Study the Prevalence of Obesity among Iraqi Patients, Knowledge of Disorders, and Clear Communication about Weight and Health between Patients and Health Care Providers

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Abstract: A total of 140 patients were included in the study, with an overall mean age of 41.22 years (SD = 15.7). Of the total number of participants, 80 were male and 60 were female. The study encompassed all patients admitted to various hospitals in Iraq between 10 March 2023 and June 2024. A descriptive (cross-sectional) study was designed, and a protocol was established for the collection of data on anthropometric, clinical, and biological variables. The IBM SPSS software was employed for the statistical analysis of the patient's demographic data, with the aim of identifying any statistically significant relationships within the study parameters. The findings of this study are as follows: The mean BMI was 32.2 ± 4.2, with 80 males and 60 females. The patient's standard of living was evaluated, and it was found that the social level was 56.65 ± 6.5 for males, 61.2 ± 4.9 for females, while the psychological level was 55.9 ± 3.22 for males, 58.7 ± 4.12 for females. The data confirms the high percentage of patients who have LDL-C levels above the optimal range, a prevalence of low HDL-C, and a co-prevalence of obesity and overweight. The routine practice of calculating BMI is a cornerstone of the knowledge and clinical management of obesity. However, reported anthropometric data should not be used as a basis for this calculation because people tend to underestimate their weight and, conversely, overestimate their height. This results in an underestimation of the health problem of obesity, which calls into question the validity of this approach. In addition to the morbidity and mortality rates caused by obesity, it is important to consider the quality of life perceived by the patient. Quality of life measures are typically classified as general or specific. Specific measures to assess the quality of life in individuals with obesity are scarce in the literature. Several questionnaires have been developed for this purpose, including the Impact of Weight on Quality of Life and the Obesity-Related Problems Scale, which were utilized in the Swedish study Subjects. The findings thus far indicate that obese men and women report worse current health, less positive mood, and increased social dysfunction compared to the general population.

Keywords: Prevalence, Patients, Weight, Health, BMI, Parameters-C, LDL-C

INTRODUCTION

Obesity is regarded as a significant contributing factor to the development of diabetes. However, it is also one of the most pervasive and commonly held misconceptions, particularly among women (Sun, J. *et al.,* 2022). In order to elucidate the significance of these concepts and elucidate their underlying causes, it is essential to examine the topic from a multitude of perspectives and establish a correlation between the concepts and the scientific facts pertaining to this pervasive affliction, as obesity is a disease that affects over half of Arab societies (Mills, K. T. *et al.,* 2016). A significant proportion of individuals with obesity attribute the underlying cause to genetic predisposition, whereas others cite endocrine disorders as a contributing factor. Both groups rely on misconceptions, as heredity constitutes only a minor factor in this problem (Collaborators, G. B. D. *et al.,* 2016), and endocrine diseases cause only a small percentage of this problem, particularly in Arab societies (Bushara, S. O. *et al.,* 2015). The underlying causes of obesity can be attributed to two primary factors: dietary habits and physical activity. These two factors are responsible for the vast majority of obesity cases, accounting for over 95% of cases (Bushara, S. O. *et al.,* 2016). Obesity is a chronic, multifactorial disease with a progressive increase in prevalence, reaching epidemic proportions in some countries. The impact of this growth is reflected in an increased risk of cardiovascular disease, as well as in the highly prevalent diseases of dyslipidemia, metabolic syndrome, and coronary heart disease, which are a major causative factor in each of them. The health survey revealed that 44.8% of men and 29.8% of women were overweight, with 13.3% of men and 11.8% of women being overweight. This proportion has increased over the past five years.

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In women, a socio-economic gradient in the prevalence of obesity is observed, with obesity becoming more common as the socio-economic level decreases. There is a negative correlation between obesity and cardiovascular risk factors, including arterial hypertension (HTN), insulin resistance, and type 2 diabetes. Abdominal visceral adipose tissue is a reliable indicator of cardiovascular risk factors (CVRFs) when considered independently of total body fat (Vardell, E. 2020; Ataklte, F. *et al.,* 2015). It is well established that obesity, abdominal obesity (OA), Dyslipidaemia, diabetes, and hypertension represent biological risk factors for cardiovascular disease (CVD). These factors frequently coexist, conferring a heightened risk. A lack of adequate nutrition and physical activity, coupled with a sedentary lifestyle, are lifestyle factors that are associated with an increased risk of obesity, cardiovascular disease (CVD) (Cetateanu, A., & Jones, A. 2014; Le, H. *et al.,* 2016; Allender, S. *et al.,* 2010), and other chronic conditions that manifest at an early age. Obesity is a contributing factor to the formation of a negative self-image due to the inferiority complex that pervades society towards individuals who are overweight. Consequently, patients who are overweight are vulnerable to social anxiety disorder. This is corroborated by the findings of several studies, including the work of Rabie, Fawzy, and Salah El-Din (2010), which indicated that women with obesity may exhibit elevated rates of social anxiety. The results of this study align with those of Ozka and Gul (2016), who demonstrated high levels of social anxiety in individuals with obesity (Census of India 2011; Fleischhacker, S. E. *et al.,* 2013).

PATIENT AND METHOD
A total of 140 patients were included in the study, with an overall mean age of 41.22 years (SD = 15.7). Of these, 80 were male and 60 were female. The study encompassed all patients admitted to various hospitals in Iraq between 10 March 2023 and June 2024. A descriptive (cross-sectional) prevalence study was designed, and a protocol was established to collect data on anthropometric, clinical, and biological variables. The fieldwork was conducted by pairs of pre-trained interviewers who had reached a consensus on the measurement methods to be employed. Clinical and biological data were gathered based on the clinical history of each patient and information provided by the physician and nurse responsible for their care. The variables under investigation were age, gender, smoking status, arterial hypertension, diabetes mellitus, and dyslipidemia, clinical suspicion of obstructive sleep apnea syndrome (OSAS), hyperuricemia, total cholesterol, LDL, HDL, and triglyceride levels. The body mass index (BMI) is the weight index used to assess whether an individual is overweight. According to international standards, a BMI value below 20 kg/m² is indicative of underweight status, while a value between 20 and 26 kg/m² is considered normal weight. In cases of grade I obesity or overweight (values between 27 and 29.9 kg/m²), grade II obesity (values between 30 and 34.9 kg/m²), and grade III obesity. Values between 35 and 39.9 kg/m² are indicative of the first degree of obesity, while values exceeding 40 kg/m² are indicative of the fourth degree of obesity, also known as morbid obesity. The statistical analysis was conducted using the statistical software package SPSS. Proportions were estimated with 95% confidence intervals. To examine the relationship between the prevalence of obesity and the studied variables, a comparison of means (Student's t-test for independent variables with Snedecor F analysis of variance) and a comparison of proportions (chi-square test) were performed. A p-value of less than 0.05 was considered to indicate a statistically significant result.

RESULTS
A total of 140 patients, aged between 30 and 60 years, were included in the study and demographic information and data were collected from each. It was observed that the prevalence of obesity was notably high in the 40-49 age group, with 77 patients representing 55% of this cohort. This was followed by the 30-39 age group, with 40 patients representing 28.5% of this cohort. The lowest prevalence was observed in the 50-60 age group, with 23 patients representing 16% of this cohort. In this study, the mean body mass index of the patients was 32.2 ± 4.2. The patients were distributed according to gender, with 80 males and 60 females. The number of female patients was relatively low, with 60 patients representing 42.8% of the total. The patients were also distributed according to smoking status, and the prevalence of smoking was noted for fifty patients, as shown in Table One. With regard to blood pressure readings, it should be noted that the first reading resulted in 95 patients with a normal rate and forty-five patients with a high rate being classified as such. The second reading resulted in ninety-two patients being classified as having a normal rate and forty-eight patients with a high rate.

Table 1- Describe the general characteristics of patients with obesity

Variable	Value
Age f (p)	
30-39	**40 (28.5)**
40-49	**77 (55)**
50-60	**23 (16.4)**
BMI	
Mean ±SD	**32.2±4.2**
Reasons f (p)	
Genetic factors	**22 (15.7)**
Eating	**48 (34.2)**
Functional factors	**40 (28.5)**
large amounts of fluid within the tissues	**30 (21.4)**
Sex	
Male	**80 (57.14)**
Female	**60 (42.8)**
Comorbidities	
Arterial hypertension	**44 (31.4)**
Diabetes	**38 (27.1)**
Atherosclerosis	**20 (14.2)**
Other diseases	**38 (27.14)**
Smoking	
Yes	**50 ((35.7)**
No	**90 (64.2)**
BP reading	
First BP reading	
Normal	**95**
High	**45**
Second BP reading	
Normal	**92**
High	**48**
coffee intake (f)	
yes	**50**
no	**90**

The second table presents the quality of life index of obese patients, disaggregated by gender. The results indicate that, across all factors used to measure the quality of life index of patients, females exhibit relatively lower scores than males.

Table 2- Evaluation of the quality of life of obese patients according to gender

Variable	Male	Female
Social level	**56.65±6.5**	**61.2±4.9**
Psychological level	**55.9±3.22**	**58.7±4.12**
Pain	**44.3±3.3**	**48.8±5.12**
Inability to think	**38.7±2.76**	**43.8±4.9**
Lack of sleep	**32.3±4.87**	**37±1.98**

Table 3 illustrates the prevalence of alterations in the values of the parameters under evaluation. The data emphasizes the considerable proportion of patients exhibiting LDL-C levels above the optimal range, the prevalence of low HDL-C, and the combined prevalence of overweight and obesity. The prevalence of increased waist circumference and above-optimal total cholesterol levels is significantly higher in women, while hypertension is more prevalent in men. Additionally, this table demonstrates that triglycerides are elevated in only 10% of the

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population and that smoking is more prevalent in men than in women. Furthermore, it illustrates that

40% of patients do not engage in regular exercise.

Table 3- Analysis of the results of hormonal factors in obese patients

Variable	Value
LDL mmol l-1	4.01±0.88
HDL mmol l-1	1.11±0.22
Total Cholesterol	5.22±1.01
TG	1.61±1.1
Leptin ng ml -¹	17.2±1.9

Table 4- Identifying logistic regression factors on obese patients to identify and risk factors

Variable	OR	(95%CI)	P VALUE
Age	1.4	0.66-1.75	0.019
Sex			
Male	1.55	0.93-1.84	0.389
Female	1.73	1.234-2.14	0.0348
BMI >33	3.5	2.94-5.943	0.001
Total Cholesterol	2.874	1.89-3.32	0.001
TG	2.757	1.87-3.21	0.001
Social level	1.85	1.64-2.34	0.094

Table 5- Determine the relationship between obesity and other factors to determine the type of prevalence

Variable	R correlation
Age	**-0.84**
Female	**-0.73**
BMI >33	**0.98***
Total Cholesterol	**0.74***
TG	**0.88**
Arterial hypertension	**0.953**
Diabetes	**0.944****

DISCUSSION

Although the majority of chronic diseases, such as cardiovascular diseases, typically manifest during adulthood, certain risk factors are largely determined by behaviours acquired during childhood. Nevertheless, it is conceivable that the transition from adolescence to young adulthood represents a period of modification or confirmation of these behaviours, resulting from the acquisition of greater autonomy in decision-making.

Some lifestyles are conducive to the adoption of unhealthy behaviours, such as poor dietary habits and a sedentary lifestyle. Both of these are considered risk factors for the development of overweight and obesity. Similarly, the increased consumption of products with high carbohydrate content is a common practice among Iraqi patients, which can have an impact on plasma lipid levels (District Level Household and Facility Survey–3; Bhardwaj, S. *et al.,* 2011; Gupta, R. *et al.,* 2008;).

In this study, the prevalence of certain risk factors for cardiovascular disease, metabolic syndrome, and the World Health Organization lipid profile for obesity and overweight was determined in a cohort of Iraqi patients aged 30 to 60 years.

Low-density lipoprotein (LDL) is commonly referred to as "bad cholesterol." When present in excess, it tends to accumulate on the walls of

arteries, leading to thickening and subsequent hardening of the arteries. This process, known as atherosclerosis, can, over time, result in the formation of actual plaques (or atherosclerosis) that impede blood flow or even completely block it. Insufficient oxygen-rich blood supply to the heart can result in the development of angina, a condition characterised by pain in the chest and arms, which is typically precipitated by exertion. Furthermore, the plaques have the potential to rupture and form a thrombus, which can result in an abrupt cessation of blood flow. The location of a blockage in a blood vessel determines the type of clinical presentation (Misra, A. *et al.,* 2011; Aldossari, K. K. *et al.,* 2021; AlQahtani, A. A. A. *et al.,* 2015). A myocardial infarction, or heart attack, occurs when the blockage is at the heart level. A stroke, or cerebrovascular accident, occurs when the blockage is at the brain level. Intermittent claudication occurs when the blockage is at the lower extremity level. A number of factors may contribute to elevated blood cholesterol levels, including dietary habits, obesity, lack of physical activity, and the presence of concomitant metabolic disorders such as diabetes. Furthermore, the consumption of tobacco products has been demonstrated to impair the integrity of the vascular system, thereby accelerating the progression of atherosclerosis. Furthermore, LDL cholesterol levels tend to increase with age, particularly in women (Kamel, A. *et al.,* 2016; Żukiewicz-Sobczak, W. *et al.,* 2014).

As demonstrated in Table 4, the logistic regression analysis identified several risk factors for obese patients. The most significant risk factor was a high body mass index (BMI), with an odds ratio (OR) of 3.5 and a 95% confidence interval (CI) of 2.94–5.943. This was followed by total cholesterol, with an OR of 2.874 and a CI of 1.89–3.32.

The prevalence is higher than that found in other epidemiological studies conducted in the general population. However, the aim of our work was to study hospitalised patients, many of whom had serious classification entities that had developed insidiously due to their association with the disease. Nevertheless, the results were comparable, indicating a higher prevalence of obesity among women and in the 40-50 age group. Our findings revealed an association with established cardiovascular risk factors, including hypertension, hypercholesterolemia, and diabetes.

CONCLUSION

The findings of this study indicate that the prevalence of obesity was significantly higher among individuals aged 40-50 years. Furthermore, the data suggest that obesity had a pronounced impact on the quality of life of women relative to men. Notably, there was a discernible correlation between obesity and cardiovascular disease, as well as high blood pressure.

REFERENCES

1. Sun, J., Wang, X., Terry, P. D., Ren, X., Hui, Z., Lei, S., ... & Wang, M. "Interaction effect between overweight/obesity and alcohol consumption on hypertension risk in China: a longitudinal study." *BMJ open* 12.7 (2022): e061261
2. Mills, K. T., Bundy, J. D., Kelly, T. N., Reed, J. E., Kearney, P. M., Reynolds, K., ... & He, J. "Global disparities of hypertension prevalence and control: a systematic analysis of population-based studies from 90 countries." *Circulation* 134.6 (2016): 441-450.
3. Collaborators, G. B. D., Forouzanfar, M. H., Afshin, A., Alexander, L. T., Anderson, H. R., Bhutta, Z. A., ... & Ammar, W. "Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015." *The Lancet* 388.10053 (2016): 1659-1724.
4. Bushara, S. O., Noor, S. K., Elmadhoun, W. M., Sulaiman, A. A., & Ahmed, M. H. "Undiagnosed hypertension in a rural community in Sudan and association with some features of the metabolic syndrome: how serious is the situation?." *Renal failure* 37.6 (2015): 1022-1026.
5. Bushara, S. O., Noor, S. K., Abd Alaziz, H. I., Elmadhoun, W. M., & Ahmed, M. H. "Prevalence of and risk factors for hypertension among urban communities of North Sudan: Detecting a silent killer." *Journal of family medicine and primary care* 5.3 (2016): 605-610.
6. Vardell, E. "Global health observatory data repository." *Medical reference services quarterly* 39.1 (2020): 67-74
7. Ataklte, F., Erqou, S., Kaptoge, S., Taye, B., Echouffo-Tcheugui, J. B., & Kengne, A. P. "Burden of undiagnosed hypertension in sub-saharan Africa: a systematic review and meta-analysis." *Hypertension* 65.2 (2015): 291-298.

8. Cetateanu, A., & Jones, A. "Understanding the relationship between food environments, deprivation and childhood overweight and obesity: evidence from a cross sectional England-wide study." *Health & place* 27 (2014): 68-76.

9. Le, H., Engler-Stringer, R., & Muhajarine, N. "Walkable home neighbourhood food environment and children's overweight and obesity: Proximity, density or price?." *Canadian Journal of Public Health* 107 (2016): eS42-eS47.

10. Allender, S., Lacey, B., Webster, P., Rayner, M., Deepa, M., Scarborough, P., ... & Mohan, V "Level of urbanization and noncommunicable disease risk factors in Tamil Nadu, India." *Bulletin of the world Health Organization* 88.4 (2010): 297-304.

11. District Census Handbook, Garhwal. Census of India 2011. Directorate of Census Operations Uttarakhand. [Last accessed on 2016 Jan 11]. Available from: http://www.censusindia.gov.in/2011census/dchb/0506_PART_B_DCHB_GARHWAL.pdf.

12. Fleischhacker, S. E., Evenson, K. R., Sharkey, J., Pitts, S. B. J., & Rodriguez, D. A. "Validity of secondary retail food outlet data: a systematic review." *American journal of preventive medicine* 45.4 (2013): 462-473.

13. District Level Household and Facility Survey–3. India; 2007-2008. [Last accessed on 2016 Jan 16]. Available from: http://www.rchiips.org/prch-3.html.

14. Bhardwaj, S., Misra, A., Misra, R., Goel, K., Bhatt, S. P., Rastogi, K., ... & Gulati, S. "High prevalence of abdominal, intra-abdominal and subcutaneous adiposity and clustering of risk factors among urban Asian Indians in North India." *PloS one* 6.9 (2011): e24362.

15. Gupta, R., Gupta, V. P., Bhagat, N., Rastogi, P., Sarna, M., Prakash, H., & Deedwania, P. C. "Obesity is major determinant of coronary risk factors in India: Jaipur Heart Watch studies." *Indian Heart Journal* 60.1 (2008): 26-33

16. Misra, A., Pandey, R. M., Rama Devi, J., Sharma, R., Vikram, N. K., & Khanna, N. "High prevalence of diabetes, obesity and dyslipidaemia in urban slum population in northern India." *International journal of obesity* 25.11 (2001): 1722-1729.

17. Aldossari, K. K., Shubair, M. M., Al-Ghamdi, S., Al-Zahrani, J., AlAjmi, M., Alshahrani, S. M., ... & El-Metwally, A. "The association between overweight/obesity and psychological distress: A population based cross-sectional study in Saudi Arabia." *Saudi journal of biological sciences* 28.5 (2021): 2783-2788

18. AlQahtani, A. A. A., Nahar, S., AlAhmari, S. M., & AlQahtani, K. S. A. "Association between obesity and mental disorders among male students of King Khalid University, Abha, Saudi Arabia." *Saudi Journal of Obesity* 3.2 (2015): 48-54

19. Kamel, A., Abuhegazy, H., Ismaila, A., Sherra, K., Ramadan, M., Mekky, A., & Nabawy, A. A. "The prevalence of obesity in a sample of Egyptian psychiatric patients." *Egypt J Psychiatr* 37.3 (2016): 157-165.

20. Żukiewicz-Sobczak, W., Wróblewska, P., Zwoliński, J., Chmielewska-Badora, J., Adamczuk, P., Krasowska, E., ... & Silny, W. "Obesity and poverty paradox in developed countries." *Annals of agricultural and environmental medicine* 21.3 (2014)

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