IS OVER-WEIGHT AND OBESITY ASSOCIATED WITH HIGH FREQUENCY OF CO-MORBID CONDITIONS?

ABSTRACT

OBJECTIVE

To find the association of over-weight and obesity with high frequency of co-morbid conditions

STUDY DESIGN

Cross Sectional Study

SAMPLE SIZE

This study is conducted at Ziauddin Hospital Out Patient Department. A sample of 200 over weight and obese clients were included by simple random sampling to find out the relation of co-morbidities with overweight and obesity.

OUTCOME MEASURES:

Patients were categorized as overweight and obese by calculating their Body Mass Index (BMI).

RESULTS

Out of 200 patients it is was found that there is an increase in secondary complications such as depression, hypertension, stroke, cardiac diseases, knee pain, and kidney disease. The statistics also showed that generally overweight and obese clients had a higher of smoking and alcohol consumption. There is a marked association of co-morbidities conditions within clients with higher BMI than normal.

CONCLUSION

This study provides a comprehensive estimate of the strong association of co-morbidities attributable to overweight and obesity using standardized and consistent definitions and methodologies. Our findings confirm that high BMI will carry a profound health burden and will have a significant impact on health expenditures.

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INTRODUCTION

Overweight and obesity are simply defined as conditions of abnormal or excessive fat accumulation in adipose tissue, to the extent that health may be impaired¹. It is a resultant of excess body fat. A standard marker for body content is the body mass index (BMI). There are other parameters to calculate over weight or Obesity such as waist circumference, waist-hip ratio, skinfold and percent body fat measurements². BMI: body mass index (BMI) is calculated as: weight (Kg)/Height (m²). In clinical terms, a person with a BMI between 25.0 and 29.9 Kg/m² is called over weight and One with a BMI greater than 30 Kg/m² is called Obese^{3,4}.

The excess intake of food results in increase in fat stores which causes increase in body weight. The causes of obesity are complex and poorly understood. Genes also play an important role in determining food intake or energy metabolism along with low activity caused by a sedentary life style. It is evident through previous studies that there is a rapid increase in the prevalence of overweight and obesity during the past 2 to 3 decades^{5,12}.

Obesity is an epidemic of the 21st century, and is a major causal issue for various other metabolic disorders. According to a worldwide estimation by the World Health Organization (WHO), in 2005 there were about 1.6 billion overweight persons aged 15 years and above and among them at least 400 million adults were obese¹. In most of the Asian countries the prevalence of overweight and obesity has increased many folds in the past few decades and the magnitude varies between countries^{6,18}. South East Asia and Western Pacific region are currently facing an epidemic of diseases associated with obesity such as diabetes and CVD^{9,19}.

Overweight and obesity represent a rapidly growing threat to the health of populations in an increasing number of countries. Indeed they are nowadays so frequent that they are replacing more traditional problems such as under nutrition and infectious diseases as the most significant causes of ill-health.

Obesity co-morbidities include coronary heart disease, hypertension and stroke, certain type of cancer, non-insulin-dependent diabetes mellitus, gallbladder disease, dyslipidaemia, osteoarthritis, gout, pulmonary diseases and sleep apnea. In addition, the obese put up with common bias, discrimination, on the part not only of the general public but also of health professionals, and this may make them unenthusiastic to seek out medical assistance. World Health Organization therefore convenes a discussion on obesity to review current epidemiological information, causative factors and related consequences, and this report presents its conclusions and recommendation. In particular, the Consultation measured the system for classifying overweight and obesity based on the BMI, and concluded that a coherent system is now available and should be adopted globally. The discussion also concluded that the fundamental causes of the obesity epidemic are sedentary lifestyles and high-fat energy-dense diet, both resultant from the intense changes taking place in society and the behavioral patterns of communities as a consequence of increased urbanization and industrialization and the disappearance of traditional lifestyles⁷.

Economic improvement over the last 50 years in most of the countries has resulted in greater affluence and to

polynsaturated fatty acids and diet and trend has also been accompanied lifestyle and increased level of stress. The lence of obesity and other non-comm has raised steeply^{13,20}.

The nutrition transition can be noticed countries in the region (Arab Gulf Co middle wages countries, especially in a few high or socioeconomic sectors. Several studies have reported the ass patterns with obesity and central adip came from Western countries. A reduc around 20-25% may be helpful in well minimize the risk of energy imbalance sedentary individuals. Although there that certain genes have an influence and body fat, mostly do not qualify a i.e. genes that to cause obesity when defective allele are present: it is likely before the results of genetic research to the problem²¹. Different methods of increases BMI are described includin ment, physical exercises and activitie drugs, with gastrointestinal surgery L extreme cases. Over weight and obese of co-morbidities which can lead to fu mortality.

The objective of this study is to assess co morbidities with overweight and be done by survey. The articles o literature search prospective cohort st population of a Western country (Co North America, Australia or New Ze outcomes, a sample size of at least 20 estimation based on the incidence of the mortality rate of disease^{13,15}. For several articles meeting the defined recent article.

The aim of the study was to determine co-morbidities in clients who are over ents coming for physiotherapy in a ter

METHODOLOGY

Study Design

It is a Cross sectional study.

Settings

The study will be conducted at the Phys ment of Ziauddin Hospital North Nazim campus.

Sample Size

200 patients of both genders are inc with a global prevalence of 15% to 18% calculator¹¹.

Sampling Techniques

Simple random sampling is used for this

Sample Selection

Inclusion Criteria
On the basis of BMI all over weight

Exclusion Criteria

Patients less than 18 years or more than 65 years were not included in this study.

Data Collection Tool

Body Mass Index calculation.
Self Administered Questionnaire.

RESULTS

Our research was conducted on a sample size of 200 patients with mean age of 49.4 ± 11.9 and mean BMI of 29.3 ± 3.3 . It was seen that 131 (65.5%) were females while male were only 69 (34.5%).

This study focused on different co morbid associated with overweight and obesity. It was seen that 65.6% patients of depression were overweight and 47.5% were obese. In the same way it was observed that hypertension and stroke was more prevalent in obese patients. 63.3% of obese patients had hypertension and stroke while 53.3% of the overweight patients had hypertension and 59.8% had stroke.

The association of obesity was seen with some other diseases and it was found to be closely related. It was found that Kidney diseases, heart diseases, diabetes mellitus and knee pain are also very common in obese patients. Among overweight patients 23% were suffering from cardiovascular disease and 52.5% kidney diseases while in obese patients 60.8% had cardiovascular disease and 62% kidney disease. Similar pattern is observed in cases of diabetes mellitus. Obese patients were more prone to have diabetes mellitus (65.8%) and overweight (65.6%).

BMI Group	Overweight		Obese	
	Frequency	%	Frequency	%
Depression	80	65.6	75	47.5
Diabetes Mellitus	70	57.4	104	65.8
Cardiovascular Disease	28	23.0	96	60.8
Knee Pain	109	89.3	144	91.1
Kidney Disease	64	52.5	96	62
Stroke	73	59.8	100	63.3
Hypertension	65	53.3	100	63.3

In this study we came across the fact that the consumption of alcohol and smoking was more commonly seen in overweight patients compared to the obese. 62% alcoholics and 75% smokers among the overweight patients and 60% alcoholics and 42% smokers in obese

Alcohol Consumption and Smoking

DISCUSSION

It has been observed in our study that overweight and obesity are strongly associated with many other of co-morbid including diabetes mellitus, hypertension, stroke, cardiovascular disease, kidney disease, knee pain and depression. It was also seen that depression and knee pain were most common among overweight and obese individuals. Other researchers have also shown high prevalence of both depression and obesity in their studies and the fact that they both carry an increased risk for cardiovascular disease as well^{24,25}. A potential association between depression and obesity has been presumed and repeatedly been examined and confirmed in different studies by de Wit L et al, Faith MS et al and Scott KM et al²⁶⁻²⁸. In another study by de Wit L et al there is a significantly positive association between depression and obesity in the general population, which appeared to be more marked among women²⁹. This study also supports the association of overweight and obesity with depression.

Foy CJ, et al in his study has discussed the association of obesity with a number of comorbid conditions such as type 2 diabetes and knee pain. According to him, the etiology of knee pain is multifactorial, and can range from chronic diseases such as osteoarthritis (OA) to acute trauma but at the same time he mentioned that it is a modifiable risk factor for the development and treatment of knee pain³⁰. Similarly in our study it has been evidently seen that knee pain is a common complaint in obese and overweight individuals. It is a major problem faced by them. Other researches also support this association.

Alcohol and Smoking both are risk factors for many diseases such as hypertension, stroke, heart disease, etc. In this study we came across the fact that the consumption of alcohol and smoking was not commonly seen in normal individual's compared to the overweight and obese patients. Other diseases like cardiovascular disease, kidney disease and diabetes mellitus have also been seen in abundance in these patients.

CONCLUSION

In conclusion, this study provides a comprehensive estimate of the incidence of co-morbidities attributable to overweight and obesity using standardized and consistent definitions and methodologies. Our findings confirm that overweight and obesity carry a profound health burden and will have a significant impact on health expenditures.

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