A study of depression level between obese and normal female students

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Abstract
The aim of the present study is to find out the Depression Level among the obese and normal female college students. It is being observed that due to obesity they feel somewhat complex in their group as compare to other female students and also this triggers depression in their mind. Hence, young girls are very much conscious about their health and outer appearance. For the present study 20 normal and 20 obese female students of 18 to 28 years of age were selected by adapting purposive sampling technique. So, to assess the effect of obesity on depression level of young female students this study was undertaken.

The criterion for selection of topic was based on the WHO classification of Body Mass Index (BMI) in which BMI between 18-31 was considered to be normal weight and overweight while BMI is greater than 32 considered to be obese. To assess Depression level, Center for Epidemiologic studies Depression scale (CES-D), NMH was used. Results showed that Depression level of obese female students was significantly higher as compared to normal weight female students.

Keywords: Depression, Obese, Body Mass Index

Introduction
In the modern era people are living a sedentary lifestyle because of over mechanization, modernization and automation. This paradigm shift has been witness since the industrialization, excessive urbanization that ultimately paved the way for inventing newer technologies, gadgets and instruments and this is the main reason of obesity among all the aged group people alike and obesity turns into different ailments that poses serious threats to health. Another reason is that economical activities shifted from agrarian to industrial dependability. In the last century there has been tremendous growth witnessed in Industrialisation.

In this way his/her wellness is being paralyzed physically, mentally, and rationally, in addition, men and women are loosing stamina and adaptability. The reason being noticed is the absence of physical exercise as everything is in finger tips due to mobile technology as shopping and buying the products is so easy that everything is made available online one needs not to step out to buy anything.

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and sense of well-being. Depressed mood is not necessarily a psychiatric disorder. It may be a normal reaction to certain life events, a symptom of some medical conditions as well. Obesity is a medical condition in which excess body fat accumulates to the extent that it can have an adverse effect on health, leading to reduced life expectancy and/or increased health problems. Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis. And also it increases the depression level of mankind.

In this scenario young girls are very much conscious about their health and mainly their outer appearance and due to obesity they feel somewhat complex from others in their group and sometime this can arise depression in their mind.

So, to assess the effect of obesity on depression level of young female students this study was undertaken.
Hypothesis
It was hypothesized that Depression level will be significantly higher in obese female students as compared to normal weight female students.

Methodology
The following methodological steps were followed in order to conduct the present study.

Selection of subjects
For the present study, 20 obese and 20 normal weight female students of 18 to 28 years of age from various colleges of Jalgaon District were selected as the subject for the present study.

Tools and Materials
Following tools were used to fulfill the objectives of the study-

(i) Body Mass Index
In order to classify subjects into normal and obese categories, WHO’s classification for Body Mass Index was adopted in the present study. The international classification of overweight and obesity proposed by the world health organization is given below-
According to the WHO, a BMI less than18.5 is defined as underweight, 18.5-24.9 as normal weight, 25.0-29.9 as overweight, and above 30.0 as obese.
To determine B.M.I total body weight was recorded in kilograms by using weight machine and height was noted down in meters by using stadiometer

(ii) Center for Epidemiologic Studies Depression Scale (CES-D), NIMH
To assess Depression level of the selected subjects Center for Epidemiologic Studies Depression Scale (CES-D), NIMH was used.

Collection and Tabulation of Data
The data pertaining to this study were collected by applying the above mentioned tools and materials. B.M.I was calculated by using this formula:-

\[
BMI = \frac{\text{Total body weight in kg}}{\left(\text{Body weight in meters}\right)^2}
\]

According to the aforesaid scale subject were categorized. By administrating CES-D questionnaire, data were then collected on the basis of key scores were recorded.

Finding
To determine the significant difference between the means of obese and normal female students in depression independent t- test was applied and hypothesis were tested at 0.05 level of confidence. Description of mean difference is given in Table-1

### Table 1: Mean, Standard Deviation and t-ratio for the Data on Depression of Obese and Normal female Students.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>S.D</th>
<th>M.D</th>
<th>S.E</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese</td>
<td>29.66</td>
<td>5.19</td>
<td>10.22</td>
<td>1.34</td>
<td>7.44*</td>
</tr>
<tr>
<td>Normal and Over weight</td>
<td>19.29</td>
<td>3.21</td>
<td>10.22</td>
<td>1.34</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at .05 levels.
Tabulated t (38) = 2.025

It is evident from the above table that the mean and standard deviation of obese group are 29.66 and 5.19 respectively. On the other hand the mean and standard deviation of normal group are 19.29 and 3.21.

The finding of this statistical analysis also indicates that the calculated t-value of 7.44 is quite higher than the tabulated t-value of 2.025 for the 38 degrees of freedom at.05 level of confidence, therefore, it is inferred that there is a significant difference between the means of obese and normal female students in the state of depression. It is also learnt from the above table that obese female students (M=29.66) showed significantly higher depression compared to the normal female students (M=19.29)

Discussion of findings
The finding of statistical analysis revealed that obese female students were significantly more depressed as compared to normal, this significant difference may be attributed to the fact that the obesity is the result of accumulation of adipose tissue just beneath the skin as well as inner walls of the blood vessels which lead to create problems with the blood circulation respiration, digestion and so many physiological functions as sociological point of view obese persons always keep worry with their physical look appearance social adjustment and so on so forth, hence such finding occurs in this study.

Conclusion
In the conclusion of result, it may be concluded that obese female are little more depressed as compared to normal weight female students.

References