

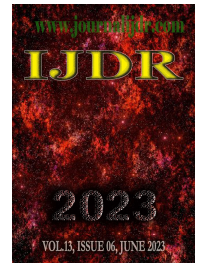


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# OBESITY- A LIFESTYLE DISORDER ITS IMPACT ON WOMEN'S HEALTH AND ITS MANAGEMENT

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## ABSTRACT

Obesity is a term used to describe body weight that is much greater than what is considered healthy. It has become a serious public health problem. It affects 32.2% of the population. The worldwide prevalence of obesity is 1.6 billion and is reached epidemic proportions mostly in high income groups. Changes in dietary habits and sedentary lifestyles are known to be associated with changes in health and increased prevalence of chronic diseases. During the past decades efficacious strategies have been developed for prevention of these changes. These strategies involve general lifestyle changes, which include healthy diet, optimal weight, physical activity, no alcohol consumption. In the management strategies available therapies having its own side effects and Unani medicine plays an important role in the management of obesity. Number of herbs is documented in Unani classics to reduce weight which includes *Lac* (Luke-e-Maghsool), *Muqil* (Commiphora Mukul), *Kharkhask* (Ghokru-Tribulus Terrestris), *Haldi* (Turmeric- Curcuma Longa) and *Zeera siya* (Black cumin- Cuminum sativum) etc. These herbs are the most common traditional Unani medicines used for weight loss, but there is a need to explore the efficacy of these drugs in a scientific manner. This paper gives information on herbs and its mechanism of action for weight reduction.

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## INTRODUCTION

**Obesity and its significance:** In spite of tremendous development in the medical science several diseases or disorders are still challenging to human being and efforts are continue to conquer them. Obesity is one of them. Certain level of weight gain is a good sign of health. If it exceeds normal limit then it becomes dangerous. Obesity is defined as a disease process characterized by excessive body fat accumulation with multiple organ-specific consequences. Obesity and overweight occurs due to imbalance between calories consumed and calories utilized. These are the most common nutritional disorders in developed countries, affecting the majority of adults in the country and are associated with significant morbidity and mortality. Obesity is a multifactorial disorder. Individuals whose BMI lies between 25 and 30kg/m<sup>2</sup> are considered overweight, if it exceeds 30kg/m<sup>2</sup> are defined as obese and more than 40 is considered as morbid obesity. Globally, there have been two reasons for overweight and obesity: 1) an increased intake of energy-dense foods that are high in fat, salt and sugars but low in vitamins, minerals and other micronutrients; and, 2) a decrease in physical activity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization [1,2].

Changes in dietary and physical activity patterns are often results from sedentary lifestyle, not sleeping enough, endocrine disruptors, such as some foods that interfere with lipid metabolism, medications that make patients put on weight, medical and psychiatric illness and infectious agents.

### The International Classification of adult underweight, overweight and obesity according to BMI

Classification	BMI(kg/m <sup>2</sup> )	
	Principal cut-off points	Additional cut-off points
Underweight	<18.50	<18.50
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
Normal range	18.50 - 24.99	18.50 - 22.99
		23.00 - 24.99
Overweight	≥25.00	≥25.00
Pre-obese	25.00 - 29.99	25.00 - 27.49
Obese	30.00	27.50 - 29.99
		30.00 - 35.00
Morbid Obesity	40.00	
Super Morbid obesity	>40.00	

Overweight and obesity are the fifth leading risk for global deaths. At least, 2.8 million adults die each year as a result of being overweight or obese. In addition, 44% of the diabetes burden, 23% of the ischaemic heart disease burden and between 7% and 41% of certain cancer burdens are attributable to overweight and obesity. WHO global estimates for the year 2009, reported 1.5 billion people were overweight, of these, over 200 million male and nearly 300 million females were obese. Overall, more than one in ten of the world's adult population was obese [1,3]. In 2010, around 43 million children under five were overweight. Currently population of India is 1.22 billion among them 199 million are obese; it means India is gaining weight. Traditionally India is known for malnutrition. Overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings. Close to 35 million overweight children are living in developing countries and 8 million in developed countries. Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood. But in addition to increased future risks, obese children experience breathing difficulties, increased risk of fractures, hypertension, cardiovascular diseases and psychological effects [4].

**Management of Obesity:** Balance the food intake, Regular exercise, Physical activity.

Drug therapy includes:

- \* **Sibutramine (Meridia):** Elevated blood pressure, tachycardia, headache, insomnia, constipation, dry mouth.
- \* **Orlistat (Xenical):** Fecal incontinence, oily spotting, flatulence, vitamin mal absorption.
- \* **Statin:** It is a drug of choice today, but associated with many side effects and known to cause muscle damage.

In spite of all the therapies still treatment of obesity is very difficult. Despite of beneficial effect of the drug, is often associated with side effects and there is rebound weight gain after cessation of the drug. When these therapies are fail to treat then people seek complimentary or safe and effective alternative medicine, which includes Unani system of Medicine. Unani Herbal Medicines plays an important role in the management of Obesity.

**Unani concept of obesity:** According to Unani concept obesity is also known as Samane Mufrat (obesity), Dadussum Fiddam (hyperlipidemia), Shaham, Motapa, Afraate Farbahi. Samane Mufrat is a Balghami disease and hence domination of Baroodat in the body. Khilte Balgham predominates in the body of person and is a predisposing factor in causation of obesity. In this condition loss of movements of Aaza (organs) is due to excessive accumulated Balgham (fat) and cold temperament i.e. the person becomes lazy and dull. This situation is just like Qaidul Badan (arrest of body). Balgham after mixing with blood produces lubrication in its Qiwam (viscosity). [18] Increase in the Balgham causes increase in viscosity of the blood and also constrict blood vessels. Deposition of Balgham (Atherosclerosis) obstructs Nufuz of Rooh (passage of oxygen) in the organs which finally cause death of the obese persons. [7, 9, 15, 19]

**Classification:** Obesity is divided into two types

1. Muqami Samane Mufrat (Local or Central Obesity)
2. Umoomi Samane Mufrat (General or Peripheral Obesity)

When Shahem deposits in a particular organ it is called local or central obesity for example protrusion of abdomen due to the deposition of fat. When there is generalized deposition of fat in the body, is called general or peripheral obesity [10-12]. The causes of Samane Mufrat as described by the Ancient Unani Physicians are Virasati and Khilqi Samane Mufrat (hereditary and congenitally), Martoob Ghiza (fatty diet like meat, sweet dishes), Martoob Roghinyat (fatty oils), Baroodat Mizaj (coldness of temperament), Rahat wa warzish ki kamo (excessive rest and lack of exercise), Kasrate Ghiza (excessive eating), Farhat (excess of joy), Soft clothes and soft bedding for sleeping, Intake of excessive alcohol especially

after meal. [7, 10-12] All these causes excess production of Balgham as well as disturb metabolism which may lead excess deposition of fat may lead to complications.

**Historical background:** Different physicians had different opinions related to obesity. First Buqrat gave detailed description of obesity including its complications, prevention and management in his famous book "Fasoole Buqratia". [11] Jalinoos (Galen 119-200 AD) describes the different mechanisms and procedures to decrease the obesity. He has described the severity of disease in detail with respect to the complications. He further quoted that obese persons die early in comparison to the lean and thin persons. Galen was among the first to establish scientific methods to describe morbid obesity. [5, 14-16] Ali Bin Rabban Tabri (700-780 AD) has described etiology and pathophysiology of Samane Mufrat in his famous book Firdousal Hikmat. He has emphasized that excess eating and sedentary life style are most important factors for the obesity. [23] Zakkariya Razi (860-925 AD) described that Roghani Ghiza (Oily food) is responsible for the obesity. He classified the obesity into general and local types and has given separate treatments for both types of obesity. He has critically discussed the obesity and documented his clinical experiments on obesity. [11] Ali Ibne Abbas Majoosi (930-994 AD) has opined that Hararate Ghareezia diminishes slowly in obese persons and that is why, obese persons die early than others. [13] Ibne Sina (980-1037 AD) focuses on the Taqleel Ghiza (Decrease in food intake) as the important tool for obesity treatment. He has prescribed the advia Mulattifa and has described detailed action of these drugs.

**Management by Unani Herbal Medicine:** Historically, herbal medicines have played a significant role in the management of both minor and major medical illnesses. Herbal medicines make up an important component of the trend toward alternative medicine. Usage of herbs for the management of obesity in the recent times is attracting attention. Our literature survey also indicated that these herbal products fall under an acceptable level of evidence or with no scientific background at all, or they have a scientific rational but not to an acceptance level. Attempts were made in the review to define the features of possible herbal weight loss product by improvement of bio markers like blood pressure and serum lipids without any side effects.

**Principles of Treatment:** According to Zakkaria Razi and Ibne Sina, the treatment of Samane Mufrat is based on the following principles:

1. Correction of the Sue Mizaj Barid. Since the disease is cold in temperament, so herbal medicines having opposite temperament i.e. Hot and dry should be given. (Ilaj Bil Zid)
2. Elimination of the existing causes.
3. If there is accumulation of Madda or Khilt Balgham in the body use of Mudir (Diuretics), Mushil (Purgatives), Muarrique Advia (diaphoretics) and Mujaffif (Desiccant) will be beneficial
4. If there is excessive amount of Khilte Dam in the body then the use of Fasad (venesection) is beneficial, otherwise it is better to use purgative of Khilte Balgham.
5. In order to reduce Samane Mufrat, bulky foods with least nutritional values should be served so that mesenteric vessels will get least time to absorb the nutriment completely. Due to bulky and less nutritious foods, it occupies the space of stomach and obese patient feels fullness in the stomach. [17, 21,22]

**Razi has classified all these treatment broadly into three categories as: (11)**

1. Taqleel Ghiza (Decrease in food intake)
2. Riyazat Kaseera (Too much exercise)
3. Ishaal wa Idraar (Diarrhoea and Diuretic), Fasad (venesection) and Istifrag (evacuation)

Razi has given detailed description of the management to reduce the obesity. According to him, the Mizaj of the obese persons becomes Barid, so, in such condition, the diets, drugs and exercises which produce Har Yabis Mizaj should be prescribed. Therefore, Mulattif

Aghzia (diets) and Advia (drugs), Riyazat Kaseera (hard exercises) are recommended for weight loss. Therapies includes Ilaj Bil Ghiza (Dietotherapy), Ilaj Bil Tadabeer (Regimental Therapy) and Illaj Bil Dawa (Drug therapy)

#### Ilaj Bil Ghiza (Dieto-Therapy)

- Avoid oily food
- Avoid those food which increase the blood and Phlegm like kaddu, khera, kakadi
- Intake of food is decrease in terms of Quality not in quantity. That makes the food should be less energetic, but should give feeling of fullness of stomach.

**Illaj Bil Tadbeer (Regimental Therapy):** It also plays an important role in weight loss management, which includes Kasrat Riyazat (excess of exercise), Dalak Khishan (rough massage), Taareeq (perspiration or Diaphoretic), Fasad (venesection), Hammame Yabis (Dry bath) and Massage with Muhallil Roghaniyat.

**Riyazat (Exercise):** is one of the most important tools for reducing the obesity by expenditure of extra energy. However, exercise should be on regular basis and it should be introduced gradually and under medical supervision especially in the advanced obesity, otherwise, negative effects may occur. Exercise should be active and followed by massage of Muhallil Roghaniyat. Baths should be taken regularly before the meals. [11]

#### Ilaj Bil Dawa (Drug Therapy) Single herbs

**Lac (Luke-e-Maghsool):** Having the Temperament of Hot and Dry. Because of its Muajaffif property and its Hot and Dry temperament it absorb the excess body fluid thus makes weight loss. It is a main constitute of Safoof-e-Mohazzil. One gram of Luke-e-Maghsool may be taken with water in the morning for getting positive impacts for obesity. This is an effective Unani medicine for obese people. (19)

**Lemon Juice:** Lemon juice is quite effective for obesity patients. 5-10 ml of lemon juice is mixed with one glass of water and should be taken on empty stomach in the morning. The mix is very useful for melting of adipose tissue from the body as well as weight loss. However, it is recommended to take the above mix once a day, otherwise, the person may experience loose motion or some digestive problems.

**Muqil (Commiphora Mukul):** Muqil is a thyroid tonic that promotes the gland's enzymatic activity and improves its ability to absorb iodine, the essential trace mineral for thyroid hormone production. Since the thyroid controls metabolism, an under-active thyroid can be a major contributor to obesity. Muqil can stimulate weight loss at a healthy pace by perking up a sluggish thyroid and helping the body to burn calories more efficiently; thus eliminating the need for drastic caloric reduction. This herb contains Guggilosterone (GS) which inhibit adipogenesis and causes apoptosis of adipocytes. Thus control obesity (23). This natural herb has also clinically also demonstrated a cholesterol-lowering ability rivaling any natural substance yet found. According to the Indian Journal of Medical Research, Muqil has been found to reduce total blood cholesterol in the range of 22 to 27 percent, irrespective of dietary modifications. Since heart attack risk drops by two percent for every one percent drop in total cholesterol, Muqil can cut the chance of heart attack in half. It also brings down levels of the unwanted LDL and VIDL components of cholesterol which clog the arteries, while at the same time raising the anti-clogging HDL and Muqil reduces blood triglycerides - fatty substances that contribute to atherosclerosis and heart attack risk (23)

**Kharkhask (Ghokru -Tribulus Terrestris)** Kharkhask is also known as Ghokru is serves as a liver tonic by elevating the hormones. The subsequent stimulating effect on the liver improves protein synthesis and fosters positive nitrogen balance which

promotes muscle development, stamina, and higher metabolic rate necessary for burning excess calories and fat. (24)



**Haldi (Curcuma Longa: Turmeric):** Turmeric is one of the best natural antiseptics. It is a good digestive tonic and blood and liver purifier. It helps in the clearing and improved functioning of the entire digestion system particularly the intestines. Turmeric also helps to reduce cholesterol levels and regulate blood sugar level. Its antioxidant property prevents from free radical damage and decrease oxidative stress and thus prevents cardiovascular complications associated with obesity. (25)

**Pepper (Embelia Ribes):** This invigorating herb improves the activity of digestive enzymes that ensure proper processing of food and metabolic waste products. It stimulates fat metabolism while serving as a mild laxative. Together these actions help regulate and reduce weight without causing fatigue.

**Zanjabeel (Zinjiber officinalis linn):** It is commonly used as a spice and found all over India. Preclinical studies on ginger reported that it contain two major constituents gingerol and shaghol which suppress absorption of dietary fat from the intestines and help in dissolution of excess fat deposited in the body. It increases BMR and thus controls obesity. It also has anti-hyperlipidemic activity and reduces abnormal cholesterol level in the blood. (26)



Zeera Siya (Cuminum sativum linn), Tukhm Sadab (Ruta graveolens linn), Karafs, Jatiyana, Lahsan (Allium sativum linn), Zarawand, Murmakai these herbs having the temperament of Hot and Dry and Muajaffif (Desiccant) and Mohazzil property makes the excess of body fluid into dry in obese person and reduce weight, Mudir (Diuretics), Mushil Balgham (Purgatives), Moarikh (Diaphoretic) Excretes abnormal Balgham in the form of urine, stool and sweat) and decrease the pressure in the vessels and restore normal function of the vessels (Vasoconstriction and Vasodilatation), thus Ruh (Oxygen) pass to the organs, Kasar riyah decrease flatulence.(19)

#### Murakkabat (Compound formulations) [ 10-12, 13, 19-21]

1. Jawarish Kamooni Kabir: This unani medicine may be taken 4-6 gram twice a day, is found useful for obese patients.

2. Majoon -e-Muhazzil: 10 gram of it may be taken at the bed time. This is good in minimizing of fats from the body.
3. Majoon-e- Muqil: It is recommended to have 10 gram of this useful Unani product at the bed time. This is beneficial for obesity patient.
4. Safoof e muhazzil along with arq zeera (2 tola twice a day).
5. Shahed khalis and jamun ka sirka equal quantity
6. Itrifal Sagheer
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## CONCLUSIONS

There are several plants described in Unani system for weight management. But so far, no systematic and well designed screening is attempted to come up with an effective herbal weight loss product. A better understanding in the existing evidence based science on herbs will further guide a qualitative research in obesity management that will attract the end users by the effective benefits. The combination of multiple herbal preparations having different mechanism of action may be more beneficial in the management of obesity and its complications. Thus, better randomized, double blinded, placebo-controlled clinical trials using herbal products will be of potential benefits.

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