

Assessment of Prevalence of Various Depressive Symptoms in Obese Patients

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ABSTRACT

Background: According to World Health Organization (WHO), depression is amongst the leading reasons for disability and affects about 121 million people worldwide at any moment of time. Many studies conducted in the past have shown an increased association of depression and other psychological illness amongst obese subjects although the exact relationship is still unclear. The aim of the present study is to establish the prevalence of depressive symptoms amongst obese subjects.

Materials and Methods: The present study was conducted using a cohort of 200 subjects. This study was conducted for 3 months duration in the Department of Physiology, NIMS, Jaipur, Rajasthan. A complete demographic detail was obtained from all the subjects. Body mass index was assessed by dividing weight in kilograms divided by height in square meter. Beck Depression Inventory was used for the assessment of rate of depression. All the data was arranged in a tabulated form and analysed using SPSS software.

Results: The male to female ratio in both the groups was 1:1. The mean age amongst normal subjects was 34.6+/-2.65 years and amongst obese subjects were 35.9+/- 3.18 years. The mean BDI amongst males and females in normal group was

9.90+/- 7.36 and 11.50+/- 7.30 respectively. The mean BDI amongst normal and obese subjects between 20-30 years was 12.10+/- 8.40 and 11.40 +/- 9.78 respectively. The mean BDI amongst normal and obese subjects between 31-40 years was 11.17+/- 8.77 and 10.68+/- 6.90 respectively.

Conclusion: In our study there was no significant difference between depression rate amongst obese and normal subjects.

Keywords: Depression, Demographic, Obesity.

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INTRODUCTION

Obesity is a serious public health concern affecting approximately 32.2% of Americans.¹ Obesity has been linked with negative health issues^{2,3}, functional problems⁴, and an elevated mortality.⁵ It is the most frequent chronic physical condition of the modern society, and depression is the most common psychological illness.⁶ According to World Health Organization (WHO), depression is amongst the leading reasons for disability and affects about 121 million people worldwide at any moment of time⁷ and this is causing a huge burden on society leading to huge economic costs, around the world.⁸ Various longitudinal studies have shown that obesity leads to the subsequent onset of depressive symptoms.⁹ Individuals suffering from both obesity and depression carry higher risks to health and wellness. These conditions promote each other and hence carry an increased risk of loss of function. Obesity increases risk of depression and vice versa. Understanding the association between obesity and depression is important for managing subjects suffering from both.

Many studies conducted in the past have shown an increased association of depression and other psychological illness amongst obese subjects although the exact relationship is still unclear.¹⁰ In a study conducted by Simon and his colleagues¹¹ to establish relationship between obesity and anxiety amongst American subjects found that obesity was associated with a 25% increased odds ratio of anxiety disorders and they concluded that this is due to socio cultural variation between the groups. The aim of the present study is to establish the prevalence of depressive symptoms amongst obese subjects.

MATERIALS AND METHODS

The present study was conducted using a cohort of 200 subjects. This study was conducted for a 3 months duration in the Department of Physiology, NIMS, Jaipur, Rajasthan. The study included subjects between 20-60 years of age and out of 200 subjects, 100 were obese with body mass index of more than 30

and 100 had normal body mass index. Ethical committee clearance was obtained from institutional ethical board and all the subjects were informed about the study and a written consent was obtained from all in their vernacular language. All the subjects were age and gender matched. A complete demographic detail was obtained from all the subjects. Body mass index was

assessed by dividing weight in kilograms divided by height in square meter. Beck Depression Inventory was used for the assessment of rate of depression. All the data was arranged in a tabulated form and analysed using SPSS software. Chi square test was used to analyse the results. P value of less than 0.05 was regarded significant.

Table 1: Showing demographic details of the subjects

Demographics	Normal subjects	Obese subjects	P value
M:F	1:1	1:1	>0.05
Mean age	34.6+/-2.65	35.9+/- 3.18	>0.05
Marital status			
Single	30%	32%	>0.05
Married	70%	68%	>0.05
BMI	22.8+/-3.76	32.6+/-2.11	<0.05

Table 2: Showing the mean depression rate amongst obese and normal subjects according to gender

Mean Depression (BDI Score)	Normal subjects	Obese subjects	P value
Males	9.90+/- 7.36	11.30 +/- 9.88	>0.05
Females	11.50+/- 7.30	12.20 +/- 8.74	>0.05

Table 3: Showing the mean depression rate amongst obese and normal subjects according to Age group

Mean Depression (BDI Score)	Normal subjects	Obese subjects	P value
20-30 years	12.10+/- 8.40	11.40 +/- 9.78	>0.05
31-40 years	11.17+/- 8.77	10.68+/- 6.90	>0.05
41-50 years	11.30+/- 5.70	13.45+/- 10.15	>0.05
51-60 years	9.68+/-5.80	10.01+/- 6.99	>0.05

RESULTS

The study consisted of 200 subjects with the mean age of 38.32 +/- 4.33 years. Table 1 shows the demographic details of the subjects. The male to female ratio in both the groups was 1:1. The mean age amongst normal subjects was 34.6+/-2.65 years and amongst obese subjects were 35.9+/- 3.18 years. There was no significant difference between the two groups. There were 30% of the normal and 32% of obese subjects single. Rest of the subjects in both the groups were married. The mean BMI amongst normal subjects was 22.8+/-3.76 and amongst obese subjects was 32.6+/-2.11. There was a significant difference in BMI amongst both the groups.

Table 2 shows the depression scores amongst and normal subjects according to gender. The mean BDI amongst males and females in normal group was 9.90+/- 7.36 and 11.50+/- 7.30 respectively. The mean BDI amongst males and females in obese group was 11.30 +/- 9.88 and 12.20 +/- 8.74 respectively. On applying chi square test there was no significant difference between the groups as p value was more than 0.05.

Table 3 shows the mean depression rate amongst obese and normal subjects according to Age group. The mean BDI amongst normal and obese subjects between 20-30 years was 12.10+/- 8.40 and 11.40 +/- 9.78 respectively. The mean BDI amongst normal and obese subjects between 31-40 years was 11.17+/- 8.77 and 10.68+/- 6.90 respectively. The mean BDI amongst normal and obese subjects between 41-50 years was 11.30+/- 5.70 and 13.45+/- 10.15 respectively. The mean BDI amongst normal and obese subjects between 51-60 years was 9.68+/-5.80

and 10.01+/- 6.99 respectively. There was no significant difference in the BDI score between obese and normal subjects as p value was more than 0.05.

DISCUSSION

Various surveys have indicated a high depression rate amongst obese subjects, however this study did not show any difference in the depression rate amongst the obese and normal weight subjects. In our study, the mean BDI amongst normal and obese subjects between 20-30 years was 12.10+/- 8.40 and 11.40 +/- 9.78 respectively. The mean BDI amongst normal and obese subjects between 31-40 years was 11.17+/- 8.77 and 10.68+/- 6.90 respectively. The mean BDI amongst normal and obese subjects between 41-50 years was 11.30+/- 5.70 and 13.45+/- 10.15 respectively. The mean BDI amongst normal and obese subjects between 51-60 years was 9.68+/-5.80 and 10.01+/- 6.99 respectively. There was no significant difference in the BDI score between obese and normal subjects as p value was more than 0.05. Our present study did not reveal any significant affect of age and gender. Studies conducted by Kress et al also confirmed no significant relationship between two.¹² In a study by Wardle & Cooke (2005)¹³ concluded that level of body dissatisfaction were more amongst overweight children and adolescents than amongst normal-weight counterparts, there were only a few that had low self-esteem. Various studies conducted by Fabricatore & Wadden et al, McElroy et al and Friedman et al have suggested that female gender are a potential risk factor for depression amongst the obese subjects.¹⁴⁻¹⁶ Studies have also shown a

positive effect of weight loss on depression, however there is no such evidence that this is due to weight loss as such. In our study, the mean BDI amongst males and females in normal group was 9.90+/- 7.36 and 11.50+/- 7.30 respectively. The mean BDI amongst males and females in obese group was 11.30 +/- 9.88 and 12.20 +/- 8.74 respectively. On applying chi square test there was no significant difference between the groups as p value was more than 0.05. There is no single association factor association between obesity and depression rate.¹⁷ There are various aspects of obesity that have a combined effect like severity, socio economic class, amount of physical activity, stress etc.¹⁸ In a recent study, weight loss during the initial 3 months was associated with improved mood but after a two year followup the average mood didn't show any correlation with weight change.¹⁹ Psychosocial and cultural factors play a significant role in leading to depression as in communities where physical appearance is not of paramount importance due to religious beliefs obesity will not deprive subjects of their social benefits. Thus it will not cause depressive symptoms or psychological pressure. A clear understanding of obesity and depression is required to remove the depressive symptoms from root.

CONCLUSION

Obesity does not lead to depression. In our study there was no significant difference between depression rate amongst obese and normal subjects. Though obesity is a public health concern but no association has been established between obesity and depression per se.

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