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A Review Article on Role of "Millets" in the Management of "Sthaulya (Obesity)"

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Abstract

Obesity is an international issue that shortens people's lives and may cause partial disability. A diet that involves fewer meals leads in an inadequate intake of nutrients and energy. Despite the fact that there are numerous therapeutic options for managing obesity, it is quickly becoming the most common non-communicable disease affecting the majority of people throughout their productive years. Food and lifestyle play a significant part in the fight against the obesity epidemic. India is a nation that cultivates a wide variety of crops, including millets like Yava, Jwar, bajra, chana, and makka, which are consumed to maintain good health and prevent obesity. Ayurveda academicians as well as hints of contemporary dietetics with a focus on obesity.

Keywords: Ayurveda, millets, obesity, sthoulya, prevention

Introduction

The art and science of living are combined in ayurveda. In addition to being an old Indian medical science, it also imparts essential knowledge about life itself [1]. The distinctiveness of Ayurveda is that it lays value on physical, mental, social and spiritual wellbeing. Sthaulya is a Santarpanjanya Vyadhi [2]. Obesity has reached pandemic proportions in the recent years. Its increase is frequently attributed to modern lifestyles and eating patterns. Many non-communicable diseases, including diabetes, heart disease, cancer, and hypertension, are at increased risk due to obesity.

Many health morbidities have been caused by a lack of physical activity, bad eating habits, a dysfunctional lifestyle, addictions, and a competitive outlook on the material world. Obesity is the one that is most prevalent. The majority of teenagers do not follow the five health guidelines for diet and exercise (eating breakfast, eating fruit and vegetables, drinking milk or yoghurt, engaging in moderate to vigorous physical activity, and limiting television viewing). Male gender and binge-watching television were linked to abdominal obesity [3].

Sthaulya (Obesity): The name "Sthoola" comes from the prefix "Sthu" with the suffix "Ach," which means thick, solid, strong, huge, or bulky. Due to the excessive deposition of Meda and Mamsa Dhatu in their bodies, particularly in the areas around their buttocks, bellies, and breasts, they move more abnormally and lose their passion (Utsaha). "Atisthula" is the name of the person with this type of personality. The term "Sthula" refers to a person whose body is heavy and bulky due to extended growth, particularly in the Udaradi (Abdominal) region, and the state (Bhava) of Sthula is referred to as "Sthaulya." the 29th Adhyaya of the Charaka Sutra [4].

Cause of Obesity [5, 6, 7]

Obesity has many external or inherited origins, but because of modern lifestyle changes, it is now classified as a metabolic illness. According to Ayurveda, obesity is brought on by a lack of exercise, resting throughout the day, and eating an excessive amount of fatty and sugary foods. A number of factors are responsible for obesity as-

1. **Unhealthy Way of Life:** A significant contributor to the emergence of obesity is physical inactivity. Physical inactivity can result from coerced, work-related, alcoholic, internet, or ageing addiction prolonged sitting in a comfy chair, which is typical of businesspeople, those working for the government, and the majority of white collar jobs. Because of this, the prevalence of obesity is rising.
2. **Psychological Factor:** Stress brought on by the psychological and social surroundings might induce emotional disorders. Stress can be brought on by a variety of everyday annoyances, such as fighting, arguing, family events, marriages, deaths, long distance travel, dealing with heavy traffic, etc. These causes are either directly or indirectly to blame for weight gain.

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3. **Diet:** Recent decades have seen an increase in the prevalence of obesity, which may be more attributable to overeating than to physiological requirements, a habit of eating quickly, and greater consumption of high-fat foods and beverages with added sugar. In Ayurveda ati sampurana (excess food intake in a single meal) and adhyashana (frequent food intake before digestion of a previous meal) are recognized as the basic factors for the development of sthoulya roga.
4. **Gender and Age:** Although obesity can happen at any stage of life, people in their middle years are more likely to be obese. Due to hormonal changes throughout puberty, menstruation, pregnancy, menopause, and hormonal deficiencies of the thyroid, pituitary, and ovarian glands, adolescent and middle-aged females suffer more than men do. Even while obesity is a worldwide issue, some races are more susceptible to it than others, including South Germans, Africans, Dutch, South Italians, and Ceylonese.
5. **Socioeconomic Status:** Overeating and decreased energy expenditure cause the body to store more fat than it should. Higher socioeconomic class individuals are frequently observed to favour more opulent and inactive lifestyles. As a result, obesity is far more common in them.
6. **Drug Induced:** Anti-epileptic, corticosteroid, oral contraceptive pill, antidepressant, hypoglycemic antihypertensive medication, etc., long-term use causes fat.
7. **Etiology of Obesity (Sthoulya) in Ayurveda:** In our ancient texts of Ayurveda, an elaborate description has been given relating to the causes of sthoulya (obesity). Those are chintanam (not thinking much), divaswapna (sleeping at daytime), harshaneeyam (always enjoying happiness), sleshmaj aahar-vihar sevana (diet and lifestyle which causes an increase in fatty tissues), jatisampurna (excessive intake of food which is difficult to digest), aayavaya (no sexual relation), avyayama (lack of exercise) and beeja swabhava (hereditary) [8].

Clinical Features

In Ayurveda literatures, the following conditions are referred to as "Ashta Doshas," and an obese person invariably falls into one of them. These are Javoparodha, who has difficulties moving, Krichravyavaya, who has difficulty having sex, Daurbalya, who is weak, Daurgandhya, who has a bad odour, Atisweda, who has excessive perspiration, Atikshuda, who has excessive hunger, and Atitrishna (excessive thirst). The most challenging of these is ayushohrasha (shortening of life span). A few significant complications of obesity are Klaibya (impotence), Budhimoha (mental hallucination), and Pramilika (dropsy).

Management of Obesity

In order to effectively cure any condition, Ayurveda promotes a holistic approach. In the treatment of disease, emphasis is placed on the three aforementioned factors: spiritual, psychological, and physical. The fundamental rule for treating obesity would be to consume as little food as possible and to burn more energy than you take in. Ayurvedic management is now acknowledged as the superior choice for individuals who are afflicted by the sthoulya cure (obesity) [9].

Important Millets Used for the Treatment of Obesity

***Yava* (Barley) *Hordeum Vulgare* (Poaceae)**

Yava has included *Sukadhanya Varga* in Caraka Samhita while *Sushruta* in *Mudgadi Varga. Caraka* has included *Yava* in *shramahara, Chardinigrahana*, and *Swedopaga Mahakashaya*. In *Ayurveda*, pharmacodynamics of *Yava* is *Ruksha* (dry), *Sheeta Virya* (cold in potency), *Laghu* (light in digestion), *Madhura* (sweet) and *Kashaya* (astringent taste), aggravates *Vata* and increases the amount of faeces. Also it anhances the body strength and pacifies *Kaphaja* disorders [10]. It is best known as *Stanyavardhaka, Medohara* (helps in reducing fat) when used with *Amalaki Churna.*[11] The National Health and Nutrition Examination Survey claims that the potassium, calcium, and magnesium included in barley can help to naturally lower blood pressure. Due to its exceptional fibre content, barley also aids in lowering blood cholesterol levels, reducing the risk of heart ailments and helping obese people lose weight.

Jwar (Great Millet) *Sorghum Vulgare* (Poaceae): Jwar has qualities like Madhura and Kashaya in rasa, Laghu, Sheeta Virya and pacifies Vata and Kapha dosa. Jwar contains important elements like phosphorus, calcium, potassium, and iron. It contains thiamine and riboflavin in good amounts. Moreover, millet contains significant amounts of phytochemicals, which have demonstrated potential benefit in lowering obesity. The heart is reported to benefit from jowar as well. In addition to obesity [12].

Bajra (Pearl Millet) *Pennisetum Glaucum* (Poaceae): Bajra has qualities like Madhura in Rasa, Ruksha, Usna Virya and pacifies Vata and Kapha Dosha [13]. It is well known that it has a lower glycemic index than both rice and wheat. Millet-based magnesium aids in minimising the effects of heart attacks. Niacin, which is present in bajra and lowers cholesterol levels. Given that it contains 73 grammes of carbohydrates per 100 grammes of bajra, pearl millet is primarily starchy. It is a crucial source of B complex vitamins, which are mostly found in the grain's outer bran layer [14].

Kodrava (Kodo Millet) *Paspalum Scrobiculatum* (Poaceae): Kodrava has included *Sukadhanya Varga* in Caraka Samhita. It qualities like Madhura, Kashaya in Rasa, laghu, Ruksha, in Guna, Sheeta Virya, katu in Vipaka and pacifies Pitta and Kapha Dosha. It is beneficial for the treatment of obesity because of its lekhan karma [15].

***Puranashali* (Rice) *Oryzza Sativea* (Poaceae):** Puranashali has included *Sukadhanya Varga* in Caraka Samhita. It qualities like Madhura in Rasa and Kasaya in anurasa, laghu, Ruksha, in Guna, Sheeta Virya, Madhura in Vipaka and pacifies Pitta and Kapha Dosha. Due to its lekhan karma it is useful for the treatment of Obesity [16].

Makka (Corn Millet) *Zea Mays* L. (Poaceae): Makka has included *Sukadhanya Varga* in Caraka Samhita. It qualities like Madhura in Rasa, laghu, Ruksha, in Guna, Sheeta Virya, katu in Vipaka and pacifies Pitta and Kapha Dosha. Due to its lekhan karma it is useful for the treatment of Obesity [17].

Shyamaka (Barnyard Millet) *Echinochloa Esulenta* (Poaceae): Shyamaka has included *Dhanyakvarga Varga* in Caraka Samhita. It qualities like Madhura, Kashaya in Rasa, laghu, Ruksha, in Guna, Sheeta Virya, katu in Vipaka and pacifies Pitta and Kapha Dosha. Due to its Sangrahi and vishaghna karma it is useful for the treatment of Obesity [18].

***Kulattha* (Horse Gram) *Phaseolus Radiates* Linn. (Fabaceae):** Kulattha has included Shami Dhanya Varga in Caraka Samhita. It qualities like Kashaya in Rasa. laghu, Sara, in Guna, Ushna Virya, katu in Vipaka and pacifies *Kapha-Vatahara*. Due to its Vidahi, Swedasangrahaka, Krimihara karma it is useful for the treatment of Obesity [19].

***Mudga* (Green Gram) *Macrotyloma Uniflorum* Lam. (Fabaceae):** Mudga has included Shami Dhanya Varga in Caraka Samhita. It qualities like Madhura, Kashaya in Rasa, laghu, Ruksha, vishada in Guna, Sheeta Virya, Madhur in Vipaka and pacifies *Kaphahara, Pittahara*. Due to its Grahi, lekhan karma it is useful for the treatment of Obesity [20].

***Adhaki* (Pigonpea,red Gram) *Cajanus Cajan* Linn. (Fabaceae):** Adhaki has included Shami Dhanya Varga in Caraka Samhita. It qualities like Madhura, Kashaya in Rasa, laghu, Ruksha, in Guna, Sheeta Virya, katu in Vipaka and pacifies Kapha-Vatkara. Due to its vatakara karma and ruksha guna it is useful for the treatment of Obesity [21].

***Chanadaal* (Bengal Gram) *Cicer Arietinum* L. (Fabaceae):** Chanadaal has included Shami Dhanya Varga in Caraka Samhita. It qualities like Kashaya in Rasa, laghu, Ruksha, in Guna, Sheeta Virya, katu in Vipaka and pacifies *Kaphakara, Pittahara, vatavardhak*. Due to its *vatavardhak* karma Laghu, ruksha guna it is useful for the treatment of Obesity [22].

Discussion

According to Ayurveda texts, the combination of Kapha and Meda Sadharmi Amarasa, which contain etiological components, causes the body to develop Kapha Bhuishtha Dosha vruddhi, which by nature results in Agni vikruti, which in turn causes the formation of Ama. This Ama directly affects Meda Dhatu and causes Meda to grow and accumulate by giving rise to Medodhatwagni-mandya. Medovaha Sroto Sanga, which results from vitiated Kapha and Meda, gives rise to Vata's Margavrodha. This vitiated Vata circulates throughout the body, but particularly in the Koshta, eventually leading to Jathragni Sandhukshana, which produces Kshudhaadhikya and Shighra Jarana of Ahara. *Medodhatwagni Mandhya* takes place due to which the capacity to digest *Medamasa* by the *Medodhatwagni* is hampered, leading to the formation of *Apakwa Meda* which is incapable of nourishing the *Utter Dhatu*. In Sarvanga, particularly in the Sphig-Udar-Stana regions, the Ama Meda builds up, leading in Sthaulya. Ayurveda describes Ahara, Vihara, Dincharya, Ritucharya, Yoga, and Rasayana as having a positive impact on both the prevention and treatment of obesity. Indian millets are crucial to Sthaulya (Obesity). Millets decrease excess body fat from people's bodies because they have laghu guna and lekhan karma.

Conclusion

Prevention is preferable to treatment. Those who are obese or at risk for obesity should be urged to adopt a healthy eating routine and stay away from items with high calorie and sugar content. It is necessary to place more of an emphasis on long-term weight control and preserving excellent health than on quick weight loss. Cereals should be consumed every day in a specified quantity, as previously stated in Caraka Samhita, Sushruta Samhita, and Vagbhata, to promote health and ward off ailments like Medo roga (Obesity). mudga, kulattha, uddalaka, kodrava, syamaka (millets) Yava, Jwar, bajra, chana & makka these millets used for maintenance of health and prevention from diseases. Everyone who follows a balanced diet, practises frequent yoga, and paranyam will avoid gaining excess weight on their healthy bodies.

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