



Siman-e-Mufrit (Obesity): A Pandemic, Prevention and Control through Unani System of Medicine

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ABSTRACT

Obesity (siman-e- mufrit) is a state of excess adipose tissue. Recent studies have reported that globally, more than 1.9 billion adults are overweight and 650 million are obese. Approximately 2.8 million deaths are reported as a result of being overweight or obese. Overweight and obesity have become a major public health problem in both developing and developed countries. Obesity is regarded as a pandemic, with potentially disastrous consequences for human health. Most of the Unani Physicians Buqrat, Rufas, Jalinoos, Rabban Tabari, Ibn Sina, Ibn Nafis, Zakariya Razi described Siman-e- Mufrit in classical Unani treatise with detailed description of its aetiology, sign and symptoms, complications and treatments. Siman-e-Mufrit is considered as balghami disease. Obesity is associated with an increased risk of multiple health problems, with including hypertension, type 2 diabetes, dyslipidemia, obstructive sleep apnea, nonalcoholic fatty liver disease, degenerative joint disease, and some malignancies. Increasing prevalence of medically significant obesity raises great concern. This study was undertaken to provide a comprehensive view of Siman-e-Mufrit to interrupt its progression and complications thereby reducing the impact of health problem. Thus in this paper an attempt has been made to highlight the role of unani medicine in the prevention and management of obesity.

Keywords: Siman-e-Mufrit, Obesity; BMI; Unani Medicine; Ilaj bil Tadbee; Prevention and control

INTRODUCTION

Obesity 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 (hyperplastic obesity) or a combination of both (1). Although not a direct measure of adiposity, the most widely used method to gauge obesity is the body mass index (BMI), which is equal to weight/height^2 (in kg/m^2). Other approaches to quantifying obesity include anthropometry, densitometry, computed tomography or magnetic resonance imaging (MRI), and electrical impedance. (2)

More than 1.9 billion adults are overweight and 650 million are obese. Approximately 2.8 million deaths are reported as a result of being overweight or obese. (3) Overweight and obesity have become a major public health problem in both developing and developed countries and affecting both children as well as adults(1)

Obesity is regarded as a pandemic, with potentially disastrous consequences for human health. Over 25% of adults in the UK were obese (i.e. $\text{BMI} \geq 30 \text{ kg/m}^2$) in 2015, compared with 7% in 1980 and 16% in 1995. Moreover, almost 66% of the UK adult population are overweight $\text{BMI} \geq 25 \text{ kg/m}^2$ (4).

According to the **World Health Organization**, global obesity almost doubled between 1980 and 2008. There were >200 million obese men and almost 300 million obese women, 11% of adults worldwide, in 2008. A majority (65%) of the world's population lives in countries where being overweight or obese kills more people than being underweight. In 2014, the U.S. led the Organization for Economic Cooperation and Development (OECD) countries in obesity prevalence (34%), with New Zealand, Australia, the UK, Mexico, and Canada close behind in the high 20% range. Worldwide, the highest prevalence of obesity is in several Pacific Island states including the Cook Islands (50%), Nauru (45.6%), and Tonga (43.3%) and Gulf States including Qatar (42%) and Kuwait (38%). In developing countries, such as **India**, obesity prevalence is rising (5%) with a greater tendency to harmful intraabdominal lower BMIs in this population, and the consequences for metabolic and Cardiovascular health are disproportionate to obesity prevalence (2). In India, the non-communicable risk factor survey phase 2 was carried out in the year 2007-2008, in the states of Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttarakhand and Mizoram. The survey shows high prevalence of overweight in all age groups except in 15-24 years group. Overweight prevalence was higher among females than males and in urban areas than in rural areas. Low prevalence was recorded among lower level of education, and in people whose occupation was connected with agriculture or manual work, In India, 1.3 per cent males and 2.5 per cent females aged more than 20 years were obese in the year 2008 (1)

More than 66% of U.S. adults are categorized as overweight or obese, and the prevalence of obesity is increasing rapidly in most of the industrialized world. Children and adolescents also are becoming more obese, indicating that the current trends will accelerate over time Obesity is associated with an increased risk of multiple health problems, including hypertension, type 2 diabetes, dyslipidaemia, obstructive sleep apnoea, non-alcoholic fatty liver disease, degenerative joint disease, and some malignancies, Thus, it is important for physicians to identify evaluate, and treat patients for obesity and associated comorbid (2). Obesity has adverse effects on both mortality and morbidity. It is suggested that obesity at age 40 years can reduce life expectancy by up to 7 years for non- smokers and by 13 years for smokers. Coronary heart disease is the major cause of death but cancer rates are also increased in the overweight, especially colorectal cancer in males and cancer of the gallbladder, biliary tract, breast, endometrium and cervix in females (4)

Concept of Obesity in Unani System of Medicine

Obesity is derived from the Latin term, "Obed- ere", which means to devour and refers to "very fat" in English. In Unani medicine, obesity is known as Siman-i-mufrit which denotes excessive fat, while farbahi (a Persian word) indicates Motapa (obesity) (5).

Buqrat (Hippocrates) (460 BC) was the first physician who first mentioned the obesity and its possible complications including cardiovascular problems, coma and sudden death in his famous bk 'Fusool-e-Buqratia' (6). Ibne Sina (Avicenna: 980-1037 AD) has explained the idea of end organ damage in obesity, According to his statement, individuals who are fat have a higher risk of developing illnesses due to constriction of vessels and Sue Mizaj Barid as a result their hararate gharizia weakens, this decreases the amount of "Ruh" which leads to haemorrhage and death. (7)

Ali Bin Raban Tabri (78-850 AD) has described aetiology and pathophysiology of siman-i- mufrit in his famous book Firdausul Hikmat. He emphasized that excess eating and sedentary life style are most important factors for obesity. (8)

According to Rufus (117 AD) farbahi causes indigestion. in his book Tahzeel sameen (treating obesity) describes that obese people are more prone to diseases like epilepsy, dyspnoea, hemiplegia, hyperpyrexia, syncope etc (9,10). Kauser chandpuri in 'Mojiz-al-qanoon' and Nafees bin Auz kirmani (1438 AD) in 'Sharah Asbab wa Alamat' also described the complication and management of obesity. (11,12) Zakariya Razi (860-925 AD) described risk factors, etiology and specific treatments of obesity, including Ilaj bil Ghiza (dietotherapy), Ilaj bil Dawa (pharmacotherapy), and Ilaj bil Tadbeer (regimenal therapy) based on his own experience and practice. (13)

Use of BMI to classify obesity

Body mass index (BMI) is a simple index of weight-for- height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m²). The classification of overweight and obesity, according to BMI, is shown in Table 1. Obesity is classified as a BMI ≥ 30.0 . The classification shown is in agreement with that recommended by WHO, but includes an additional subdivision at BMI 35.0-39.9 in recognition of the fact that management options for dealing with obesity differ above a BMI of 35. The WHO classification is based primarily on the association between BMI and mortality. (1)

BMI of 30 is most commonly used as a thresh old for obesity in both men and women) Most but not all large-scale epidemiologic studies suggest that all-cause, metabolic, cancer, and cardiovascular morbidity begin to rise when BMIs are >25 . Most authorities use the term overweight (rather than obese) to describe individuals with BMIs between 25 and 30. A BMI between 25 and 30 should be viewed as medically significant and worthy of therapeutic intervention in the presence of risk factors that are influenced by adiposity, such as hypertension and glucose intolerance. (2)

TABLE:1

WHO Classification of adults according to BMI

Classification	BMI	Risk of comorbidities
Underweight	<18.50	Low {but risk of other clinical problem increases}
Normal range	18.50-24.99	Average
Overweight:	>25.00	Increased
Pre obese	25.00-29.99	Moderate
Obese class I	30.00-34.99	Severe
Obese class II	35.00-39.99	Very severe
Obese class III	>40.00	

INTRA-ABDOMINAL (CENTRAL) FAT ACCUMULATION AND INCREASED RISK

The distribution of adipose tissue in different anatomic depots also has substantial implications for morbidity. Specifically, intraabdominal and abdominal subcutaneous fat have more significance than subcutaneous fat present in the buttocks and lower extremities. This distinction is most easily made clinically by determining the waist-to- hip ratio, with a ratio >0.9 in women and >1.0 in men being abnormal. (2)

There is an increased risk of metabolic complications for men with a waist circumference ≥ 102 cm, and women with a waist circumference ≥ 88 cm. There is good evidence that abdominal obesity is important in the development of insulin resistance, and in the metabolic syndrome (hyperinsulinaemia, dyslipidaemia, glucose intolerance, and hypertension) that link obesity with CHD. (1)

ETIOLOGY

Ali Bin Sahel Rabban Tibri in his book Firdausul Hikmat mentioned the causes of Siman-e-Mufrit as mentioned in modern system of medicine. (8)

1. use of fatty diet like meat
2. Lack of exercise
3. All martoob aghzia
4. Hammam after taking meal
5. Farhat, Rahat
6. Resting too much
7. Sedentary lifestyles
8. Use of cold medicine
9. Excess eating {kasrate ghiza}
10. Excess saqueel ghiza
11. Temperamental derangement towards cold
12. Excess sleep

PATHOGENESIS

According to Ibn Sina deposition of fat (sameen and shaham) leads to decrease in hararate gharizia, deposition of fat occurs because of brudat miza((cold temperament).(7)

ALI ibn Abbas Majoosi - According to Majoosi the reason behind fat increases in cold tempered body is that Dusumat fatty or oily part of blood increases as compared to normal, Dusumat through blood vessels reaches to different organ of body where it accumulate in relatively colder parts or cold tempered organs where it cools and deposited under pathological condition.(14)Vasoconstriction of blood vessels causes decrease in the passage of rooh due to decrease in the passage of rooh it leads to the decrease in the hararate gharizia. These factors lead to the early death of obese person. (7)

COMPLICATIONS

There are many complications of Siman-e-Mufrit, which are as follow: (7,9,12,15,16)

1. Dysnea due to congestion of blood vessels and cavities.
2. Syncope (ghashi) and Sakta due to congestion.
3. Haemorrhage due to rupture of vessels.
4. Palpitation, Fever, vomiting this lead to deranged temperament.
5. Decreased semen production which lead to sterility and abortion in women.
6. Paralysis
7. Diarrhoea
8. Loss of Libido
9. Sudden Death

PREVENTION AND MANAGEMENT

The management can be categorized into three parts:

1. Ilaj- bil-Ghiza (Dieto Therapy)
2. Ilaj bil Dawa (pharmacotherapy)
3. Ilaj bil Tadbeer (Regimenal therapy)

Ilaj Bil Ghiza (Diet therapy) (7,9,12,15)

1. Avoid all roghni ghizayen (fatty diets).
2. Avoid all those ghiza which increases the Dam formation. (as shaham is secondary metabolite of Dam)
3. Hot spices should be added in ghiza (food) e.g. Filfil Daraz, Zeera, Lehsun because they have Mulattif property.
4. Reduce the amount of food.
5. Use dry and dessicating food.
6. Intake of ghiza should be decrease in Kaifiyat (quality) not in Kammiyat (quantity).

Ilaj-Bil- Dawa (Pharmacotherapy):

A number of single and compound drugs have been used by Unani physicians, beside this Lateef drugs, Mulattif, Mudirr-e-Baul and Haar Yabis drugs are useful in the management of obesity (7,9,12,15,17)

Advia Mufrida: Commonly used drugs are Luk Maghsul (Coccus lacca), Soya (Anethum sowa), Badiyan (Foeniculum vulgare), Marzanjosh (Oliganum vulgare), Tukhme Suddab graveolens), Kalonji (Nigella (Ruta sativa), Anisoon (Pimpinella anisum), Fitrasaliyoon (Petroselinum crispum), Badiyan (Foeniculum vulgare), Marzanjosh (Oliganum vulgare)

Advia Murakkaba: Iyaraj Faiqra, Majoon Kamoni, Majoon Falafili, Majoon Kamooni, Anqarooya, Dawa-ul-Luk, Itrifal Saghir,

Ilaj-Bil-Tadbeer (Regimenal Therapy) :(7,9,12,15)

1. Hammam before meal
2. Tareeq (increased sweating),
3. Swim in salt water
4. Reducing sleeping hours
5. Hammam with water that contain bora armani,kasis,phitkiri and gandhak.
6. Use of Mus'hil (purgative) and Mudir (diuretic) for producing Yaboosat (dryness), increased Tahleel (dissolution) of body fat,
7. Hard work and sleeping on hard bed,
8. vigorous exercise
9. Massage of the body with Haar and Muhallil Roghaniyat such as Roghan Shibbat, Roghan Qust, Roghan Soya.

DISCUSSION

Unani medicine categorizes obesity as a Balghami (phlegmatic) disease. This traditional system emphasizes the balance of bodily humors and attributes obesity to an excess of the phlegmatic humor. The Unani approach integrates diet therapy (Ilaj-bil-Ghiza), pharmacotherapy (Ilaj- bil-Dawa), and regimenal therapy (Ilaj- bil- Tadbeer) to manage and prevent obesity.

Obesity is emerging as an important health problem in India, the prevalence of obesity is rapidly spurring due to sedentary life style and consumption of high calories food. The modern medicine has developed many drugs but side effects have limited their role in treating obesity there is no satisfactory treatment available in contemporary system of medicine. The Unani system's holistic approach is noteworthy for its integration of diet, lifestyle, and natural remedies, offering a well-rounded strategy for managing obesity, the Unani system provides a complementary perspective that emphasizes prevention and lifestyle modifications.

Unani system of medicine endowed with enormous single and compound drugs and regimes for the management of obesity. Drugs for obesity in Unani System of medicine may prove boon in the alternative

source of treatment which is further strengthened by various clinical and experimental trials conducted in the recent years. In future, more studies are needed to see the effects of herbal drugs on obesity. Thus, Unani medicine may play a major role not only in prevention and management of the obesity and its complications but also in decreasing the economic burden incurred on the society.

CONCLUSION

The growing prevalence of obesity underscores the need for comprehensive management strategies that address both prevention and treatment. The Unani system of medicine, with its historical insights and holistic approach, offers valuable contributions to this effort. By combining ancient wisdom with contemporary medical practices, we can develop more effective and accessible solutions to combat obesity and its associated health risks.

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