

Prevalence of obesity among a group of Kirkuk women

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Introduction: Obesity is globally considered as a pandemic with potentially serious consequences for human health. It was estimated that more than 20% of adults in the UK, and more than 30% in USA, are obese (i.e. body mass index, BMI ≥ 30 kg/m²). Obesity prevalence has increased threefold within the last 20 years and continues to rise. About the prevalence of obesity in the developing countries, average national rates are not nearly so high, but the real figures show alarmingly high rates of obesity in many urban communities.(1)

What is Body Mass Index (BMI)?

The BMI is measured by dividing the weight on the height square. It is considered to be a good indicator for a person's healthy body weight, but it does not measure the exact percentage of body fat. The BMI measurement can sometimes be misleading - a muscular man may have a high BMI but have much less fat than an unfit person whose BMI is lower. However, in general, the BMI measurement is considered to be a useful indicator for the 'average person'.

Classification	BMI	risk of comorbidities
Underweight	<18.5	low
Normal	18.5-24.9	Average
overweight	≥ 25	
pre-obese	25-29.9	Increase
obese class1	30.0-34.9	Moderate
obese class2	35.0-39.9	Severe
obese class3	≥ 40	very severe

Etiology: Obesity can result from increased energy intake, decreased energy expenditure, or a combination of the two. The accumulation of excess fat in the body is the consequence of genetic and factors; economic conditions and social factors also represent important influences. So a person's liability to obesity is polygenic in nature, and 30–50% of the

variability in total fat stores is believed to be genetically determined. Monogenic causes of obesity are rare; heterozygous. Mutations of the melanocortin receptor 4 (MC4R) are found in a few percent of massively obese children. Secondary causes of obesity include hypothyroidism, hypothalamic injury, hypogonadism, Cushing's syndrome, and some drugs. Insulin-secreting tumors can cause overeating. (2)

Obesity, until recently, was considered to be caused directly by sedentary lifestyle plus chronic ingestion of excess calories. Although these factors are surely the principal cause in some cases, evidence for strong genetic influences on the development of obesity is emerging. Adopted children show a clear relationship between their body mass index and that of their biologic parents, but no such relationship is found between these children and their adoptive parents. Twin studies also demonstrate substantial genetic influences on BMI with little influence from the childhood environment. As much as 40–70% of obesity may be explained by genetic influences.

Pathologic Consequences of Obesity:

Obesity has serious effects on health. Obesity is thought to be associated with an increase in mortality, with a 50–100% increased risk of death from all causes compared to normal-weight individuals, mostly due to cardiovascular causes. In the United States, obesity and overweight together are the second leading cause of preventable death, accounting for 300,000 deaths per year. As obesity increases mortality rates rise, especially when obesity is associated with increased central (intraabdominal) fat. A moderately obese individual has life expectancy shortened by 2–5 years, and a 20- to 30-year-old male with a BMI > 45 may lose up to 13 years of his

life. Genetic factors determine the degree of which obesity affects particular parts of the body.

Patients & methods: The area chosen for this study was Kirkuk city, samples taken randomly from schools teachers among primary health care visitors and from Azadi teaching hospital (mainly relatives of patients). The age taken was women between 18-66 years old. We exclude pregnant females. Data was coded on questioner. We measured height by tape-measure and weight by scale and then we calculated BMI by this equation $BMI = \text{weight in Kg} / \text{height in meter squared}$. We asked about marital status, smoking, eating habit, tea and coffee drinking, using spoon for eating, lactation, home and outside home cloths, presence or absence of chronic disease, practicing exercise or not, education level and finally we asked the opinion of women if she consider herself obese or not and the cause behind her obesity. We took the data in 5 month and sample size is 200 cases.

Results: Our results showed that 40%, 23%, 12% of the studied samples were overweight, obese & morbidly obese respectively. Only around 25% of the sample were of normal weight. 75% of the women was abnormal.

Discussion: The prevalence of overweight among our sample was 40%, while for it was 35%, giving a total of 75%. These findings are more or less comparable to the findings of a national study carried out in Jordan by Abbas et al. That study has found that the prevalence of obesity was 37.6%, and the prevalence of overweight among women was 32.9% which is nearly equal to our figure. This may be attributed to the comparable eating habits in the neighboring countries, or to the comparable genetic constitution of both communities.

The prevalence of obesity found in our study (35%) is much higher than that reported by Swiden (23.16%)

in 1997 who studied 4563 women in Baghdad. It is possible that improved socioeconomic conditions since the lifting of United Nations sanctions on Iraq have contributed to increased overweight.

The high prevalence of obesity and overweight that we found is alarming, as normal weight women were only 25%. Obesity is regarded as grave concern in the most parts of the world including the US. A survey carried out in the US and included 16884 adults during the period 1988-94 have revealed that the prevalence of obesity among women was 55%. Another study found a rising prevalence of obesity from 12% in 1991 to 17.9% in 1998. In Brazil it has been found that more than half of women aged 50-69 years old from north-east and south-east regions of Brazil are overweight or obese. On the other hand, studies in Switzerland have found no significant problem, with a stated prevalence of overweight of 26% and obesity of 5%. A study done in Madagascar found that only 6% of the sample was overweight and 2.4% were obese. A study in China in the mid-1990s involving 42 751 participants found the prevalence of overweight and obesity among females was 21.71% and 3.73% respectively, although much higher rates were found in Beijing and Shandong, and the authors, have found that overweight and obesity were becoming more prevalent in China.

Conclusions and recommendations:

To conclude, the main finding of the study was that less than one-quarter of the sample studied was of normal weight. Factors associated with obesity were older age, and type of clothes worn inside the home. Although this was a small study in only 2 clinics and the results cannot be generalized, it does sound an alarm and suggests an urgent need for the problem to be addressed and more data on this issue to be collected.