

ANXIETY AND DEPRESSION IN RELATION TO BODY MASS INDEX

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ABSTRACT

OBJECTIVE

To determine the frequency of Anxiety and Depression in relation to Body Mass Index among clients reporting to a Tertiary Care Hospital at Malir Karachi.

STUDY DESIGN

Cross-sectional

PLACE AND DURATION OF STUDY

The study was conducted at the outpatient Department (OPD), Department of Medicine and allied, Al-Tibri Medical College and Hospital, Malir, Karachi, from 10th April 2017 to 9th October 2017.

SUBJECTS AND METHODS

Total 100 cases of both genders were enrolled in the study fulfilling inclusion and exclusion criteria. Anxiety and Depression were assessed by Hospital Anxiety and Depression scale. BMI was measured through formula based on height and weight. The data was analyzed on SPSS version 20.0

RESULTS

Average age of the enrolled cases was 50.35 ± 8.85 , 39% of them were males while 61% were females. Amongst all 63% were married while 37% were single. 19% of the sample was having BMI between 20-24.9 kg/m², 38% were overweight having BMI 25-28.9 kg/m² and 43% were obese having BMI greater than 29 kg/m². Anxiety was found to be normal in 23%, borderline in 43% and abnormal in 34% of the sample. Depression was normal in 29%, borderline in 33% and abnormal in 38%.

CONCLUSION

From this study, it is concluded that although Anxiety and Depression are prevalent among patients of high Body Mass Index but statistically not significantly associated.

KEY WORDS

BMI, Medical patients, Psychiatric symptoms.

INTRODUCTION

Anxiety, Depression and obesity are common issues in significant general well-being concerns. All conditions are profoundly connected with distress, mortality and also have a financial part of practical impedance and medicinal services expenditure¹. A few researches point to a connection amongst heftiness and the seriousness of depressive episode and nervousness as side effects in adolescents and adults², however there are still some disputable focuses about this affiliation. While a few investigations propose that expanded weight fundamentally is a noteworthy determinant of mental health symptoms³. In one of the early studies, Fresh and McGuinness⁴ found that human weight was identified with low levels of anxiety in both moderately aged ladies and men and to low levels of depression in men. Obesity and depression are two noteworthy general medical issues.

The evidence published in Lancet Digital Health, showed the association between obesity and other mental and health related diseases⁵. Since obesity and depression both convey a hazard for cardiovascular sickness, a conceivable relationship between both has been expected and studied⁶. A few confirmation based examinations have demonstrated that fatty adolescents have a higher frequency of psychological well-being issues, for example, misery, tension, and poor confidence than non-large teens⁷. A good conclusion is that obesity ought to foresee melancholy, yet the discoveries are not clear⁸. As a general rule, few examinations have discovered that obesity anticipated sadness after some time; the meta-investigation affirms an equal connection amongst depression and obesity. Obesity was found to build the danger of depression, most articulated among Americans.

Furthermore, depression was observed to be prescient of creating obesity⁹. There are different reports in literature, some suggest that there is strong link between obesity, mood and emotional disorders while others suggest vice versa. So this study is designed to determine the association between two.

SUBJECTS AND METHODS

Participants

This descriptive cross-sectional study conducted at Out-patient Department (OPD) of Department of Medicine and Allied, Al-Tibri Medical College Hospital and Institute of Behavioral Sciences (IBS), Dow University of Health Sciences, Karachi from 10th April 2017 to 9th October 2017 enrolled 100 patients through non-probability (consecutive) sampling technique. Sample was calculated through standard sample size calculator. Inclusion criteria were patients of both genders of age ranging between 18 and 60 years reporting to medical OPD for usual visits to be included in the study. Exclusion criteria were patients who were diagnosed as having major physical illnesses such as Diabetes, Chronic Liver Disease, Renal diseases or any Endocrine disorder to be excluded from study.

Instruments

Hospital Anxiety and Depression scale is a validated tool used by clinicians to rule out depression and anxiety. This scale has 14 items; 7 for anxiety and 7 for depression. Each item has 0 to 3 scoring. The cut of score for anxiety and depression was 7. Patients who scored 7 or below were normal having no anxiety or depression, those scored between 8 and 10 were borderline while scoring 11 and above was abnormal for anxiety or depression. The ethical considerations were taken during study and informed consent was taken from clients. Ethical approval was taken from institute ethical committee. The data was analyzed on SPSS version 17 and chi square test was applied.

Procedure

Permission was sought from ethical review committee of the institution and informed consent was taken, afterwards all participants were examined thoroughly, BMI calculated as per formula, Anxiety and Depression were assessed by applying Hospital Anxiety and Depression Scale. The participants were thanked for the participation and data were entered to SPSS to analyze.

RESULTS

Most of the patients' age was in the range of 30 to 50 years with average of 50.35 ± 8.85 years. Out of 100 cases 39 (39%) were males and 61 (61%) were females. Among total of 100 patients, 63 (63%) were married, 37(37%) were single. Majority of patients were graduated and were professional worker or household by occupation and Panjabi and Sindhi speaking ethnicity (see table 1 for details).

Among 100 patients of 19 (19%) were having BMI between 20-24.9 kg/m², 38 (38%) were overweight having BMI 25-28.9 kg/m² and 43 (43%) were Obese having BMI greater than 29 kg/m². Anxiety as assessed through Hospital Anxiety and Depression Scale was found to be 23 (23%) normal, 43 (43%) borderline and 34 (34%) were abnormal for anxiety. Depression as assessed by Hospital Anxiety and Depression Scale was 29 (29%) were normal, 33 (33%) were borderline and 38 (38%) were abnormal for depression. Statistically Anxiety and Depression were not significantly associated with BMI on chi square test (table 2 & 3).

Table 1
Demographic Characteristics

Demographic Characteristics	n (%)
Marital status	
Single	37(37.0%)
Married	63(63.0%)
Education status	
Preliterate	11 (11.0%)
Primary	08 (8%.0)
Middle	05 (5%.0)
Matric	14 (14.0%)
Intermediate	22 (22.0%)
Graduate	36 (36.0%)
Postgraduate	04 (4.0%)
Occupation status	
Jobless	15 (15.0%)
Student	20 (24.0%)
Household	28 (34.0%)
Skilled Professional	19 (19.0%)
Unskilled Professional	13 (16.0%)
Shopkeeper	05 (5.0%)
Language	
Balochi	13 (07.70)
Pashto	03 (22.20)
Punjabi	43 (16.90)
Sindhi	25 (23.70)
Urdu	16 (29.50)

Table 2
Association of Depression with Body Mass Index

Body Mass Index	Depression (Hospital Anxiety and Depression Score)			Total	p-value
	0-7 (Normal)	8-10 (Borderline)	11-21 (Abnormal)		
20-24.9	6	8	4	18	0.617
25-29.9	11	11	17	39	
30 and above	12	14	17	43	
Total	29	33	38	100	

Table 3
Association of Anxiety with Body Mass Index

Body Mass Index	Anxiety (Hospital Anxiety and Depression Score)			Total	p-value
	0-7 (Normal)	8-10 (Borderline)	11-21 (Abnormal)		
20-24.9	5	9	4	18	0.522
25-29.9	6	18	15	39	
30 and above	12	16	15	43	
Total	23	43	34	100	

DISCUSSION

There is dubious writing with respect to relationship of obesity and common mental health issues, for example, anxiety and depression, so this study intended to assess this. We have found that 43 % of our sample was obese having BMI over 29.9 kg/m². The recurrence of

anxiety and depression was 34% and 38% respectively utilizing Hospital anxiety and depression scale. Factually relationship of anxiety and depression with obesity was not noteworthy. Similar outcomes have been seen in numerous past studies¹⁰. The connection amongst obesity and anxiety and depression has been broadly contemplated as of late, and a bidirectional affiliation appears unequivocal¹¹ and same has been seen here as well.

As of late, a couple of studies have shown that depressive symptoms might be an essential indicator of abdominal obesity^{12,13}. The most adequate speculation for this relationship includes the hypothalamus pituitary-adrenal (HPA) axis. As an interminable stressor, temperament issue may change cortisol emission by incitement of the HPA axis. This rise in serum cortisol can build stomach fat affidavit, promoting glucose intolerance and hypertension¹⁴. However, the lack of correlation between depression, anxiety and visceral fat has been demonstrated¹⁵. Further studies are necessary to replicate and clarify this issue. Like this study it has been assumed that any association of obesity to anxiety and depression in the general public is commonly coincidental, but in an analysis by Luppino and colleagues evidenced the effect of overweight on depression was more high-lighted in American researches¹⁶. They showed that there could be possibility of a biological link between overweight, obesity and depression. In our current study there is no association of anxiety or depression found with overweight or obesity and same is evidenced in another study conducted at Canada in which same results were observed¹⁷.






CONCLUSION

Department is burdened with forensic cases that may be managed at other appropriate places. Society and policy makers need to be sanitized in order to make a frame work for patients having mental disorder to avoid them ending as criminals or being involved in other forensic issues. Prisons should be more reform oriented than punitive natured to save prisoners from developing mental disorders.

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