

Assessment of psychiatric illness and other comorbidities associated with patients attending obesity clinic in Ahmedabad

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ABSTRACT

Background: Psychosocial impact of obesity is of concern in the present world but remains less studied compared to its physical consequences. People who take treatment for obesity are reported to be positively associated with psychiatric illnesses and also personality characteristics or psychological conditions influence the obesity treatment. **Objective:** The objective of this study was to study the prevalence of psychiatric illness and comorbid conditions among people with overweight and obesity and to find out factors associated with psychiatric illness. **Materials and Methods:** A cross-sectional study was conducted in private obesity clinic, Ahmedabad. A total of 103 people attending obesity clinic were studied. Self-structured questionnaire and Hospital Anxiety and Depression Scale (HADS) were used. **Results:** Of 103, 87.5% (91) were female. Mean age of people attending obesity clinic was 35 ± 9.2 years. About 67.3% were housewife and 92.2% were educated up to secondary or above. Thirty-eight (38.8%) and 59 (57.2%) of 103 were found to be having overweight and obesity, respectively. About 69% of people with obesity belong to Grade 1 and 31% belong to Grade 2 and 3. Psychiatric illness was observed among 38.8% (40) of the obesity clinic attendees. Of 40, 32.5% were found to have abnormal level of HADS score and needed intervention. Of 103, 45.6% had comorbid conditions such as joint associated problems (25%), hypertension (16.5%), and hypothyroidism (14%). Among overweight and obese with comorbidities, 48.9% had psychiatric illness. Psychiatric illness was observed among 37% of people with duration of obesity >5 years. The study did not find any significant association between overweight and obese having comorbid conditions ($z = 0.63, P > 0.05$) and duration of obesity ($z = 0.44, P > 0.05$) with psychiatric illness. **Conclusion:** Both comorbidity and psychiatric illness are highly prevalent among obese people. This indicates early detection and intervention for both to decrease the morbidity and mortality among obese and overweight.


KEY WORDS: Obesity; Comorbidities; Psychiatric Illness; Hospital Anxiety and Depression Scale Score

INTRODUCTION

Obesity, across all age groups and cultures it is the most prevalent global public health problem. Obesity in recent times is referred to as “New World Syndrome,” since it

causes many non-communicable diseases creating large sums of socioeconomic and public health problems in developing countries. Affecting every age group, it is the most undermined health problem in accordance of the WHO.^[1]

Previously, due to high prevalence of undernutrition in developing countries, including India, had limited public health resources mainly on dealing with it. However, these developing countries are now dealing with double burden of undernutrition as well as overnutrition. Body mass index (BMI) is the indicator of nourishment status in adults. The studies regarding BMI indicate that 50% of Indian adults suffer from various types of chronic energy deficiency

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in that they have a BMI <18.5 kg/m². In the same survey, it was observed that the BMI values were similar in men and women; however, there were more overweight/obese (BMI ≥25 kg/m²) women (6.6%) than men (3.5%). In certain parts of the country, obesity and consequent diseases are posing a huge public health problem.^[2]

We now know that the biggest global health burden for the world is related to diet and this burden is enhanced by relation with low physical activity. At present, roughly, 300 million adults worldwide are obese – a BMI of 30 and above, nearly 1 billion people are overweight. The problem affects apparently all age groups and in every socioeconomic status.^[2]

Obesity statistics has risen at least 3 times since the late 20th century in Western nations. In most of the developing countries, obesity and malnutrition are coexisting in all socioeconomic strata. The growing problem is due to adoption of industrialized foods and food preferences, together with drastically decreased physical activity levels. It may trigger psychological problems that include depression, eating disorders, distorted body image, and low self-esteem. Higher rates of depression have been found in obese people in several studies. Evidence from the Swedish obese subjects study indicates that clinically significant depression is 3–4 times higher in severely obese individuals than in similar non-obese individuals. Professor Marianne Sullivan *et al.* from Sahlgrenska University Hospital, Sweden, mentioned in a journal article, “depression on a level indicating psychiatric morbidity was more often seen in the obese.” The study suggests that levels of depression among obese were more or less same as chronic pain.^[2]

In the developing countries, the high obesity statistics is due to change in diet and decrease in physical activity; it is known as the “nutrition transition.” In Urban populations, there are higher rates of obesity as compared to rural populations. Urban areas offer a variety of food, generally at lower costs and urban population usually have less physical activity as compared to rural population.^[2]

At different levels of BMI, there is difference in fat deposition and body composition. Overweight cutoffs of 25 are not applicable for Asian population, the burden is greater these populations. This resulted in the prevalence of diabetes, impaired fasting glucose and hypertension in Asians.^[3]

In near future, the developing countries will suffer greater burden due to obesity. In the first quarter of the 21st century, diabetes due to obesity estimates is to be doubled in world, of which roughly three-fourth burden will be on developing countries.^[4]

People with a BMI more than 30 are more likely to be diagnosed with hypertension, stroke, high cholesterol,

coronary heart disease (CHD), osteoarthritis, gout, asthma, sleep disorders dermatological problems, and some types of cancer as compared to adults with normal weight.

The American Heart Association in 1998 declared that obesity is major risk factor for CHD. Obesity plays a causal role in the development of type 2 diabetes mellitus and its complication, due to which treatment of diabetes becomes less yielding.^[5]

The inconsistent results found in various studies and with an increase concern about the psychological effects of overweight and obesity along with associated comorbidities warrant more research in this field. Most of the available data are from the Western world that may not be relevant in the Asian region. To address this issue, we conducted a study to investigate the prevalence of morbidity due to psychiatric disorders among obese individuals.

Objectives

The objectives of this study were to study the prevalence of psychiatric illness and other comorbid conditions among the people with overweight and obesity and to find out the factors associated with psychiatric illness among obese visiting obesity clinic.

MATERIALS AND METHODS

This study was conducted in private obesity clinic, Ahmedabad. This was a cross-sectional study performed from September 2017 to November 2017.

All the obese person attending the clinic for 3 months were included, so a total of 103 obese people attended the clinic were studied. Data were obtained using a self-administered questionnaire consisting of general information, comorbid conditions and its treatment, awareness about obesity, and Hospital Anxiety and Depression Scale score (HADS) which consist of 14 questions. Scoring was done separately for anxiety and depression, any score in between 0 and 7 considered normal, 8–10 borderline case, and 11–21 abnormal case. BMI was calculated using weight/height² and classified according to the WHO Asian BMI classification.^[6]

Data analysis was done using Microsoft Excel 2007. For statistical analysis, Chi-square test was applied. Verbal consent was taken from all respondents.

RESULTS

Of 103, 87.5% (91) were female. Mean age of people attending obesity clinic was 35 ± 9.2 years. About 67.3% were housewife and majority (92.2%) were educated up to secondary or above [Table 1].

Thirty-eight (38.8%) and 59 (57.2%) of 103 were found to be having overweight and obesity, respectively. About 69% of people with obesity belong to Grade 1 and 31% belong to Grade 2 and 3. Nearly 40% of the attendees have a history of obesity in <5 years. The study did not find a statistically significant association between overweight and obese having duration of obesity >5 or <5 years with psychiatric illness ($z = 0.44, P > 0.05$). Due to small number of male participants, gender-specific comparison was not done [Table 2].

About 45.6% had comorbid conditions such as joint associated problems (25%), hypertension (16.5%), and hypothyroidism (14%). The study did not find a statistically significant association between overweight and obese having psychiatric disorder with comorbid conditions ($z = 0.63, P > 0.05$) [Figure 1].

Abnormal HADS score was observed among 38.8% (40) of the obesity clinic attendees. Of 40, 32.5% were found to have psychiatric illness and needed intervention [Table 3].

DISCUSSION

In the 21st century, obesity is becoming an epidemic in different regions of South Asia including India. Unique features of obesity; abdominal adiposity, high body fat, intra-abdominal fat, and high amount of subcutaneous fat are exhibited by Asian Indians.^[7] Individuals who are obese tend to have more emotional problems resulting in various psychosocial and health-related issues. We retrospectively questioned 103 patients who received variety of obesity treatments. In our study, 87.5% were female, as female preponderance of obesity was observed in other studies as well. This pattern of attendees may be due to some sociocultural reason. Similar observation was made by the study at Taiwan.^[8] Most of the respondents belonged to adult age group, 68% were housewife and had a better economic and educational status when compared to other studies.^[8] Obesity is found to be one of the primary conditions to result in various comorbidities. In this study, 46% were having some comorbid conditions such as joint associated problems, hypertension, and hypothyroidism, and they were at ongoing treatment. In general, it is difficult to explain the potential association of comorbidities with a psychiatric disorder among the obese subjects with the available scientific evidence.^[9,10] Our study also did not find a statistically significant association between overweight and obese having psychiatric disorder with comorbid conditions ($z = 0.63, P > 0.05$). Psychological stress is found to be more in women due to stigma of overweight and obesity, dissatisfactory thoughts for their body image, and haphazard eating habits.^[11] In a community-based survey, it was found that obese females suffer from more chance of depression and anxiety.^[12] The patients were evaluated on the basis of

standardized questionnaire and HADS score. Abnormal level of HADS was observed among 38.8% (40) of the obesity clinic attendees and majority needed intervention. Similar prevalence was seen in another study carried out in Kerala,^[9] at least one psychiatric disorder was seen in 42% of patients in a study conducted in Taiwan.^[8]

Increased weight in psychiatric disorder patients involves the number and duration of depressive episodes, history of hospital admissions for depression, medicines causing increase in weight, decrease in physical activity,^[13] comorbid anxiety disorders, and age.^[12] About 40% of the patients reported within 5 years of weight gain, it shows their awareness of health and it was interfering with their day-to-day work, so

Table 1: Sociodemographic distribution of obesity clinic attendees

Sex	Frequency (%)
Male	12 (11)
Female	91 (87.5)
Age	
<20	04 (3.8)
20–29	31 (29.8)
30–39	39 (37.8)
40–49	24 (23.0)
>50	05 (4.8)
Occupation	
Working	23 (22.1)
Housewife	70 (67.3)
Student	10 (9.61)
Education	
Illiterate	01 (0.9)
Primary	07 (6.7)
Secondary and Higher secondary	48 (46.6)
Graduate and PG	47 (45.6)

Table 2: Classification of attendees according to BMI and years of obesity

Obese classification	BMI (kg/m ²)	Frequency
Normal	18.5–25	04
At risk of overweight (2–20 years)	85–95%	01
Overweight	25–30	40 (38.8%)
Obese Class 1	30–35	40
Obese Class 2	35–40	09
Obese Class 3	>40	09
Obese since (years)	Number of person	%
<5	41	39.8
5–10	28	27.1
10–15	13	12.6
>15	21	20.3

BMI: Body mass index

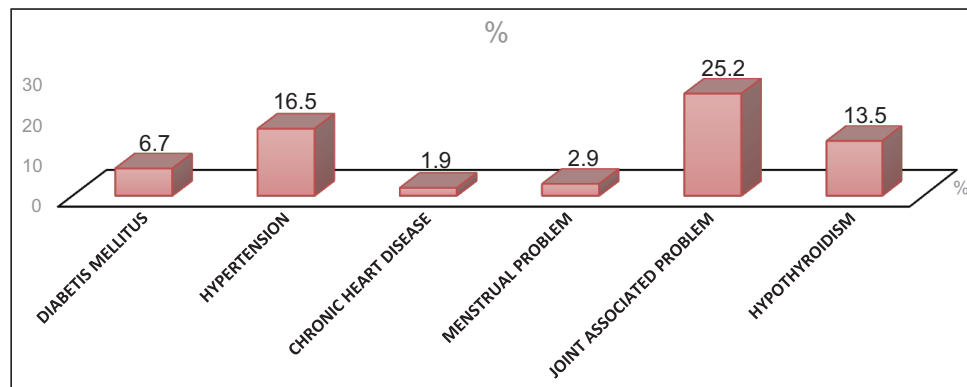


Figure 1: Number of patients (%) with comorbid conditions (Total = 47 [45.6%])

Table 3: Number of attendees with their HADS score

HADS score	Depression	Anxiety
Normal (0–7)	88	69
Borderline abnormal (8–10)	12	21
Abnormal/case (11–21)	3	13

Psychiatric illness was observed among 38.8% (40) of the obesity clinic attendees. Of 40, 32.5% were found to have abnormal level of HADS score and needed intervention. HADS: Hospital anxiety and depression scale

most of the patients were counseled for preventive measures such as diet, exercise, yoga, and walking.

Several intensive steps are required in obese patients that include medication according to metabolic profile of patients, treatment for weight loss, lifestyle modifications, and counseling for managing weight so that management can be sustained.^[12,13] Depression causes low-energy level and motivation, leading person to care less about their health and causes change in their appetite. Our study found that the association was statistically not significant between obese and duration of obesity >5 or <5 years with psychiatric illness ($z = 0.44$, $P > 0.05$).

However, the meta-analytical study, it was found that the relationship between obesity and depression is bidirectional. Studies suggest that depressed people have a 58% increased chance of becoming obese, whereas obese people have 55% more chance of becoming depressed overtime.^[10] Difference in our study may be due to smaller sample size. Further evaluation is required to find out possible cause of the association between depression and obesity; it may be psychological and biological.

CONCLUSION

The study showed considerable rate of psychiatric disorder in obese and overweight patients. This indicates early detection and intervention needed for both to decrease the morbidity and mortality among overweight and obese and also needed for a multidisciplinary approach in the

management of obesity. Further study is required to prove that psychiatric evaluation might play an important role in completing obesity treatment. Actions need to be taken at different levels of organizations, multimedia, and educational institutions along with some changes in food distribution and policies.

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