



Review Article

Obesity (*Samane Mufrat*): down through the History

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A B S T R A C T

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Obesity is one of leading preventable cause of death cosmopolitantly, with increasing incidence in adults and children, become a dangerous public health problems of present century. Obesity is a pathological condition in which excess body fat has accumulated in the body in extent that it starts exerting adverse effects on body leading to reduced life expectancy. Obesity invites the various dangerous diseases, like osteoarthritis & other musculoskeletal diseases, diabetes, heart disease, certain types of cancer etc. Large number of human population is adversely affected by this disease; increasingly more prevalence in affluent society. It is one of the diseases which are blamed for the adverse effect of modern lifestyle and changing food habits. In fact we are paying the price of uncensored, unplanned and multidimensional modernization. In this paper authors try their best to sum up the advancement in the understanding of obesity in the past with especial reference to *Unani* System of Medicine

Introduction

Obesity is very known disease since antiquity. In prehistoric period about 30,000 years ago, human obesity was clearly depicted in Stone Age artefacts, notably numerous figurines that have been found within a 2,000 kilometre band crossing Europe from South-Western France to Southern Russia. Palaeolithic

(Old Stone Age) statuettes, produced some 23000–25000 years ago, were made of ivory, limestone or terracotta. Most famous is the ‘Venus of Willendorf’- an 11-centimetre figurine found in Austria the Venus shows marked abdominal obesity and pendulous breasts (Haslam, 2007), (Williams and Fruhbeck, 2009).

The New Stone Age (Neolithic period, spanning the interval between 8000 and 5500 B.C.).

This era also yielded numerous statues depicting obesity, notably the 'Mother Goddess' artefacts found especially in Anatolia (modern Turkey). Similar figures from this period have been found in many other sites in Europe and other continents. Although the enhanced ability to store energy as fat would have clear, survival advantages in this time. In the ancient period Obesity and its sequelae have long figured in the medical traditions of many diverse cultures. Overall, it appears that heavy people were not uncommon in ancient Egypt, at least among the higher classes; interestingly, were led to conclude that obesity was regarded as objectionable. Elsewhere in the world, corpulent human figures are depicted in artefacts from the ancient Mesopotamian civilization in the basin of the Rivers Tigris and Euphrates, and from the Meso-American cultures of the Incas, Mayans and Aztecs (Williams and Fruhbeck, 2009). Acceptance of obesity as a medical phenomenon has been slow. In some cultures, indeed, obesity was prized, indicating status and wealth. Only the richest had the means to become obese and girth advertised wealth more effectively than the richest clothing or jewels (Haslam, 2007).

The ancient Indian physicians, *Susharat* and *Charak* (500-400 BC) are credited with very early recognition of the sugary taste of diabetic urine, and also observed that the disease often affected indolent, overweight people who eat excessively, especially sweet and fatty foods.

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Description in unani literature

Obesity (*Samane Mufrat*) is an oldest recognised disease in *Unani* system of medicine. Buqrat (Hippocrates, 460 BC) was the first Physician who realizes the dangers of obesity and its association with disease. Who stated that obesity led to infertility and sudden death is more common in those who are naturally fatty than in lean individual (Williams and Fruhbeck, 2009). Further Hippocrates developed theories on preservation of health, thousands of years ahead of his time. He correctly identified the energy balance equation. It is very injurious to health to take more food than its utilization, when, at the same time one uses no exercise to carry off this excess (Haslam, 2007).

The Greeco-Roman views on obesity with certain extensions to the Byzantine era. Aulus Cornelius Celsus (c. 25 BC), Dioscorides Pedanius (40-90 AD), Soranus of Ephesus (98-138 AD) were very specifically enumerated the treatment of obesity in their lexicon. *Aulus Cornelius Celsus* was more interested in treating obesity and states that body weight may be reduced by adapting bathing with hot and salty water during an empty stomach. Further he narrated that weight may be reduced by running or heavy exercises, vomiting, and purgation (Papavramidou and Aletra, 2007). Rufas (117AD) mentioned obese persons are generally affected with epilepsy, breathlessness, hemiplegia, syncope, hyperpyrexia etc (Qamari, 2008). Galen (131-210 AD) was the first to establish scientific methods to describe and treat morbid obesity, and his ideas are very important as they not only influenced that era but are still significant in this modern time. Galen stated that obesity results from the surplus

of "bad humors" present in the body, and he introduced methods of treatment that are used even today. Galen also described moderate and immoderate form of obesity, the latter perhaps anticipating the 'morbid' category of current classifications (Williams and Fruhbeck, 2009). According to Galen's views, we can identify morbid obesity under the description of polisarkia. He proposed some treatments for obesity such as modification in diet, exercise, and medications that are valuable till today (Haslam, 2007), (Papavramidou and Papavramidis, 2004).

Yuhanna bin Masawaih (Johannes Damascenus 857 AD) described obesity in the chapter 'Siman wa Huzaal' of his book "Kitabul Jaameh". Qusta bin Luqa (912 AD) mentioned obesity management in his books "Kitab fil Balgham", and "kitabul Hammam" (Nigrami, 2005). Rabban Tabari (780-850 AD) also described management of obesity in his treatise *Firdausul Hikmat* (Tabari, 2010). Zakariya Razi (865-925AD) in his book *Al-Hawi Fit-Tibb* and *kitabul Mansoori* (Razi, 1991) mentioned specific treatment of obesity, including *Ilaj bil ghiza* (dieto therapy), drugs, exercises, massage, hydrotherapy, and lifestyle changes, in the light of his own experience and practice (Razi, 1999). He advice to take saltish eatables of laxative nature (Gruner, 1930).

Ibn Sina (980–1037) devoted a section of the 4th volume of "*Al Qanoon fit Tibb*" to the consequences of excessive obesity and its management (IbnSina, YNM.), (Halim, 2005), (Zulkifle, 2012). He advocate seven important points and regimen to counter and manage obesity- Procure rapid descent of food from the stomach and intestines, in order to prevent completion of absorption by the mesentery, (2) bulky but feebly

nutritious food, (3) take bath before food, (4) Hard exercise, (5) Massage with Resolvent oils(eg., Dill oil), (6) Electuaries: the lesser myrobalan electuary; electuary of lacca; "theriac" and (7) take vinegar and salt, while fasting (Gruner, 1930). *Ibn Hubal Baghdadi* (1121–1213) also reported the predisposition of "hugely obese persons" to fall ill quickly. In their management, by heavy exercises on an empty stomach, he stressed the importance of a gradually increasing schedule because an excessively obese person may put himself at risk if he starts abruptly on heavy activities (Halim, 2005). Ismail Jurjani (12th AD) described management of obesity in his book "*Zakhira Khawarzam Shahi*" in 8th volume (Jurjani, 1996).

Ibn Nafis (1207–1288) in his book *Maojazul Qanoon* pointed out the association between excessive obesity and cardiovascular and cerebro-vascular accidents, and with respiratory and endocrine disorders. "Excessive obesity is a constraint on the human being limiting his freedom of actions and constricting his pneuma (vitality) which may vanish and may also become disordered as air may not be able to reach it. They (excessively obese persons) run the risk of a fatal vessel rupture causing sudden death or bleeding into a body cavity. But bleeding in to the brain or the heart will lead to sudden death. And frequently they suffer from dyspnoea or palpitation".

Furthermore, *Ibn Nafis* distinguished a special type of excessive obesity in those who are "obese by birth" (congenitally obese). He recognised that "they are usually cool-tempered, slender-vesselled, subfertile, could not endure hunger or thirst, and medicaments hardly reach their organs except with difficulty and after a

long time” (Halim, 2005), (Kausar, 1998). Ibn Baitar (1197-1248 AD) in his book “*Kitabul jame le Mufradatil Advia wal Aghzia*” enlisted some *Muhazzil* drugs and recommended their use in the treatment of obesity (Ibn Baitar, 2000). Daud Antaki (1541-1599AD) mentioned complication and treatment of obesity in his book *Tazkiratu Uolil Albab* and defined as “It is proved that sense of balance is better in every object. In the context of human healthy body too, equilibrium is good between obesity and leanness” (Antaki, 2010). The English physician Tobias Venner was the first physician to use the word ‘obesity’ in a medical context, calling specifically for its treatment in his *Treatise* in 1660 (Venner, 1660.). Azam Khan (1813-1902 AD) described treatment of *Samane mufrat* in *Rumuz-e-Azam* (Azam, 2006).

Some landmarks since 17th century (Williams and Fruhbeck, 2009).

18th Century

1727- Short: First English language monograph on obesity
1760 - Flemyng: Monograph on the treatment of obesity
1780 Cullen: Disease classification that includes obesity

19th Century

1810 - Wadd: *Treatise on Corpulence*
1826 - Brillat-Savarin: Diet-based method for weight loss
1835 - Quételet: Obesity quantified as weight/height in square meter
1849 - Hassall: Described structure and growth of fat cells
1863 - W. Banting: *Letter on Corpulence Addressed to the Public* (first widely popular diet book)

1879 - Hoggan: Described growth of fat cells
1896 – Atwater: First human calorimeter constructed.

20th Century

1912 – Cushing: Described obesity caused by basophil pituitary tumour
1916 - Cannon & Carlson: Proposed gastric mechanism for hunger
1927 - Various Dinitrophenol used to treat obesity (poor outcome)
1937 - Abramson: Amphetamine used to treat obesity
1944 - Behnke: Underwater weighing used to estimate body density and composition
1947 - Vague ‘Android’ (central) obesity predisposes to diabetes and cardiovascular risk.
1949 - Fawcett: described brown adipose tissue (BAT)
1954 - Stellar: Formulated ‘dual centre’ hypothesis to explain control of feeding
1955 - Lifson: Doubly-labelled water used to measure energy expenditure
1962 - Neel: Thrifty gene hypothesis
1963 - Randle: Glucose-fatty acid (Randle) cycle described
1968 - Various Associations for the Study of Obesity founded in UK
1968 - Mason: Performed first gastric bypass operations to treat obesity
1973 - Gibb: Cholecystokinin (CCK) found to induce satiety in rats
1979 – DeFronzo: Insulin-glucose clamp developed to measure insulin sensitivity
1982 - Nedergaard *et al.* Thermogenin (later renamed UCP1) identified as source of heat production in BAT
1988 – Reaven: Described ‘Syndrome X’ (the insulin resistance or metabolic syndrome)
1989 - Strosberg *et al.* Identified β 3-adrenoceptor
1994 - Friedman *et al.* Discovered leptin

1997 - O'Rahilly *et al.* Described leptin and melanocortin 4 receptor mutations as causes of human obesity

1998 - WHO International classification of obesity and identifies Global Epidemic of Obesity.

21st Century

2007 - Sjöström *et al.* demonstrated that bariatric surgery prolongs life.

Methods

Authors visited following Library for the search of unani and modern literature and claims in support of this article. (a) Library of Allama Iqbal Unani Medical College (AIUMC), Muzaffarnagar, Uttar Pradesh, India (b) Library of National Institute of Unani Medicine (NIUM), Bangalore, India (c) Departmental Library of Ajmal Khan Tibbia College & Hospital, Aligarh Muslim University (AMU), Aligarh, Uttar Pradesh, India and (4) Maulana Azad Library of Aligarh Muslim University (AMU), Aligarh, Uttar Pradesh, India. The databases utilized for obtaining information from indexed journals are Google, Google Scholar, Scopus, PubMed and Science Direct. The key words obesity, history of obesity, obesity in *unani* medicine and *Samane Mufrat* were used for the search of literature.

A great part of countries as well as world's wealth is unnecessarily being consumed for the sake of obesity control. Suffering of human as an individual is another dark and painful side of obesity. Range of regimens and drugs are present in the market; almost every pharmaceutical company of these days offering their products claiming obesity management. Despite tremendous advancement in medicinal science obesity becoming an

uncontrollable disaster day by day. It would be wise to look back on the advancement in the understanding of obesity in the past, so as a conclusive and effective remedy and management can be developed to halt obesity progress.

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