

Psychological Disturbances, Self Esteem and Life Satisfaction among Females Seeking Treatment for Obesity

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ABSTRACT

Background: The increasing prevalence of overweight and obesity is a major public health concern. **Objective:** to compare the differences between obese and normal weight females on somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation psychoticism, self esteem, life satisfaction scales. **Subjects and Methods:** The sample consisted of 50 obese patients with BMI $>30 \text{ kgm}^2$ (20-40) age group and 50 normal weight with BMI 18-25 kgm^2 . The authors used SCL -90, Beck depression inventory, self esteem inventory for adolescents and adults, life satisfaction scale. **Results:** There were statistically significant differences between obese and normal weight females on somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid, psychoticism in favor of obese, and on self esteem, life satisfaction in favor of normal weight females.

Key words: Obesity, Self esteem, Psychological disturbance

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INTRODUCTION

The increasing prevalence of overweight and obesity is a major public health concern. Among US adults prevalence of obesity increased from approximately 23% in 1990 to 31% in 2000¹.

Although men are more likely to be overweight than women, women are more likely to be obese². Among both men and women, the prevalence of overweight and obesity increases with advancing age, until about 69 after which it start to decline, However during the past decade, the sharpest increases (70%) in rates of overweight and obesity occurred among adults ages 18 through 29.

Racial and ethnic minorities generally have higher rates of overweight and obesity than do whites in the United States²⁻³ within

racial groups, gender disparities also exist. Black and Mexican women are likely to be obese than black and Mexican American men². Obesity, race, depression interacted to create a triple threat of developing certain chronic diseases⁴.

Disparities based on socioeconomic status also exist among the overweight and obese. For all racial and ethnic groups, women of lower socioeconomic status are more likely to be obese than those with higher incomes^{2,5}.

In developed economies, obesity is inversely associated with income and other indicators of socioeconomic status⁶⁻⁷ but this relation may be weakening overtime⁸. At the community level, obesity is associated with greater access to

inexpensive, calorie-dense foods⁹⁻¹⁰ and with reduced opportunities for physical activity¹¹⁻¹². Although the medical complications of overweight and obese are known well¹³⁻¹⁴ the psychological Correlates of carrying excess weight are documented less well.

Therefore the present study aims to compare the psychological disturbances (somatic symptoms, obsessive compulsive, interpersonal sensitivity, anxiety, depression, hostility, phobic anxiety, paranoid ideation, psychoticism) self esteem and life satisfaction of obese & normal weight females.

Obesity defined: Normal body weight is defined as a body mass index (BMI) in the range of 18.5–24.9; BMI is computed as a body weight in Kg divided by the square of height in meters. Overweight, sometimes referred to as “pre-obese” is defined as a BMI in the range of 25-29.9. A BMI of ≥ 30.0 is defined as obesity¹⁵. According to the American obesity association, obesity is a complex, multifactorial chronic disease, involving environmental (social and cultural), genetic, physiologic, metabolic, behavioral and psychological components¹⁶.

The cause of obesity: Many complex factors have contributed to the rise of obesity for each individual. A combination of genetics, behavioral environment, and social economic status influence body weight. Experts agree that in the simplest sense much of obesity occurs when energy intake exceeds energy expenditure¹⁷.

Several environmental and cultural changes have diminished daily opportunities to burn energy. Television viewing and the popularity of computers and video games have especially contributed to the obesity

epidemic among children and adolescence¹⁸⁻¹⁹. At the same time schools have generally been decreasing physical education requirement in the face of budgets pressure of other curriculum demands¹⁸. Coupled with the diminished opportunity to exercise is the increased opportunity to eat because food was often scarce throughout much of human history, “our physiology tells us to eat whenever food is available²⁰. Other factors, such as the availability of inexpensive food that are high in sugar and fat, the growth of the fast-food industry and the increased number and marketing of snack foods, also contribute to more eating²¹.

Genetic and environmental factors are closely intertwined. If a person has a genetic predisposition toward obesity the modern life style and environment may make controlling weight more difficult. An environment in which food is plentiful and exercise is deficient affects different people in different ways. These differences explain why some people gain weight eating almost nothing while others eat constantly and never gain an ounce. Data indicate that genetic contribution to variability in body fatness lies somewhere between 25%-70%²². The psychological state of people feeling lonely or out of love influences body weight as certain people start eating when depressed, while others stop feeling hungry²³⁻²⁴.

Finally certain drugs like old oral contraception and antipsychotic medications can also facilitate weight gain²⁵⁻²⁶.

Medical and psychological consequences of obesity: The health consequences of obesity for adults range from a number of non fatal complaints that impact on the quality of life such as respiratory

difficulties, back pain problems, skin problems²⁷ and infertility²⁸⁻³⁰ to complaints that leads to an increased risk of premature death including diabetes mellitus, cardiovascular, disease, stroke, sleep apnea, hypertension³¹⁻³⁴, osteoarthritis³⁵⁻³⁶, breast, uterus, prostate and colon cancer^{34, 37-38}.

The adverse effects of obesity are not only medical. They can also affect quality of life for individuals, limited mobility and decreasing physical endurance³⁹. In addition negative attitudes toward obese still exist and often result in social, academic and job discrimination, work maladjustment, less chances for promotion, lower social support, lack of peer relationship and difficulties in finding a spouse⁴⁰⁻⁴³. Persons with obesity had significantly lower health related quality of life⁴⁴. On the other hand weight loss whether achieved by life style change medically or surgically is often associated with improvement of quality of life and mood⁴⁵⁻⁴⁶.

Obesity and mental health: Clinical experience suggests that morbidity obese persons seeking treatment for their obesity do have significantly more psychological problems than the normal population⁴⁷⁻⁴⁸.

Obese subjects were higher than the population average on somatic, anxiety, muscular tension, impulsiveness, and lower on socialization on the KSP scales. Also, this pattern was considered as an impulsiveness syndrome. The syndrome is characterized by an inability to learn from experience and a tendency for acting on the spur of the moment. Such individuals know how to behave, but can't act accord to the best of their knowledge. In addition their characteristics could explain the common obesity history of repeated attempt to lose weight with accompanying relapses⁴⁹.

Obese people can be characterized as having problems with interpreting their internal status, high variables moods, impulsiveness, a strong need for immediate satisfaction, high levels of anxiety, tension, and low adjustment to social norms⁵⁰.

Prevalence estimates of psychopathology are usually higher in obese people seeking weight treatment than in the population at large, and data from some uncontrolled studies of treatment seeking individuals estimate the lifetime prevalence of depressive disorder at 9.2-47.8%⁵¹⁻⁵².

According to National longitudinal alcohol epidemiologic survey 1992, adults aged 18 years or more, high MBI was inversely associated with past-year depression and suicide ideation in men, positive association were observed in women⁵³⁻⁵⁴.

In Alameda county study obesity in older adults in 1994 was associated with depression in 1995, after controlling age, sex, education, marital status, social support, life events, financial strain, chronic medical conditions and functional disability⁵⁵. Health and functional disability were the most important indicators of risk for depression in that report.

In addition, obesity was associated with past month depression in woman but wasn't significantly associated in men⁵⁶. Cilli et al. reported that the mean scores of anxiety and depression in obese patients were significantly higher than those of healthy subjects, and that worse mood status was associated with obesity⁵⁷. Also it was reported that obesity was associated with the increased risk for depression across gender and racial group⁵⁸. There was also positive correlation between BMI on one hand and anxiety, depression, lower self esteem, phobia on the other hand⁵⁹.

Actually being obese both in adolescence and adulthood may be a risk factor for depression among female subjects⁶⁰. Also Kloiber et al. reported that patients with major depression disorder had a significantly higher BMI compared with health controls⁶¹ and Ottar et al. found a positive perspective association of BMI with depression⁶². Among middle aged woman, depression is strongly and consistently associated with obesity, lower physical activity and higher calorie intake⁶³, where as adults with current depression or a life time diagnosis of depression or anxiety were significantly more likely than those without each diagnosis to be obese⁶⁴.

Obesity may also complicate treatment response and the course outcome of some psychiatric disorders, as obesity and bipolar disorder are correlated with a longer time to recovery, high risk of recurrence (notably for depression) suicidality and a greater number of prior affective episodes⁶⁵⁻⁶⁷. In addition, there is a positive association between obesity on one hand and depression, hostility on the other hand⁶⁸.

Limited epidemiologic data address the relationship between obesity and anxiety. Anxiety symptoms have shown positive association with obesity in community^{57, 69}.

Overweight and obesity are associated with stigma, decreased self regard, lower self esteem⁷¹⁻⁷⁴. There is also a change in self esteem of the moderately obese females who participated in the 16 week management program⁷⁵. Positive correlation was found between change in weight on one hand, social and self acceptance, and personal efficiency on the other hand.

Previous studies: A study among 41 obese and 42 normal-weight female

undergraduates examined the relation between level of anxiety and food consumption revealing that; a- obese subjects ate significantly less when highly anxious than when mildly anxious, their consumption when relaxed was at intermediate level. b- normal weight subjects ate similar amounts at all levels of anxiety⁷⁶.

In a comparison between obese weight-loss patients on the day they began a very low-calorie diet program to normal-weight adults on personality-related obsessive compulsive (OC) characteristics and food and eating-related cognitions, obese weight-loss patients tend to be obsessed with food, there was no evidence that traditional OC personality measures are related to obesity⁷⁷. In addition, comparing women, presenting as normal-weight bulimics, obese binge eaters, social phobics, and individuals with panic disorder on anxiety, depression and substance abuse using anxiety disorder interview schedule-revised, Michigan alcohol screening test, drug abuse screening test and self consciousness scale revealed that; a- a striking proportion of eating disorder subjects were comorbid for one or more anxiety disorders, b- generalized anxiety disorder and social phobia was the most frequent diagnosis⁷⁸.

Gunborg et al. In a personality traits study of female patients, seeking treatment for obesity, bulimia nervosa and alcoholic disorders in Stockholm using KSP Personality inventory indicated that the personality traits of women seeking treatment for obese, bulimic and alcoholic problems are very similar. Compared to the population average, they were more antisocial, more psychasthenic and were also more anxiety prone⁷⁹.

Testing the relationships between relative body weight and clinical depression, suicide ideation, and suicide attempts in an adult US general population sample, the outcome measures were past-year major depression, suicide ideation, and suicide attempts diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders. Results revealed a- relative body weight was associated with major depression, suicide attempts and suicide ideation although relationships were different for men and women. b- Among women, increased BMI was associated with both major depression and suicide ideation. c- Among men, lower BMI was associated with major depression, suicide attempts, and suicide ideation. d- There were no racial differences⁸⁰.

In addition analyzing the personality traits and psychological discomfort, 18 months after bariatric surgery in morbidity obese patients using the millon clinical multiaxial inventory revealed that people with morbid obesity after bariatric surgery share characteristics of personality disturbances and psychological discomfort, and that subtype of different personality dimensions are associated with wide groups of psychopathological symptoms⁸¹.

Matos et al. assessed the frequency of binge eating disorder (BED) or binge eating episodes (BEE), anxiety and depression in severely obese patients seeking treatment for obesity. Results revealed a- BED and BEE frequencies were 36% and 54%, respectively. b- symptoms of depression were detected in 100% of the patients, while severe symptomatology was found in 84% of the cases. c- The frequency of anxiety was 70% as a trait and 54% as a state⁸².

Dixon et al. examined depression before and after surgically induced weight loss. BDI was completed before and at yearly intervals after gastric-restrictive weight loss surgery and he concluded that a- severely obese subjects, especially younger women with poor body image, are at height risk for depression, b- Height BDI scores correlated with poorer physical and mental quality of life measures. c- Weight loss was associated with a significant and sustained fall in BDI²³.

The differences in self-esteem of severely obese men and women seeking gastric by pass surgery were assessed using the multi dimensional self-esteem inventory (MSEI), results revealed a- men felt significantly more lovable and better able to participate in loving relationship than women did, and felt a lesser amount of self control. b- women felt more able to preserve in life, more capable of setting and achieving goals, less distracted and more in control emotionally⁸³.

In a study of the relationship between being stigmatized, psychological and physical well-being, perceived stress, self esteem, body satisfaction and depression results revealed; a- the coping strategies the most frequently utilized included: avoidance, passivity, resignation and attempts to explain, b- Fifty one percent estimated that the impact of being stigmatized was greater than 50%, c- there was a positive correlation between being stigmatized and body dissatisfaction and depression⁷⁴.

Also examining the relationship between obesity and health related quality of life revealed that persons with obesity had significantly lower health related quality of life than those who were normal weight⁴⁴.

Gregory et al. evaluated the relationship between obesity and a range of mood, anxiety and substance use disorders in the US general population. Results revealed that obesity was associated with significant increases in life time diagnosis of major depression, bipolar disorder and panic disorder or agoraphobia, b- obesity was associated with significantly lower life time risk of substance use disorder. c- Variation across demographic groups suggested that social or cultural factors may moderate or mediate the association between obesity and mood disorder²⁴.

The association between obesity and socio-demographic determinants, psychological problems and mental disorders was studied in a representative German adult sample showing; a- prevalence of obesity was 18.5%, b- there was a strong association between obesity. Somatic conditions, anxiety and low socioeconomic status, c- no psychological disadvantages for the obese individuals were found, d- obese individuals showed no elevated rates of mental disorders⁸⁴.

Tuthill et al. aimed to assess the prevalence of psychological co-morbidities and impairment of quality of life in obese individuals seeking treatment at specialist clinic in two UK centres revealing that; a- there were elevated scores for depression in 48% and elevated scores for anxiety in 56%, b- 22% demonstrated scores suggestive of a personality trait that overlaps with an eating disorder, c- an additional 11.5% had an elevated score for bulimia, d- about a third of individuals had significant impaired quality of life⁸⁵.

Longitudinal tests of the effects of depression on follow-up obesity status were meta-analyzed revealing that after controlling the potential confounding

variables, depressed compared to non-depressed people were significantly higher risk for developing obesity⁸⁶.

Simon et al. evaluated the association between obesity and depression among middle aged women. Results revealed; a- prevalence of moderate or severe depression increased from 6.5% among those with body mass index under 25 to 25.9% among those with BMI over 35, b- prevalence of obesity increased from 25.4% among those with no depressive symptoms to 57.8% among those with moderate to severe depression, c- depression was associated with significantly higher daily calorie intake among those with BMI over 30⁶³.

HYPOTHESIS OF THE RESEARCH

1. There are statistically significant differences between obese women and normal weight women on the following, scales: somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism in favor of obese women.
2. There are statistically significant difference between obese women and normal weight women on life satisfaction, self esteem in favor of normal weight women.

SUBJECTS AND METHODS

The study was conducted at obesity clinic at King Abdel Aziz hospital in Jeddah. After general examination and weight-height measurement to (calculate BMI) female subjects of 20–40 age group were included in the study after consent. Subject with BMI <25, uneducated, pregnant or lactating

females, with history of psychiatric illness or currently on treatment from psychiatrist or endocrinologist were excluded from the study.

The final sample consisted of 50 obese patients with BMI 30 kgm^2 (20-40) age group (mean age 29.84, SD 5.32) and 50 normal weight with BMI $18-25 \text{ kg/m}^2$. Females with Normal BMI of 20-40 age group (mean age 29.42, SD 5.35) were included as a control group. The control group was selected from the females accompanying the obese patients.

Instruments:

To achieve the study aims the authors used the following Instruments:

1. *Symptom check list*⁸⁷ (SCL-90 R) is translated into Arabic by Abd Alrakib-Elbehiry. It is a 90 item check assessing psychological symptomatology. The SCL-90 is a widely used instrument consisting of nine symptoms dimensions; somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism participants were instructed to indicate how much distress each item on the SCL-90 R had caused on a 5 point scale ranging from 0 (not at all) to 4 (extremely).

2. *Beck Depression Inventory*: (BDI) was developed by Beck and translated into Arabic by Ahmed Abdel Khalek. It consisted of 21 items (each item consists of 4 instatements) which measured the characteristics attitudes and symptoms of depression. The BDI has been used for longer then 40 years as a measure of depression. It has been validated and used in a lot of studies⁸⁸⁻⁹¹.

3. *Self esteem Inventory* for adolescents and adults⁹². Its name was Texas social

behavior Inventory. It was translated into Arabic and it consisted of 32 statements which measure self esteem among adolescents and adults. Participants were asked to answer all statements by giving frank and accurate estimates on a 5 point scale ranging from 0 (not at all) to 4 (extremely) it has been validated and used in a lot of studies⁹³.

4. *Life satisfaction scale*⁹⁴: it consisted of 30 statements which measure life satisfaction. Participants were asked to answer all statements by giving frank and accurate estimates on a 5 point scale ranging from 4 (extremely) to 0 (not at all).

Standardization for the previous scale:

Reliability: The internal consistency for SCL full scales, BID, self esteem scale, life satisfaction scale in both obese and normal weight females (n=100).

Procedures:

The study took place within the period from the beginning of October 2008 to the end of January 2009. Scales were presented by the researchers individually to 50 (obese women) and 50 (normal weight women) from Jeddah (The second capital of Saudia Arabia Kingdom). The subjects were asked to answer each item. Responses from 100 women (50 obese women, 50 normal weight women) were statistically analyzed by use of SPSS.

RESULTS

The data was analyzed to obtain mean, standard deviation, (T) values.

Table (2) presents mean, standard deviation for SCL scales, self esteem, life satisfaction in obese women and normal weight women thus indicating the following:

1. For BMI the obese women had the highest mean.
 2. For somatization, obsessive compulsive, interpersonal sensitivity, Depression, anxiety, hostility, paranoid ideation, psychoticism the obese women had the highest mean.
 3. For self-esteem, life satisfaction the normal weight women had the highest means.
- The values presented in table (1) are consistently high.

Table 1:

Scales	Total Sample (N= 100)
Somatization	0.78
Obsessive compulsive	0.70
Interpersonal sensitivity	0.62
Depression	0.85
Anxiety	0.92
Hostility	0.74
Phobic anxiety	0.83
Paranoid ideation	0.61
Psychoticism	0.69
Beck Depression	0.90
Self esteem	0.85
Life satisfaction	0.87

Table (3) present T Test results. Comparing the mean scores of the two groups (obese women & normal weight women on the scales) showing Statistically significant differences between Obese women and normal weight women on:

1. BMI in favor of obese women.
 2. Somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, psychoticism in favor of obese women.
- Self esteem life satisfaction in favor of normal weight women.

Table 2: Mean scores and standard deviation on psychometric scales in the obese and normal weight groups.

Scales	obese		Normal weight	
	M	SD	M	SD
BMI	35.04	2.99	22.26	1.62
Somatization	20.22	5.74	10.08	4.45
Obsessive compulsive	18.92	5.69	9.26	3.14
Interpersonal sensitivity	15.02	6.42	10.14	3.52
Depression	24.50	8.75	13.60	5.03
Anxiety	18.15	5.66	9.90	4.39
Hostility	11.56	4.37	6.52	2.97
Phobic anxiety	6.76	4.10	6.34	3.43
Paranoid ideation	9.02	4.61	5.20	2.37
Psychoticism	13.74	6.35	6.80	4.05
Beck Depression Inventory	26.48	8.75	15.08	4.53
Self esteem	26.61.8	17.37	48.90	12.82
Life satisfaction	56.48	17.06	74.76	12.35

DISCUSSION

There were statistically significant differences between obese and normal weight women on somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, psychoticism in favor of obese women. These results are inconsistent with the previous studies which found that obese subject were higher than the population average on somatic, anxiety impulsiveness⁴⁹ and were comorbid for one or more anxiety disorders⁷⁸. Also obese were more psychasthenia and were also more anxiety prone⁷⁹ and there was a positive correlation between obesity on one hand, hostility, depression on the other hand⁶⁸. Also women with increased BMI

were associated with major depression and anxiety as a trait^{24, 57, 61, 63, 69, 80, 82, 84, 86}. These results could explain the common

obese history of repeated attempt to lose weight with accompanying relapse.

Table 3: T Test comparing the mean scores of the two groups on psychometric scales.

Scales	Obese		Normal weight		T
	M	SD	M	SD	
BMI	35.04	2.99	22.26	1.62	26*.50*
Somatization	20.22	5.74	10.08	4.45	9*.86*
Obsessive compulsive	18.92	5.69	9.26	3.14	10*.49*
Interpersonal sensitivity	15.02	6.42	10.14	3.52	4*.70*
Depression	24.50	8.75	13.60	5.03	7*.63*
Anxiety	18.15	5.66	9.90	4.39	8*.12*
Hostility	11.56	4.37	6.52	2.97	6*.73*
Phobic anxiety	6.76	4.10	6.34	3.43	0.55
Paranoid ideation	9.02	4.61	5.20	2.37	5*.20*
Psychoticism	13.74	6.35	6.80	4.05	6*.50*
Beck Depression Inventory	26.48	8.75	15.08	4.53	8*.17*
Self esteem	61.86	17.37	48.90	12.82	7*.54*
Life satisfaction	56.48	17.06	74.76	12.35	6*.15*

* 0.05

** 0.01

DISCUSSION

There were statistically significant differences between obese and normal weight on self esteem in favor of normal weight. This result is going along with some researchers who reported that overweight and obesity are associated with stigma, decreased self regard, lower self esteem⁷⁰⁻⁷⁴.

There were statistically significant differences between obese and normal weight on life satisfaction in favor of normal weight. This result is going along with Himes et al. who reported that obesity affect quality of life for individuals, limited mobility, and decreasing physical endurance³⁹. Our result are agree with those of who reported that negative attitudes toward obese still exist and often result in social, academic and job discrimination, work maladjustment, less chance for promotion, lower, social support, lack of

peer relationship and difficulties in find a spouse⁴⁰⁻⁴³.

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