capsule 500mg with low calorie diet.^[12] Single Drugs which can be used for obesity are: • *Vayavidanga* (*Embelia ribes*) • *Sunthi* (*Zingiber officinale*) • *Kshara* (Alkalis) • *Madhu* (Honey) • *Guggulu* (*Commiphora mukul*) • *Mustaka* (*Cyperus rotundus*) • *Katuki* (*Picrorrhiza kurroa*) • *Chitraka* (*Plumbago zeylanica*) • *Haridra* (*Curcuma longa*).

An experimental study was performed on Rats show; *Cyperus rotundus* stopped weight gain and in vitro, stimulated lipolysis in 3T3F442 adipocytes.^[13]

In a study of hyperlipaemic mice on a high-fat diet, daily doses of water extract of *Picrorrhiza kurroa* significantly reduced total cholesterol, triglycerides and LDL levels after 12 weeks.^[14]

A study has been conducted by Gupta Twinkle et al. on *Panchakola Phant* containing *Sunthi, Pippali, Pippalimula, Chavya*, and *Chitraka* in the management of *Mandagnijanya Sthaulya* with special reference to obesity. It showed good efficacy in relieving both subjective and objective parameters.^[15]

Compound drugs are

- *Triphaladi kwatha*^[16]

- *Mustadi kwatha*^[16]
- *Kusthadi churna*^[17]
- *Trayushnadi mantha*^[17]
- *Triphala churna*^[18]
- *Shuddha guggulu*^[18]

Others compound drugs are

Medohara guggulu, Navaka guggulu, Trigunadi guggulu, Arogyavardhini vati, Chandraprabha vati, Punarnavadi kwatha and Shilajivadi vati.

In *Ashtanga Samgraha Krishna Lauha, Shankha, Samudraphena, Tuttha, Manahshila* and *Shilajeet* are additional *dhatu* described as *Lekhana* and *Medonashaka*. *Rasanjana* is mentioned as the best for the treatment of *Sthaulya*, while *Guggulu* is mentioned as the best for the disorder of *Vata* and *Meda*.

Pathya for obesity (what to do)

Munga, Kultha, Arhar, Parvala, Amalaki, Yava, Kodrava, Prashatika, Priyangu, Yavaka etc. should be used in daily routine. *Madhu panaka* should be used after meal. Regular exercise should be done.^[19]

Apathya for obesity (what to avoid)

Any food substance or activity which increases *Kapha* and *Meda* should be avoided.

Methods of Assessing Dietary Intake

There are many techniques for measuring dietary intake, including 24-hour recall interviews, diet history interviews and questionnaires, and self-monitoring. More detailed descriptions of the validity and reliability characteristics of these approaches and their use in research settings may be found elsewhere (1-4). This discussion will focus on the clinical applicability of these procedures with an emphasis on self-monitoring.

Medications and drugs that affect hunger and appetite

A wide range of medications and illicit drugs can promote hunger and appetite.^[19] These include some oral anti diabetic agents, antidepressants, atypical antipsychotics, anticonvulsants, certain hormonal preparations including corticosteroids and oral contraceptives, as well as the medicinal and recreational use of marijuana. Alcohol and other mind-altering drugs can also promote over-eating by increasing appetite^[20], reducing dietary restraint and promoting disinhibition.^[21] Patients presenting with weight gain and obesity need a careful review of their medication and substance abuse history.

DISCUSSION

Incidence of obesity is increasing day by day due to increase in energy dense foods and decrease in physical work. Being overweight and obese can have a serious impact on physical and mental health. Obesity can reduce life expectancy by up to 9 years. Obese children and young people face the same health risks as adults. As

high calorie diet and physical inactivity are main cause of obesity, there should be a balance in calorie consumed and calorie used.

CONCLUSION

Obesity is public health and policy problem because of its prevalence and health effects. Efforts should be done to change the factors that cause excess food energy consumption and inhibit physical activity. Ayurvedic principles should be followed to attain a healthy weight which says that a person doing regular exercises, consuming food as per caloric requirement, taking high fibrous diet always remains healthy.

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