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## Review Article

### A REVIEW ON EFFICACY OF UNANI TREATMENTS MODALITIES IN SIMAN-I- MUFRIT (OBESITY)

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#### ABSTRACT

Obesity has become an increasingly important medical problem, which is one of the most prevalent lifestyle disorders soaring in industrialized countries and progressively increasing in developing world. Despite of advancement in the medical field worldwide 25 million deaths occur annually. There are lots of treatments in the contemporary system of medicine, but all have low efficacy and lots of adverse effects. Nowadays there is need to adopt a system of medicine which has higher efficacy and no or fewer side effects. Like a Unani system of medicine it is based on natural system of medicine. The various ancient unani scholars like Hippocrates, Galen, razes etc described the concept of siman-i-mufrit (obesity) and different treatment modalities are well mentioned in their treaties. Which are highly effective and no adverse effects in Siman-i-Mufrit. In this article we aimed to review the knowledge about different treatment modalities in Unani medicine that are recommended for Siman-i-Mufrit (obesity).

**Keywords:** Siman-i-Mufrit, Obesity, Unani treatment.

#### INTRODUCTION

Obesity comes from a Latin word *obesitas* which means stout, fat or plump, may be defined as an abnormal growth of the adipose tissue due to an enlargement of fat cell size (hypertrophic obesity) or an increase in fat cell number (hyper plastic obesity) or a combination of both. Often expressed in term of BMI.<sup>1</sup>

BY WHO: Obesity is defined as BMI greater than or equal to 25 is overweight BMI greater than or equal to 30 is obesity.<sup>1</sup>

It is the fifth leading risk of global death. The worldwide prevalence of obesity nearly tripled from 1975-2016. More than 1.9 billion adults were overweight in 2016. 650 million people were obese. In 2016 up to 39% of adults aged 18 years and above were overweight, and 13% were obese. Most of the populations in the world live in those countries where overweight and obesity were more common and dangerous and kills people, in comparison to underweight. Under 5 year of age children up to 41 million were overweight or obese according to 2016 data. And up to 340 million, 5-19-year aged children and adolescents were overweight or obese according to 2016 data. Obesity is a preventable antity.<sup>2</sup> once considered in a high-income country problem, overweight and obesity are now rising in low – middle income countries, and particularly in urban settings.<sup>1</sup> At least 3.4 million adults die each year as a result of being overweight or obese. In addition, it is a primary risk factor of non – communicable diseases like 44% of diabetes burden, 23% of Ischemic heart disease burden and between 7-14% of certain cancer burdens are attributed to overweight and obesity. Overweight and obesity are linked to more deaths worldwide than underweight.<sup>1,2</sup>

In India, 1.3% males and 2.5% females aged more than 20 year were obese in the year of 2008. It also possesses severe public

health implication and has been associated with mortality and morbidity.<sup>1</sup> Prevalence of Abdominal obesity as well as General obesity was high in India. Extrapolated to the whole country, 135, 153 and 107 million individuals will have General obesity, abdominal obesity, and Central obesity.<sup>3</sup>

India, with 1.2 billion people is the second most populous country in the world and is currently experiencing rapid epidemiological transition, under nutrition due to poverty which dominated in the past, is being rapidly replaced by obesity associated with affluence.<sup>2,3</sup>

#### OBESITY (SIMAN-I-MUFRIT) IN UNANI PRESPECTIVE

Unani system of medicine is a traditional system of medicine. Widely practiced in South Asian countries, especially in Indian sub-continent by Greek and Arabic physician is called Greeco-Arabic medicine. The ancient Unani physicians like Hippocrates, Ibn Sia, Razi, Jurjani and others also described obesity as a termed of Siman-i-mufrit in their text. Siman-i- mufrit is excessive shaham (fat) accumulated in the organs of the body like back, neck, abdomen and others parts of the body.<sup>4,5,6</sup> Unani philosophers considered shaham (fat) as an end product of food that is produced after digestion and turn this shaham (fat) to different organs of the body and provide them nutrition.<sup>5-8</sup>

#### PATHOPHYSIOLOGY

**Majoosi** states that shaham (fat) is of two types first one is sameen and second one is widak. Sameen is the thin fat which is confined to the muscles. Widak is present in between the muscles. Shaham plays a vital role for maintenance of Hararat (energy) in the body and it is responsible for nutrition of Aza (organs).<sup>7</sup> Its existence in normal proportion is a sign of good health.<sup>8</sup> Those

that do not have normal proportion of fat in their body; they signify the *Adam pukhtagi dum* (immaturity of the blood). Therefore, the shaham (fat) from this immature blood is not good for nutrition and it is accumulated in the body.<sup>9</sup> And the excessive deposition of this type of shaham (fat) is not good for any individual. In such conditions Shaham (fat) is derived from more than usual, which is turning results in Burudat of aza (coldness of the organs) coldness in the body because the mizaj (temperament) of excessive fat is barib (cold). It's a phlegmatic disease.<sup>10</sup> According to Unani principals, blood is a mixture of four *Akhlat* (humours), means Dum (blood) Balgham (Phlegm), Safra (Yellow bile), and Sawda (black bile), are derived from the food after going through the process of Huzum Arba (four digestive process). For healthy and normal functioning of the human body it is mandatory to establish the equal proportion of these four humour in human. Nature and proper timing of the food items is the very important tool to establish the conversion of complete digested products into the humours. If the timing and the nature of dietary habit is inappropriate so it leads to the incomplete digestion of the ingested food and their retention leads to formation of the raddi akhlat (morbid humour), which cause disease like obesity. Balgham is barid ratlab we discuss earlier.<sup>4, 9,11</sup>

**Buqrat (460 BC):** was the first physician who realizes the dangers of obesity and its association with disease processes. He noted that it may lead to infertility, as well as obese persons are at greater risk of sudden death than the lean individuals.<sup>7</sup>

**Rufas (98-117 AD):** describe that obese persons mostly suffered in complications in their advance stages like epilepsy, breathlessness, hemiplegia and syncope.<sup>12</sup>

**Jalinoos (129-200 AD):** was the first physician who laid down the scientific approaches to describe morbid and immorbid obesity.<sup>11</sup>

**Rabban Tibri (780-850 AD):** also detailed the management of Siman-i-mufrut in book Firdous al Hikmat.<sup>10</sup>

**Razi (860-925AD):** described detailed management of obesity in his book Kitabul Mansoori.<sup>5</sup>

**Ibn Sina (980-1037AD):** focuses on the Taqleel ghiza (decrease in food intake) is the important tool for the obesity treatment.<sup>6</sup>

#### CAUSES<sup>5-13</sup>

Most common causes are:

- Excessive rest
- Dyspepsia
- Hereditary and congenital
- Alcohol
- Excessive sleep
- Excessive use of fatty oil
- Lack of exercise
- Coldness of temperature
- Overeating
- Physical inactivity
- Turkish bath after eating

#### CLINICAL FEATURES<sup>4,10,12</sup>

- Lethargy
- Breathlessness
- Palpitation
- Loss of libido
- Puffiness of face

#### COMPLICATION<sup>4-6,8-10</sup>

Due to excess of fat, the vessels get narrowed and may result in jiryam (hemorrhage), facial paralysis, hemiplegic, sudden death. Obesity is hurdle for exercise and even fatty persons cannot perform daily activities.

- Infertility
- Heart diseases
- Liver diseases
- Type 2 Diabetes Mellitus
- Mood disorders

#### MANAGEMENT OF SIMAN MUFKIT IN UNANI SYSTEM

##### First Line of Treatment (**Usool-e-Ilaj**)<sup>4-9</sup>

According to Razi, Hippocrates and Ibn Sina Siman-i-mufrut should be treated based on following principles

Use drugs having opposite temperament to correct the su-e-mizaj barid ratlab (cold and wet dystemperament).

Elimination of existing cause.

In case of excessive accumulation of Akhlat (humours) like Balgami Akhlat (phlegmatic humour) in the body give Mushil balgham (Purgative), Mudir (Diuretic), Muarriq (diaphoretics), Mujaffif (desiccant) will be administered.

To reduce the excessive fat in the body through weight reducing exercises and to take low calorie intake diet.

To reduce increased fat, fibrous foods which least nutritional values should be used, as these foods occupy the space of stomach and patients feel fullness in the stomach, and thus appetite is compromised.

##### Treatment (Ilaj)

There are three mode of treatment in Unani system of medicine.<sup>14</sup>

- Ilaj bil Ghiza (Dieto therapy)
- Ilaj bil Dawa (Pharmacotherapy)
- Ilaj bil Tadabeer (Regimental therapy)

##### Ilaj bil Ghiza (Dieto Therapy)

Siman-i-mufrut can be managed through

Modifying the Asbab-i-sitta zarooriya like modification in Makoolat wa Mashroobat (dietary modification).<sup>14</sup>

In the prospective of Unani usool-i-ilaj, the term Ilaj-bil-ghiza (dietotherapy) works on the principle of ilaj-biz-zid (heteropathic treatment), adopted to restore health or combat ailment<sup>6-9</sup>

For example administration of diet possessing cold treatment in case of disease caused by the morbidity of hot temperament or humour and vice versa. Eat vegetables, salty and citrus diet in larger quantity.<sup>9</sup>

Eat food only one time in a day.<sup>9</sup>

Delayed eating decreases the appetite. Increase tolerability to avoid eating and drinking.<sup>15</sup>

Use plain curry without meat but there is addition of saag (green leafy vegetable) with vinegar. If there is excessive craving of meat than use meat with high content of fat which fill the stomach as soon as possible.<sup>6-9</sup>

**Rufas:** drink hot water, one time eating in a day decrease the weight.

**Sabbitt:** Salt derived from the snake's meat decreases the body fat and make body slim.

**Ibn masoyya:** Always eat gram flour chapati with Marzanjosh it makes body slim.

**Razi:** Use of Alum decrease the body fat it may be harmful.<sup>16</sup> Use diets of Qaleel-ul-Taghzia but Kaseerul Kaimoos (less nutritive value but high in quantity diets) should be advised. Excess use of vinegar at empty stomach.<sup>13</sup>

To decrease the obesity, decrease the consumption of food through the Quwwat (power) of digestion.<sup>6</sup>  
 Use diet having Har Yabis (Hot and Dry) in temperament.  
 Used Mulattif (Demulcent) diet like Lassun (Allium) which help to metabolize the accumulated body fat.<sup>13</sup>  
 Used honey and khardal (*Brassica nigra*) with chapatti.  
 Eat diet which has less nutritive value, eat dry meat.  
 Used diet which Hot and Dry in temperament.  
 Red gram, vegetables and fatty diet decrease the body fat.  
 During hunger take fatty diet, and vegetables which easily digestible and have less nutritive value.<sup>5</sup>  
 Hot spices like *Piper longum*, *Carum carvi*, *Allium sativum* etc.  
 During winter season eat only one time in a day.<sup>4</sup>  
 Green vegetables, oranges, Tomatoes, Cauliflower, Radish, Spinach, different type of green leafy vegetables, fresh and ripened nuts and fruits, potato and salad use in a bulk.<sup>10</sup>

#### Restricted Food Items<sup>4,5</sup>

Milk with harira.  
 Meat.  
 Ghee, Butter, Carbohydrate and Sweets.  
 Chapati containing wheat flour.  
 Rice  
 Tea, Alcohol etc

#### Ilaj bil Dawa (Pharmacotherapy)

The disease is of cold temperament, so the unani drug which has hot and dry temperament are used it is called Illaj Bil Zid (heteropathic treatment). And the drug which are Mufattif (deobsturent), Musakhkhin (Calorific), Mudir (diuretics), Mulattif (demulcent), Muhallil (resolvent), Muqawwi qalb wa kabil (cardiotonic & hepatonic), exerting action are used.<sup>5-8</sup>

#### Single drugs:<sup>17,18</sup>

S. No	Unani Name	Scientific Name	Mizaj (Temperament)	Dose	Action
1.	luk Maghsul	<i>Coccus lacca</i>	Har-Yabis	0.5-2gm	Mujaffif-i-ratoobat
2.	Asgand	<i>Withania somnifera</i>	Har-Yabis	3-5gm	Mohallil, Mushile balgham
3.	Lahsun	<i>Allium sativum</i>	Har-Yabis	3gm	Mufatteh, Musak-hkhin
4.	Zeera siyah	<i>Carum carvi</i>	Har-Yabis	3-5gm	Mufatteh
5.	Guggul	<i>Commiphora mukul</i>	Har-Yabis	1-2gm	Mufatteh
6.	Nankhwan	<i>Ptychotis ajowan</i>	Har-Yabis	3-5gm	Musakhkhin, Mufatteh
7.	Tukhme karafs	<i>Apium graveolens</i>	Har-Yabis	3-5gm	Daf-e-amraze balghamia
8.	Sumbulut teeb	<i>Valerina wallichii</i>	Har-Yabis	3-5gm	Mohallil, Musakhkhin
9.	Marzanajosh	<i>Oliganum vulgare</i>	Har-Yabis	6-9gm	Mohallil
10.	Filfil siyah	<i>Piper nigrum</i>	Har-Yabis	3ratti-1g	Musakhkhin
11.	Badyan	<i>Foeniculum vulgare</i>	Har-Yabis	2-3gm	Mulattif, Mufatteh
12.	Kundar	<i>Boswellia serrata</i>	Har-Yabis	1gm	Mujaffif ratoobat
13.	Taj kalmi	<i>Cinnamon cassia</i>	Har-Yabis	1gm	Munaffis, Mohallil
14.	Anisoon	<i>Pimpinella anisum</i>	Har-Yabis	2-5gm	Muhatteh, Musakhkhin
15.	Tukhme sudab	<i>Ruta graveolens</i>	Har-Yabis	3-5gm	Musakhkhin, Mulattif
16.	Hallela	<i>Terminalia chebula</i>	Har-Yabis	3-5gm	
17.	Zanjabeel	<i>Zingiber officinale</i>	Har-Yabis	3-5gm	Muhallil, Mufatteh
18.	Alovera	<i>Aloe barbadensis</i>	Har		Muhallil, Mufatteh
19.	Khardal	<i>Brassica nigra</i>	Har-Yabis	3-5gm	Muhallil
20.	Arjun Chal	<i>Terminalia arjuna</i>	Har-Yabis	2-5gm	Muqqawi-e-qalb, Dafe amraze balghamia

#### Scientific Report of Certain Drugs

*Apium graveolans* Linn. Known as Tukhme kharafs in Unani, belongs to family Apiaceae. An experimental study was conducted on ethanolic extract of *Apium graveolans* in adult male albino rats. The result showed, a significant decrease in body weight, serum total cholesterol, Triglycerides, LDL-C and significant increase in HDL-C in ethanolic extract treated group.<sup>19</sup>  
*Cinnamom cassia* Linn. Known as Taj kalmi in Unani. It was found in this study that 15% Cinnamom powder significantly decreased the serum total cholesterol, Triglyceride, LDL-C in fatty mixture diet fed rats.<sup>20</sup>

*Boswellia serrata* Linn. Known as Kundur in Unani belongs to family Burseraceae it is a gum resin. An experimental study was conducted on alcoholic extract of *Boswellia serrata* shows anti-hyperlipidemic activity on hypercholesterolemic animals decrease the 30-50% in cholesterol level and 20-60% triglycerides level.<sup>21</sup>  
*Commiphora myrrh* Linn. Known as Guggul in Unani belongs to family Burseraceae it is a oleo-gum resin. An experimental study was conducted on *Commiphora myrrh* extract reduces body weight and improves lipid profile in obese hyperlipidemic rats.<sup>22</sup>  
*Withania somnifera* Linn. Known as Asgand in Unani belongs to family Solanaceae it is a root. It promotes natural weight loss without any negative effects and is very efficient in the development of good health. In human case studies, treatment

with Asgand caused significant reductions in serum total cholesterol, triglycerides, LDL, and VDRL levels.<sup>23</sup>

The roots from *Glycyrrhiza glabara*, family Leguminosae, Known as Mulattihi in Unani had hypercholesterolemic effects in animal studies. In human studies a daily dose of licorice (3.5gm) potentially reduced body fat by inhibiting 11- $\beta$ -hydroxysteroid dehydrogenase type-1, an NADPH-dependent enzyme in the adipose tissue.<sup>23</sup>

Various studies on Zanjabeel (*Zingiber officinale*) shows its hepatoprotective and dyslipidemia effects.<sup>23</sup>

Panigrahi *et al*, in their review article conclude that there are lots of drugs in herbal system which are frequently used for weight reduction one of the is *Terminalia arjuna* (Arjuna), their bark, root, and leaf extract used as a weight reducing agents.<sup>24</sup>

#### Compound Formulation<sup>4-6</sup>

Safoof muhazzih 6gm along with Arq zeera 20ml twice a day.  
 Jawarish Kamooni Kabir it may be taken 4-6 gm twice a day.  
 Pure honey and Jamun Vinegar.  
 Itrifal Sagheer.  
 Jawarish Falafili.

### Some others formulation prescribed in many Unani books as anti-obesity

Filfil (*Piper nigrum*) 2 part, fitrasalyon 2 part, Asarun (*Asarum europeum*) ½ part, Anisoon (*Pimpinella anisum*) ½ part once in a day in the form of decoction.<sup>5</sup>

Ajwain (*Ptychotis ajowan*) tukhme sudab (*Ruta graveolans*), Zeera (*Cuminum cyaminum*) 1 part each, Marzanjosh (*Oliganum vulgare*) Bore armani (*Bore armania*) part, Luk (*Coccus lacca*) 1 part should be given in the form of safoof (powder) dose 4-5 gm with sirka (Vinegar) on empty stomach.<sup>25</sup>

Luk maghsool (*Coccus lacca*) in the dose of 3.5mg with sirka (Vinegar) in morning empty stomach.<sup>8</sup>

Ajwin (*Ptychotis ajowan*), Tukhme sudab (*Ruta gravelons*), Zeera (*Cuminum cyaminum*) in equal quantity in the form of safoof (powder) dose is 4.5mg daily.<sup>25</sup>

Ajwin (*Ptychotis ajowan*), Badiyan (*Forniculam vulgare*), Zeera (*Cuminum cyaminum*), Bore Armani (*Bore armania*) ¼ part, luk (*Coccus lacca*) 2 part in the form of safoof (powder) dose is 4.5 gm.<sup>25</sup>

Ajwin desi (*Ptychotis ajowan*), Badiyan (*Forniculam vulgare*), Zeera (*Cuminum cyaminum*) 1 part each, donamarda khushk () and Bore Armani (*Bore armania*) each ¼ part, luk (*Coccus lacca*) 2 part, should be given in the form of safoof (powder), dose 4.5 gm.<sup>25</sup>

### Illaj bil Tadbeer (Regimental Therapy)<sup>5, 6, 12, 15</sup>

Hammam Yabis (hot and dry bath) before taking meal.  
Excess purgation uses of Mushilat (purgatives) and Mudirat (diuretics) for inducing yaboosat (dryness).

Amal-e-Tareeq (sweating) increased sweating and increase Tahleel (dissolution) of accumulated fat are effective in reduction of body fat.

Hard work and sleeping on hard bed.

Vigorous exercise such as fast running.

Fasad (Venesection).

Dalak-e-Khashin (Vigorous massage) on the body with Har (hot) and Muhallil (resolvent) Roghan such as Roghan kust, Roghan Soya, Roghan Shibbat and Roghan Yasmin.

Hijamah (cupping) wet and dry both are useful in treatment of Siman-i-Mufrit.

Swimming in water which contains minerals.

Excessive awakening.

Stay in hot and dry places.

### CONCLUSION

In Unani system of medicine there are many single drugs and compound formulations which have potential effects in the management of obesity and its consequences. If these drugs and formulation are given in a proper manner, they are very effective in the form of alternative source of treatment so many single drug and compound formulation are experimentally proved in the management of obesity. Many Regimental therapies found in Unani system of medicine are very much effective in the management of obesity without in harmful effect on human body. As well as the vast concept of proper diet management are present in the Unani literature for the better management of obesity and its complication combination of all these three management are very much effective for human body and they all are cost effective management which decrease the economic burden of the country.

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