



### Review Article

## SAMAN MUFKIT (OBESITY) CONCEPT AND MANAGEMENT IN THE LIGHT OF UNANI LITERATURES

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### ABSTRACT

Obesity is a term used to describe body weight that is much higher than what is thought to be healthy for his or her height. 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, Unani medicine plays an important role. Details about *Saman Mufrit* (Obesity) are described in various classic literatures of Unani medicine. For example Ibn Sina has mentioned a chapter on the disadvantages of obesity (*Oyub al-Saman al-Mufrit*) and a chapter on regimen of weight decrease (*Tahzeel*). Number of herbs is documented in Unani classics to reduce weight which includes Luk-e-Maghsool, Muqil (*Commiphora mukul* Linn.), Kharkhask (*Tribulus terrestris* Linn.), Haldi (*Curcuma longa* Linn.) and Zeera Siyah (*Carum carvi*, Linn.) 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 focuses on the management of obesity through three basic fundamentals which are Ilaj bil Ghiza (diet therapy), Ilaj bil Tadbeer (regimental therapy) and Ilaj bil Dawa (drug therapy).

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### INTRODUCTION

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.

The two most common ways to assess your weight and measure health risks related to your weight are:

- Body mass index (BMI)
- Waist circumference (waist measurement in inches).

#### 1. Body mass index

A good way to decide if your weight is healthy for your height is to figure out your body mass index (BMI). You can use your BMI to estimate how much body fat you have.

## How to determine your BMI

Your BMI estimates how much you should weigh, based on your height.

Use the chart below to see what category your BMI falls into, and whether you need to be concerned about your weight.

BMI	CATEGORY
Below 18.5	Underweight
18.5 - 24.9	Healthy
25.0 - 29.9	Overweight
30.0 - 39.9	Obese
Over 40	Extreme or high risk obesity

## 2. Waist circumference (waist measurement in inches)

Your waist measurement is another way to estimate how much body fat you have. Extra weight around your middle or stomach area increases your risk for type 2 diabetes, heart disease, and stroke. People with "apple-shaped" bodies (meaning their waist is bigger than their hips) also have an increased risk for these diseases. Skin fold measurements may be taken to check your body fat percentage.

### Causes

Taking in more calories than you burn can lead to obesity because the body stores unused calories as fat. Obesity can be caused by:

- Eating more food than your body can use
- Drinking too much alcohol
- Not getting enough exercise

Today, we know that biology is a big reason why some people cannot keep the weight off. Some people who live in the same place and eat the same foods become obese, while others do not. Our bodies have a complex system to help keep our weight at a healthy level. In some people, this system does not work normally. The way we eat over many years becomes a habit, affecting what we eat, when we eat, and how much we eat. We are surrounded by things that make it easy to overeat and hard to stay active.

Many people do not have time to plan and make healthy meals. More people today work desk jobs compared to more active jobs in the past. People with less free time have less time to exercise.

The term "eating disorder" means a group of medical conditions that have an unhealthy focus on eating, dieting, losing or gaining weight, and body image. A person may be obese, follow an unhealthy diet, and have an eating disorder all at the same time.

Sometimes, medical problems or treatments cause weight gain, including:

- Underactive thyroid gland (hypothyroidism)

- Medicines such as birth control pills, antidepressants, and antipsychotics
- Other things that can cause weight gain are: Stress, anxiety, feeling sad, or not sleeping well

### For women

- Menopause - women may gain 12-15 pounds during menopause
- Not losing the weight they gained during pregnancy

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.

2) A decrease in physical activity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization. Changes in dietary and physical activity patterns are often results from sedentary lifestyle, not sleeping enough, endocrine disruptors, some foods that interfere with lipid metabolism, medications that make patients put on weight, medical and psychiatric illness and infectious agents.

### General Management

**Changing Lifestyle:** An active lifestyle and plenty of exercise, along with healthy eating, is the safest way to lose weight. Even modest weight loss can improve your health. You will need a lot of support from family and friends. When dieting, your main goal should be to learn new, healthy ways of eating and make them a part of your daily routine. You need to be motivated to make lifestyle changes. Make the behavior change part of your life over the long term. Know that it takes time to make and keep a change in your lifestyle. Extreme diets (fewer than 1,100 calories per day) are not thought to be safe or to work very well. These types of diets often do not contain enough vitamins and minerals. Most people who lose weight this way return to overeating and become obese again.

Learn new ways to manage stress, rather than snacking. Examples may be meditation, yoga, or exercise. If you are depressed or stressed a lot, talk to your health care provider.

Severe obesity can lead to serious health problems. These problems include:

- Arthritis
- Diabetes
- Heart disease
- High blood pressure
- Sleep apnea
- Some cancers
- Stroke

- Type 2 diabetes
- Varicose veins

The extra weight puts added stress on every part of your body and creates many risks to your health. Obesity is a major health threat.

Modern drugs for Obesity and their side effects:

- **Sibutramine (Meridia):** Elevated blood pressure, tachycardia, headache, insomnia, constipation, dry mouth
- **Orlistat (Xenical):** Fecal incontinence, oily spotting, flatulence, vitamin mal absorption
- **Statin:** 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 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.

### Management in Unani Medicine

According to the Unani Classics, obesity is also known as *Saman Mufrit*, *Kasrat al-Dasam Fi al-Dam* (hyperlipidemia), *Shaham*, *Farbahi*. Since obesity and hyperlipidemia are mostly associated with each other as reported in many studies, therefore, the assumption of Unani physicians that these two diseases are common manifestation of a single problem is not unrealistic.

*Saman-e-Mufrit* 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* and cold temperament, so the person becomes lazy and dull. This situation is just like *Qaid al-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 constricts blood vessels (*Atherosclerosis*). Deposition of *Balgham* prevents *Nufuz al-Rooh* (passage of oxygen) in the organs which finally causes death of the obese persons. [7, 9, 15, 19]

Classification: Obesity is divided into two types

1. *Muqami Saman Mufrit* (Local or Central Obesity)
2. *Umoomi Saman Mufrit* (General or Peripheral Obesity)

When *Shahem* [fat] deposits in a particular organ it is called local or central obesity, for example protrusion of abdomen is due to the deposition of fat.

Generalized deposition of fat in the body is called general or peripheral obesity.

Types of *Saman Mufrit* as described by the Ancient Unani Physicians may be *Virasati* (hereditary) or *Khilqi* (congenitally):

Causes may be *Martoob Ghiza* (fatty diet like meat, sweet dishes), *Martoob Roghinyat* (fatty oils), *Baroodat Mizaj* (coldness of temperament), *Kasrat Rahat wa Qillat Riazat* (excessive rest and lack of exercise), *Kasrat Ghiza* (excessive eating), *Farhat* (excess of joy), Soft clothes and soft beds for sleeping, Intake of excessive alcohol especially after meal. All these produce excess *Balgham* as well as disturb metabolism which may lead to excess deposition of fat and may lead to complications.

### Historical background

Different physicians had different opinions related to obesity. First Hippocrates gave detailed description of obesity including its complications, prevention and management in his famous book "*Fasoolle Buqratia*". [11] 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 Ibn Rabban Tabri (700-780 AD) has described etiology and patho-physiology of *Saman Mufrit* in his famous book *Firdous al-Hikmat*. He has emphasized that excess eating and sedentary life style are most important factors for the obesity. [23] Ibn Zakariya 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* (Innate Heat) diminishes slowly in obese persons and that is why, obese persons die early than others. [13] Ibn 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* (attenuate drugs) and has described detailed action of these drugs.

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 has become quite popular. 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 lipids without any side effects.

### Principles of Treatment:

1. *Ilaj Bil Ghiza* (Dietotherapy)
2. *Ilaj Bil Tadabeer* (Regimental Therapy)
3. *Ilaj Bil Dawa* (Drug therapy)

According to Ibn Zakaria Razi and Ibn Sina, the treatment of *Saman Mufrit* is based on the following principles:

1. Correction of the *Su-e-Mizaj* (Deranged nature)
2. Elimination of the existing causes
3. Use of *Mudirr* (diuretics) and *Muarriq* drugs (diaphoretics), if there is accumulation of *Madda* (Matters) or *Khilt Balgham* (Phlegm) in the body.
4. If there is excessive amount of *Khilt Dam* (Blood) in the body then the *Fasd* (venesection) is beneficial, otherwise it is better to use purgative of *Khilt Balgham*.
5. In order to reduce *Saman Mufrit*, 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: <sup>(11)</sup>

- *Taqleel Ghiza* (decrease in food intake)
- *Riyazat Kaseera* (too much exercise)
- *Istifragh* (evacuation) by *Ishaal wa Idraar* (Purgation and diuresis), and *Fasd* (venesection)

Razi has given detailed description of the management to reduce the obesity. According to him, the *Mizaj* (Nature) of the obese persons becomes *Barid* (cold), so, in such condition, the diets, drugs and exercises which produce hot and dry *Mizaj* should be prescribed. Therefore, *Mulattif* (attenuating) diets and drugs, *Riyazat Kaseera* (excessive exercises) are recommended for weight loss.

***Ilaj Bil Ghiza* (Dieto-Therapy):** Avoid oily food, Avoid those food which increase the blood and phlegm like kheera, kakadi, kaddu etc. 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.

***Ilaj Bil Tadbeer* (Regimental Therapy):** It also plays an important role in weight loss management, which includes *Kasrat Riyazat* (excess exercise), *Dalak Khishan* (rough massage), *Taareeq* (perspiration or Diaphoresis), *Fasd* (venesection), *Hammam Yabis* (Dry bath) and massage with *Muhallil* (resolving) oils.

***Ilaj Bil Dawa* (Drug Therapy):** Herbs effective to reduce obesity:

**1. *Luk Maghsool* (*Coccus Lacca*):** Having the Temperament of Hot and Dry. Because of its *Muajaffif* property and its Hot and Dry temperament, it absorbs the excess body fluid to cause weight loss. It is main constitute of *Safoof-e-Muhazzil*. 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 Drug for obese people.

**2. *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 mixture once a day, otherwise, the person may experience loose motion or some digestive problems.

**3. *Muqil* (*Commiphora mukul Hook.*):** *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 inhibits adipogenesis and causes apoptosis of adipocytes. <sup>(23)</sup> This natural herb has also clinically 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 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 Low-density Lipoprotein (LDL) and very low-density lipoprotein (VLDL), components of cholesterol which clog the arteries, while at the same time raising the anti-clogging high-density lipoprotein (HDL) and *Muqil* reduces blood triglycerides (fatty substances) that contribute to atherosclerosis and heart attack risk. <sup>(23)</sup>

**4. *Khar khask* (*Tribulus terrestris Linn.*)** 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. <sup>(24)</sup>

**5. *Zard Chob* (*Curcuma longa Linn.*):** Turmeric is one of the best natural antiseptics. Its antioxidant property makes it 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.

**6. Bao Barang (*Embelia ribes* Burm. f.):** 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.

7. Zeera Siyah (*Carum carvi* Linn.),

8. Tukhm Suddab (*Ruta graveolence* Linn.)

9. Karafs (*Apium graveolence* Linn.)

10. Jentiyana (*Jentiana lutea* Linn)

11. Lahsun (*Allium sativum* Linn.)

12. Zarawand (*Aristolochia rotunda* Linn.)

13. Mur Makkai (*Commiphora myrrha* Nees.)

These herbs having the temperament of Hot and Dry and *Mujaffif* property, reduces the excess of body fluid in obese person. *Mudirr* (Diuretics), *Mushil Balgham* (Phlegm Purgatives) and *Moarriq* (Diaphoretic) drugs excrete abnormal *Balgham* in the form of urine, stool and sweat leading to decrease in the intravascular pressure, restore normal function of the vessels (Vasoconstriction and Vasodilatation), penetration of *Ruh* (Oxygen) into the organs. *Kasir Riyah* (Carminative) drugs decrease flatulence.<sup>(19)</sup>

#### Murakkabat (Compound preparations)

1. *Jawarish Kamooni Kabir*: It may be taken 4-6 gram twice a day, was found useful for obese patients.
2. *Majoon Muhazzil*: Dose 10 gram, it may be taken at bed time. This reduces fats from the body.
3. *Majoon Muqil*: Dose 10 gm, taken at bed time
4. *Safoof Muhazzil* along with *Arq Zeera* (25 gm twice a day).
5. Pure Honey and Jamun Vinegar
6. *Itrifal Sagheer*
7. *Jawarish Falafali*
8. *Anqardiya*

**Riyazat (Exercise):** It 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* (resolving oils). Baths should be taken regularly before the meals.

#### CONCLUSION

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. 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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