CHAPTER-4

RESULTS AND DISCUSSIONS

The present study has been undertaken mainly to evaluate dietary pattern and physical fitness of Obese and Non-obese working women. The study focussed on to evaluate the health related fitness of the subjects. Furthermore, the study attempted to evaluate and compare the intake of major nutrients in the diets of Obese and Non-obese working women in addition to assessing the amount of activity undertaken and the subsequent energy expenditure of the subjects. An attempt has been made to examine that if any relationship exists between dietary intake, lifestyle activity, health related fitness and socio economic status of Obese and Non-obese subjects.

4.1 General Profile of Respondents

4.1.1 Distribution of Respondents According to the Age

Table 4.1.1 highlighted the distribution of teaching (T) and non-teaching (NT) respondents according to their age category. Majority of the teaching respondents are Pre-obese (43) respondents followed by Normal (32) and Obese respondents (25). In G-I_T, the percentage of the Normal respondents (23) came out to be higher as compared to Pre-obese (19) and Obese (12) respondents. In G-II_T, most of the respondents are Pre-obese (24) followed by Obese (13) and Normal (9). In case of non-teaching respondents, most of them were Normal (47) followed by Obese (32) and Pre-obese (21). In G-I_NT the percentage of the Normal respondents found to be higher in comparison to Obese respondents (14). In G-II_NT most of the respondents were Normal (24) followed by Obese (18) and Pre-obese (12). Overall, it was inferred that majority of the Pre-obese respondents belong to G-II_NT as compared to respondents in G-I_NT.

4.1.2 Distribution of Respondents According to Educational Qualification

Table 4.1.1 lime lighted the distribution of teaching and non-teaching respondents according to educational qualification. In total, most of the teaching respondents were Pre-obese respondents (43), out of which UG (0), PG (36), Ph.D. (7) which has followed by Normal (32) and Obese respondents (25). Further, it inferred that majority of the teaching respondents were post graduates (88) followed by Ph.D. (12). None of the respondents was under graduate in any of the respondent category whether it was Normal, Pre-obese and Obese.
### Table 4.1.1: General Profile of Respondents

| General Profile | Teaching | | | | | | Non-Teaching | 
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Normal | Pre-obese | Obese | Total | Normal | Pre-obese | Obese | Total | 
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Age | | | | | | | | | | | | | | | 
| Group-I | 23 | 23 | 19 | 19 | 12 | 12 | **54** | **54** | 23 | 23 | 9 | 9 | 14 | 14 | **46** | **46** |
| Group-II | 9 | 9 | 24 | 24 | 13 | 13 | **46** | **46** | 24 | 24 | 12 | 12 | 18 | 18 | **54** | **54** |
| Total | 32 | 43 | 25 | 100 | 47 | 21 | 32 | 100 | 

| Educational Qualification | | | | | | | | | | | | | | | 
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | UG | | | | | | | | | | | | | | 
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 29 | 2 | 2 | 10 | 10 | **41** | **41** |
| | PG | | | | | | | | | | | | | | 
| | 30 | 30 | 36 | 36 | 22 | 22 | **88** | **88** | 18 | 18 | 19 | 19 | 22 | 22 | **59** | **59** |
| | Ph.D. | | | | | | | | | | | | | | 
| | 2 | 2 | 7 | 7 | 3 | 3 | **12** | **12** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 32 | 43 | 25 | 100 | 47 | 21 | 32 | 100 | 

| Marital Status | | | | | | | | | | | | | | | 
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Married | | | | | | | | | | | | | | 
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| | 32 | 32 | 43 | 43 | 23 | 23 | **98** | **98** | 45 | 45 | 20 | 20 | 29 | 29 | **94** | **94** |
| | Unmarried | | | | | | | | | | | | | | 
| | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 3 | 3 | **6** | **6** |
| Total | 32 | 43 | 25 | 100 | 47 | 21 | 32 | 100 | 

| Family type | | | | | | | | | | | | | | | 
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nuclear | | | | | | | | | | | | | | 
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| | 20 | 20 | 34 | 34 | 14 | 14 | **68** | **68** | 30 | 30 | 5 | 5 | 17 | 17 | **52** | **52** |
| | Joint | | | | | | | | | | | | | | 
| | 12 | 12 | 9 | 9 | 11 | 11 | **32** | **32** | 17 | 17 | 16 | 16 | 15 | 15 | **48** | **48** |
| Total | 32 | 43 | 25 | 100 | 47 | 21 | 32 | 100 | 

Source: Compiled with SPSS Software and Ms-excel

In case of non-teaching respondents, most of them were Normal (47) out of which UG (29), PG (18) and Ph.D. (0) followed by Obese (32) and Pre-obese (21). Overall, it was inferred that 59 percent of the non-teaching respondents were post graduates as compared to under graduates (41). It was pertinent to mention here that the percentage of Ph.D. respondents came out to be nil.
4.1.3 Distribution of Respondents According to Marital Status

Table 4.1.1 presented distribution of respondents according to their marital status. Out of total 200 respondents, 192 respondents comprising 98 teaching and 94 non-teaching respondents were married and rest of the 8 respondents of which teaching (2), non-teaching (6) were unmarried. Furthermore, it was found that the number of married Pre-obese respondents is much higher in case of teaching than the non-teaching respondents.

4.1.4 Distribution of Respondents According to Family Type

Table 4.1.1 highlighted distribution of respondents according to their family type. In total, most of the teaching respondents were Pre-obese respondents (43), out of which 34 respondents belong to nuclear families and 9 respondents belong to joint families followed by 20 (nuclear) and 12 (joint) from Normal (32) and 14 (nuclear) and 11 (joint) from Obese (25) respondents. It was inferred that 68 percent of the teaching respondents had nuclear families in comparison to respondents with joint families (32 per cent).

In case of non-teaching respondents, out of Normal (47), 30 respondents had nuclear and 17 respondents had joint families followed by Obese (32) comprising 17 (nuclear) & 15 (joint); and Pre-obese (21) with 5 (nuclear) & 16 (joint). It was further inferred that 52 percent of the non-teaching respondents had nuclear families and rest of 48 percent respondents had joint families which is higher than the percentage in teaching respondents.

4.2 Distribution of Respondents Regarding Prevalence of Obesity

A total number of 200 female respondents were divided into two categories i.e. 100 from teaching and 100 from non-teaching. Table 4.2.1 depicted various attributes of obesity into three categories i.e. Normal, Pre-obese and Obese as per recommended critical limits of BMI by WHO. As per Table 4.2.1, the least number of teaching respondents fall in the group of Obese i.e. 25% followed by Normal (32%) and Pre-obese group respondents (43%). Out of the total of 100 non-teaching respondents, maximum number of respondents (i.e. 47%) falls in the group of Normal followed by obese respondents (32%) and least number of respondents fall in the group of Pre-obese (21%). The overall prevalence of obesity found in obese people was 25% respondents in teaching and 32% respondents in non-teaching whereas the total percentage of Obese people came to be 28.5% out of 200 respondents.
Table 4.2.1: Distribution of respondents regarding Prevalence of Obesity

<table>
<thead>
<tr>
<th>Categories</th>
<th>Teaching</th>
<th></th>
<th>Non-Teaching</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Normal</td>
<td>32</td>
<td>32%</td>
<td>47</td>
<td>47%</td>
<td>79</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>43</td>
<td>43%</td>
<td>21</td>
<td>21%</td>
<td>64</td>
</tr>
<tr>
<td>Obese</td>
<td>25</td>
<td>25%</td>
<td>32</td>
<td>32%</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
<td>100</td>
<td>100%</td>
<td>200</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

The percentage of obesity prevails more in non-teaching as compared to teaching respondents. The available data on prevalence of obesity from different published studies ranged from 10% to 50%. Eighteen percent of the women were classified as at the risk of obesity, 31% and 16% of the women were classified as Obese – I and Obese – II categories respectively (Parimalavalli et al., 2009). Anuradha et al. (2011) reported that the prevalence of obesity in Chennai urban population indicated that 22.8% males and 31.8% females were Obese respectively. Further, Vijayalakshmi et al. (2005) reported that, among the middle adulthood women, 14%, 28% and 11% were found to be at risk of obesity, Obese-I and Obese –II categories, respectively. In total, study reported 53% obesity among middle adulthood women. Sudhera and Sidhu (2012) reported the prevalence of obesity on the basis of various anthropometric variables among young adult Jat-Sikh females of Punjab. The observations revealed that the prevalence of under nutrition, overweight and obesity according to BMI in young adult females was 21.3%, 20% and 10.7%, respectively. The prevalence of abdominal obesity according to the WC and WHR was 34% and 57% respectively.

4.3 Obesity Measures among Teaching and Non-Teaching Respondents

Table 4.3.1 exhibited the various anthropometric measurements of obesity of teaching respondents. The respondents are further classified in two groups i.e. Group – I (G-I) and Group – II (G-II) with respect to the range of age. The mean weight of G-II (T) among Normal teaching respondents found to be higher (58.78 kg) as compared to the G- I (T) 53.61 kg whereas in Pre-obese respondents, the mean weight of 66.32 kg in G-II (T) was almost equal to that of 66.30 kg in G-I (T). As far as the weight of the Obese teaching respondents are concerned, the trend remained the same i.e. mean weight of G-II (T) 80.73
kg) was little higher than that of the 79.60 kg in G-I(T). Hence, it was concluded that the mean weight among each type of respondents whether they were Normal, Pre-obese or Obese were increasing with increasing age. The mean height of G-II(T) among Normal respondents was higher (160.03 cm) as compared to (157.24 cm) of G-I(T). As far as Pre-obese respondents are concerned, the mean height (155.80 cm) of G-I(T) was lesser than (155.95 cm) of G-II(T). Among the Obese respondents, the mean height (157.65 cm) of G-II(T) was quite higher as compared to (154.14 cm) of G-I(T).

The mean BMI of Normal respondents (22.93) in G-II(T) was little above than that of G-I(T) i.e. 21.71 (Table 4.2). The mean BMI of Obese respondents in G-I(T) and G-II(T) (33.52, 32.41 respectively) were much higher than the Pre-obese teaching respondents (27.32, 27.24 respectively). The table also highlighted that mean BMI was increasing with the increment in weight in each group of respondents with respect to both of groups.

Another section of Table 4.3.1 represented waist circumference (WC) and waist hip ratio (WHR) of teaching respondents. The mean WC of Normal respondents under G-II(T) was found to be 79.19 cm much higher than 77.89 cm in G-I(T). In G-II(T), the waist circumference (WC) of Obese was found to be 95.49 cm which is little higher than that of G-I(T) i.e. 94.53 cm. The WHR of Normal working women (sampled) was found to be almost same under both age groups (0.76, 0.74 respectively) whereas WHR of Obese women were higher (1.08) in G-I(T) than the (0.88) in G-II(T).

The average mean value of body fat in both G-I(T) & G-II(T) was found to be almost equal i.e. 56.10 % in G-I(T) and 56.15 % in G-II(T).

Table 4.3.2 exhibited the various bio-markers of obesity of non-teaching respondents under the both age groups i.e. G-I(NT) and G-II(NT). The mean weight of G-II(NT) among Normal respondents was found to be higher (54.08 kg) as compared to 51.50 kg of G-I(NT). From the Pre-obese class, the mean weight of G-I(NT) i.e. 68.77 kg was quite higher than G-II(NT) i.e. 64.23 kg. As far as the weight of Obese respondents was concerned, the mean weight of G-II(NT) i.e. (79.73 kg) was much higher as compared to the mean weight of the G-I(NT) i.e. (77.14 kg).

Hence, it was concluded that the mean weight of all the categories of non-teaching respondents (whether they were Normal, Pre-obese or Obese) increasing with the increase
in age. The mean height of G-I\(_{\text{NT}}\) among Normal respondents was higher (156.80 cm) as compared to 154.78 cm of G-II\(_{\text{NT}}\).

**Table 4.3.1: BMI, WHR, WC and Body fat (%) of teaching respondents (100)**

<table>
<thead>
<tr>
<th>BMI</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>19</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>53.61</td>
<td>66.30</td>
<td>79.60</td>
<td>58.78</td>
</tr>
<tr>
<td>Height (cms)</td>
<td>157.24</td>
<td>155.80</td>
<td>154.14</td>
<td>160.03</td>
</tr>
<tr>
<td>BMI (kg/m(^2))</td>
<td>21.71</td>
<td>27.32</td>
<td>33.52</td>
<td>22.93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHR</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to 0.81 (Normal)</td>
<td>More than 0.81 (Obese)</td>
<td>Less than or equal to 0.81 (Normal)</td>
<td>More than 0.81 (Obese)</td>
<td></td>
</tr>
<tr>
<td>No. of respondents</td>
<td>35</td>
<td>19</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>WHR</td>
<td>0.76</td>
<td>1.08</td>
<td>0.74</td>
<td>0.88</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WC</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to 80cm (Normal)</td>
<td>More than 80 cm (Obese)</td>
<td>Less than or equal to 80cm (Normal)</td>
<td>More than 80 cm (Obese)</td>
<td></td>
</tr>
<tr>
<td>No. of respondents</td>
<td>35</td>
<td>19</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>WC (cm.)</td>
<td>77.89</td>
<td>94.53</td>
<td>79.19</td>
<td>95.49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body fat (%)</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Border line (31-33%) (Normal)</td>
<td>Obese (&gt;33%)</td>
<td>Border line (31-33%) (Normal)</td>
<td>Obese (&gt;33%)</td>
<td></td>
</tr>
<tr>
<td>No. of respondents</td>
<td>Nil</td>
<td>54</td>
<td>Nil</td>
<td>46</td>
</tr>
<tr>
<td>Bicep (mm.)</td>
<td>---</td>
<td>42.12</td>
<td>---</td>
<td>40.47</td>
</tr>
<tr>
<td>Triceps (mm.)</td>
<td>---</td>
<td>34.16</td>
<td>---</td>
<td>35.41</td>
</tr>
<tr>
<td>SI (mm.)</td>
<td>---</td>
<td>42.71</td>
<td>---</td>
<td>42.75</td>
</tr>
<tr>
<td>SS (mm.)</td>
<td>---</td>
<td>39.70</td>
<td>---</td>
<td>39.60</td>
</tr>
<tr>
<td>Body density</td>
<td>---</td>
<td>0.98</td>
<td>---</td>
<td>0.98</td>
</tr>
<tr>
<td>Body fat (%)</td>
<td>---</td>
<td>56.10</td>
<td>---</td>
<td>56.15</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel
As far as Pre-obese respondents were concerned, the mean height of 154.90 cm (Table 4.3.2) under G-I\textsubscript{(NT)} was little higher than that of G-II\textsubscript{(NT)} i.e. (153.73 cm). Among the Obese respondents, the mean height of 155.29 cm in G-II\textsubscript{(NT)} was quite higher as compared to 153.96 cm in G-I\textsubscript{(NT)}.

**Table 4.3.2: BMI, WHR, WC and Body fat (%) of non-teaching respondents (100)**

<table>
<thead>
<tr>
<th>BMI</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>9</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>51.50</td>
<td>68.77</td>
<td>77.14</td>
<td>54.08</td>
</tr>
<tr>
<td>Height (cms)</td>
<td>156.80</td>
<td>154.90</td>
<td>153.96</td>
<td>154.78</td>
</tr>
<tr>
<td>BMI (kg/m\textsuperscript{2})</td>
<td>20.98</td>
<td>28.59</td>
<td>32.54</td>
<td>22.64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHR</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than or equal to 0.81 (Normal)</td>
<td>More than 0.81 (Obese)</td>
<td>Less than or equal to 0.81 (Normal)</td>
<td>More than 0.81 (Obese)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>35</td>
<td>11</td>
<td>34</td>
<td>20</td>
</tr>
<tr>
<td>WHR</td>
<td>0.74</td>
<td>0.90</td>
<td>0.75</td>
<td>0.93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WC</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than or equal to 80 cm (Normal)</td>
<td>More than 80 cm (Obese)</td>
<td>Less than or equal to 80 cm (Normal)</td>
<td>More than 80 cm (Obese)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>35</td>
<td>11</td>
<td>34</td>
<td>20</td>
</tr>
<tr>
<td>WC (cm.)</td>
<td>75.97</td>
<td>84.31</td>
<td>77.53</td>
<td>81.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body fat (%)</th>
<th>Group-I</th>
<th></th>
<th>Group-II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Border line (31-33%) (Normal)</td>
<td>Obese (&gt;33%)</td>
<td>Border line (31-33%) (Normal)</td>
<td>Obese (&gt;33%)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>Nil</td>
<td>46</td>
<td>Nil</td>
<td>54</td>
</tr>
<tr>
<td>Bicep (mm.)</td>
<td>---</td>
<td>33.64</td>
<td>---</td>
<td>33.56</td>
</tr>
<tr>
<td>Triceps (mm.)</td>
<td>---</td>
<td>26.83</td>
<td>---</td>
<td>30.60</td>
</tr>
<tr>
<td>SI (mm.)</td>
<td>---</td>
<td>33.96</td>
<td>---</td>
<td>35.25</td>
</tr>
<tr>
<td>SS (mm.)</td>
<td>---</td>
<td>31.74</td>
<td>---</td>
<td>33.56</td>
</tr>
<tr>
<td>Body density</td>
<td>---</td>
<td>0.99</td>
<td>---</td>
<td>0.98</td>
</tr>
<tr>
<td>Body fat (%)</td>
<td>---</td>
<td>52.36</td>
<td>---</td>
<td>53.42</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

The mean BMI (Table 4.3.2) of Normal respondents (22.64) under G-II\textsubscript{(NT)} was little above than that of 20.98 under G-I\textsubscript{(NT)}. The mean BMI of Obese non-teaching
respondents in G-II\textsubscript{(NT)} i.e. (33.05) was much higher than the obese respondents in G-I\textsubscript{(NT)} i.e. (32.54). However the mean BMI of Pre-obese respondents (27.17) was lesser in G-II\textsubscript{(NT)} in comparison to Pre-obese respondents (28.59) in G-I\textsubscript{(NT)}. The table also revealed that mean BMI was increasing with the increment in weight in each group of all categories non-teaching respondents.

Another section of Table 4.3.2 represents waist circumstance (WC) and waist hip ratio (WHR) of non-teaching respondents. The mean waist circumstance of Normal respondents under G-II\textsubscript{(NT)} found to be 77.53 cm which was much higher than the G-I\textsubscript{(NT)} i.e. 75.97 cm. Under G-I\textsubscript{(NT)}, the waist circumference of Obese found to be 84.31 cm which was higher than that of G-II\textsubscript{(NT)} i.e. 81.1 cm. The WHR of Normal women (sampled) found to be almost same under both age categories (0.74, 0.75 respectively) whereas WHR of Obese women in G-I\textsubscript{(NT)} was almost same (0.90) as in G-II\textsubscript{(NT)} i.e. (0.93). The mean WC and WHR of the Obese women were found to be quite high compared to other studies in India (Beegom et al 1995; Singh et al 1995). Jyothi and Nayak (2010) examined the prevalence and risk factors of abdominal obesity among women working in a selected institution of South India. The result of the findings revealed that majority of the study participants (82.35%) were having abdominal obesity with a waist–to-hip ratio more than 0.8. Kaur et al. (2010) explored the prevalence of overweight and obesity with respect to body mass index (BMI) and waist hip ratio (WHR). The mean values for BMI and waist hip ratio (WHR) are more for urban women (26.92 Kg/m\textsuperscript{2} and 1.007 respectively).

It was observed from the Table 4.3.2, the mean value of bicep came out to be almost equal in G-I\textsubscript{(NT)} (33.64%) as compared to G-II\textsubscript{(NT)} (33.56%). The mean value of triceps, SI, SS and body fat was found to be little higher in obese respondents under both age groups as seen in the table.

4.4 Comparison of Obesity Measures Among Teaching and Non-Teaching Respondents

Table 4.4.1 depicted the comparison among the teaching (T) and non-teaching (NT) working women. Under the both age groups, the mean weight, mean height and mean BMI of Normal non-teaching respondents were lesser as compared to the teaching respondents.
### Table 4.4.1: Comparison of BMI among teaching and non-teaching respondents’

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg.)</td>
<td>T 53.61</td>
<td>66.30</td>
<td>79.60</td>
<td>58.78</td>
<td>66.32</td>
<td>80.73</td>
</tr>
<tr>
<td></td>
<td>NT 51.50</td>
<td>68.77</td>
<td>77.14</td>
<td>54.08</td>
<td>64.23</td>
<td>79.73</td>
</tr>
<tr>
<td>Height (cms)</td>
<td>T 157.24</td>
<td>155.80</td>
<td>154.14</td>
<td>160.03</td>
<td>155.95</td>
<td>157.65</td>
</tr>
<tr>
<td></td>
<td>NT 156.80</td>
<td>154.90</td>
<td>153.96</td>
<td>154.78</td>
<td>153.73</td>
<td>155.29</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>T 21.71</td>
<td>27.32</td>
<td>33.52</td>
<td>22.93</td>
<td>27.24</td>
<td>32.41</td>
</tr>
<tr>
<td></td>
<td>NT 20.98</td>
<td>28.59</td>
<td>32.54</td>
<td>22.64</td>
<td>27.17</td>
<td>33.05</td>
</tr>
</tbody>
</table>

### Table 4.4.2: Comparison of WHR among teaching and non-teaching respondents’

<table>
<thead>
<tr>
<th>Group</th>
<th>Less than or equal to 0.81 (Normal)</th>
<th>More than 0.81 (Obese)</th>
<th>Less than or equal to 0.81 (Normal)</th>
<th>More than 0.81 (Obese)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHR</td>
<td>T 0.76</td>
<td>1.08</td>
<td>0.74</td>
<td>0.88</td>
</tr>
<tr>
<td></td>
<td>NT 0.74</td>
<td>0.90</td>
<td>0.75</td>
<td>0.93</td>
</tr>
</tbody>
</table>

### Table 4.4.3: Comparison of WC among teaching and non-teaching respondents’

<table>
<thead>
<tr>
<th>Group</th>
<th>Less than or equal to 80cm (Normal)</th>
<th>More than 80cm (Obese)</th>
<th>Less than or equal to 80cm (Normal)</th>
<th>More than 80cm (Obese)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC (cm.)</td>
<td>T 77.89</td>
<td>94.53</td>
<td>79.19</td>
<td>95.49</td>
</tr>
<tr>
<td></td>
<td>NT 75.97</td>
<td>84.31</td>
<td>77.53</td>
<td>81.1</td>
</tr>
</tbody>
</table>

### Table 4.4.4: Comparison of Body fat (%) among teaching and non-teaching respondents’

<table>
<thead>
<tr>
<th>Group</th>
<th>Border line (31-33%) (Normal)</th>
<th>Obese (&gt;33%)</th>
<th>Border line (31-33%) (Normal)</th>
<th>Obese (&gt;33%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicep (mm.)</td>
<td>T ---</td>
<td>42.12</td>
<td>---</td>
<td>40.47</td>
</tr>
<tr>
<td></td>
<td>NT ---</td>
<td>33.64</td>
<td>---</td>
<td>33.56</td>
</tr>
<tr>
<td>Triceps (mm.)</td>
<td>T ---</td>
<td>34.16</td>
<td>---</td>
<td>35.41</td>
</tr>
<tr>
<td></td>
<td>NT ---</td>
<td>26.83</td>
<td>---</td>
<td>30.60</td>
</tr>
<tr>
<td>SI (mm.)</td>
<td>T ---</td>
<td>42.71</td>
<td>---</td>
<td>42.75</td>
</tr>
<tr>
<td></td>
<td>NT ---</td>
<td>33.96</td>
<td>---</td>
<td>35.25</td>
</tr>
<tr>
<td>SS (mm.)</td>
<td>T ---</td>
<td>39.70</td>
<td>---</td>
<td>39.60</td>
</tr>
<tr>
<td></td>
<td>NT ---</td>
<td>31.74</td>
<td>---</td>
<td>33.56</td>
</tr>
<tr>
<td>Body density</td>
<td>T ---</td>
<td>0.98</td>
<td>---</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>NT ---</td>
<td>0.99</td>
<td>---</td>
<td>0.98</td>
</tr>
<tr>
<td>Body fat (%)</td>
<td>T ---</td>
<td>56.10</td>
<td>---</td>
<td>56.15</td>
</tr>
<tr>
<td></td>
<td>NT 52.36</td>
<td>53.42</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel
However, the mean weight and mean BMI was higher of non-teaching respondents in comparison to teaching respondents except of mean height. Though the mean weight and mean height was more in teaching respondents but the mean BMI was lesser of teaching respondents as compared to non-teaching respondents.

Table 4.4.2 depicted the prevalence of over-weight and obesity of sampled population based on WHR. The cut off values of obesity like Waist Circumference (WC) >80 cm for women and Waist Hip Ratio (WHR) >0.81 were adopted as recommended by Snehlata, (2003). As per these cut-off values given in the table 4.4.2 highlighted that in the G-I(T), the mean of WHR of Obese teaching respondents was found to be more (1.08) as compared to non-teaching (0.90) respondents and as the age advances, rather higher WHR was found in the Obese non-teaching respondents i.e. 0.93 in G-II(NT) as compared to the G-II(T) i.e. (0.88). However, these cut-off values highlighted that in the G-I(T), the mean of WC of Obese teaching respondents was found to be more (94.30) as compared to non-teaching (84.31) respondents (Table 4.4.3) and as the age advances, rather Lower WC was found in the Obese non-teaching respondents i.e. 81.10 in G-II(NT) as compared to the G-II(T) i.e. (95.49).

It was observed from the Table 4.4.4, the mean value of bicep, triceps, SI and SS was found to be higher in Obese teaching respondents as compared to non-teaching respondents under both age groups. Similarly, in both age groups, the teaching respondents had higher body fat i.e. 56.10% in G-I(T) and 56.15% in G-II(T) as compared to the respondents in G-I(NT) i.e. 52.36% and G-II(NT) 53.42% respectively.

4.5 Correlation for Different Anthropometric Obesity Measures among Obese Teaching and Non-Teaching Respondents

Table 4.5.1 showed the inter-correlation values among various parameters of obesity in G-I of teaching and non-teaching respondents. A high degree of correlation was found among all the parameters of obesity. BMI was found highly correlated with WC (r=0.865, t-value=16.21), WHR (r=0.966, t-value=20.12) and Body fat (r=0.908, t-value=17.33) respectively in teaching respondents. Results of the correlation remained same in case of non-teaching respondents also for WC (r=0.911, t-value=17.67), WHR (r=0.798, t-value=6.49) and Body fat (r=0.910, t-value=18.10) respectively.

In teaching respondents, the results showed highly significant positive correlation
between WC and WHR (r=0.876, t-value=16.56). Whereas little and negative correlation was found between WC and Body fat (r=-0.116, t-value=0.02). On the other hand, in non-teaching respondents, the results showed highly significant positive correlation between WC and WHR (r=0.732, t-value=5.87) but little correlation found between WC and Body fat i.e. (r=0.172, t-value=1.01) which can be ignored also. The correlation between WHR and body fat was positively significant i.e. r=0.489, t-value=4.72 and r=0.748, t-value=9.04 in teaching and non-teaching respondents respectively. It means that increase in BMI would increase in WC, WHR and Body fat. This indicates that selected sample had excess adiposity with intra-abdominal or visceral fat and reduced muscle mass. Hence, there was an increased risk for diabetes, hypertension, dyslipidaemia and ischemic heart disease. The most commonly used measure of fat distribution is Waist Hip Ratio.

**Table 4.5.1: Correlation values among different anthropometric measures of obesity of Group I of Obese teaching and non-teaching respondents**

<table>
<thead>
<tr>
<th></th>
<th>BMI (Obese)</th>
<th>WC (Obese)</th>
<th>WHR (Obese)</th>
<th>Body fat (Obese)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI (Obese)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC (Obese)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.865</td>
<td>(16.21)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NT</td>
<td>0.911</td>
<td>(17.67)*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>WHR (Obese)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.966</td>
<td>(20.12)*</td>
<td>0.876</td>
<td>(16.56)*</td>
</tr>
<tr>
<td>NT</td>
<td>0.798</td>
<td>(6.49)*</td>
<td>0.732</td>
<td>(5.87)*</td>
</tr>
<tr>
<td>Body fat (Obese)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.908</td>
<td>(17.33)*</td>
<td>-0.116</td>
<td>(0.02)</td>
</tr>
<tr>
<td>NT</td>
<td>0.910</td>
<td>(18.10)*</td>
<td>0.172</td>
<td>(1.01 )</td>
</tr>
</tbody>
</table>

* Significant t-values at p<0.05

Table 4.5.2 highlighted the inter-correlation values among various parameters of obesity in G-II of teaching and non-teaching respondents. A high degree of correlation was found among all the parameters of obesity. BMI was found highly correlated with WC (r=0.911, t-value=17.67), WHR (r=0.691, t-value=4.68) and Body fat (r=0.82, t-value=
10.72) respectively in teaching respondents. Results of the correlation remained same in case of non-teaching respondents also for WC (r=0.943, t-value=18.99), WHR (r=0.562, t-value=3.72) and Body fat (r=0.905, t-value=17.54) respectively. In case of teaching respondents, the results showed highly significant positive correlation between WC and WHR (r=0.974, t-value=20.31). Whereas little but positive correlation was found between WC and Body fat (r= 0.271, t-value=1.40). On the other hand, in case of non-teaching respondents, the results showed highly significant positive correlation between WC and WHR (r=0.787, t-value=5.70) and negative correlation was found between WC and Body fat (r=-0.543, t-value= 2.08). The correlation between WHR and body fat was highly positive and found to be significant in case of teaching respondents i.e. r=0.811, t-value=10.37 whereas in case of non-teaching respondents, a positive significant correlation is existed between two i.e. r=0.385, t-value=3.44. Parimalavalli et al. (2009) reported that the waist circumference, hip circumference and Waist Hip Ratio were highly correlated with BMI.

**Table 4.5.2: Correlation values among different anthropometric measures of obesity of Group II of teaching and non-teaching respondents**

<table>
<thead>
<tr>
<th></th>
<th>BMI (Obese)</th>
<th>WC (Obese)</th>
<th>WHR (Obese)</th>
<th>Body fat (Obese)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMI (Obese)</strong></td>
<td>T 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WC (Obese)</strong></td>
<td>T 0.911</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(17.67)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NT 0.943</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(18.99)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WHR (Obese)</strong></td>
<td>T 0.691</td>
<td></td>
<td>0.974</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.68)*</td>
<td></td>
<td>(20.31)*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NT 0.562</td>
<td></td>
<td>0.787</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.72)*</td>
<td></td>
<td>(5.70)*</td>
<td></td>
</tr>
<tr>
<td><strong>Body fat (Obese)</strong></td>
<td>T 0.82</td>
<td></td>
<td>0.271</td>
<td>0.811</td>
</tr>
<tr>
<td></td>
<td>(10.72)*</td>
<td></td>
<td>(1.40)</td>
<td>(10.37)*</td>
</tr>
<tr>
<td></td>
<td>NT 0.905</td>
<td></td>
<td>-0.543</td>
<td>0.385</td>
</tr>
<tr>
<td></td>
<td>(17.54)*</td>
<td></td>
<td>(2.08)*</td>
<td>(3.44)*</td>
</tr>
</tbody>
</table>

* Significant t-values at p<0.05
4.6 Average Nutrient Intake of Teaching and Non-Teaching Respondents

The mean intake of nutrients by the Normal, Pre-obese and Obese teaching respondents in G-I(T) presented in Table 4.6.1. The highest mean intake of energy was found in Obese respondents i.e. 2263.40 k.cal. Whereas the least amount of energy intake i.e.2063.10 k.cal was found in Pre-obese teaching respondents. The mean intake of Normal (2260.64 k.cal) and Obese (2263.40 k.cal) respondents in G-I(T) was found to be higher as compared to the recommended value of 2230 k.cal. The mean difference of intake of energy of Pre-obese respondents in G-I(T) found to be significant (t-value=1.85).

Table 4.6.1: Average nutrient intake of teaching respondents in Group I

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>No. of respondents</th>
<th>Average</th>
<th>RDA</th>
<th>Standard deviation ±</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (k.cal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>24</td>
<td>2260.64</td>
<td>2230</td>
<td>56.58</td>
<td>0.54</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>19</td>
<td>2063.10</td>
<td></td>
<td>90.09</td>
<td>-1.85*</td>
</tr>
<tr>
<td>Obese</td>
<td>12</td>
<td>2263.40</td>
<td></td>
<td>59.71</td>
<td>0.56</td>
</tr>
<tr>
<td>Protein (gm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>24</td>
<td>47.58</td>
<td>55</td>
<td>2.61</td>
<td>-2.84*</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>19</td>
<td>47.79</td>
<td></td>
<td>2.11</td>
<td>-3.42*</td>
</tr>
<tr>
<td>Obese</td>
<td>12</td>
<td>49.90</td>
<td></td>
<td>3.13</td>
<td>-1.62</td>
</tr>
<tr>
<td>Fats (gm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>24</td>
<td>36.74</td>
<td>25</td>
<td>1.39</td>
<td>8.44*</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>19</td>
<td>38.32</td>
<td></td>
<td>2.90</td>
<td>4.59*</td>
</tr>
<tr>
<td>Obese</td>
<td>12</td>
<td>36.92</td>
<td></td>
<td>1.86</td>
<td>6.41*</td>
</tr>
<tr>
<td>Carbohydrates (gm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>24</td>
<td>433.94</td>
<td>390.25</td>
<td>12.40</td>
<td>8.01*</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>19</td>
<td>390.44</td>
<td></td>
<td>25.36</td>
<td>2.20*</td>
</tr>
<tr>
<td>Obese</td>
<td>12</td>
<td>433.82</td>
<td></td>
<td>14.08</td>
<td>7.05*</td>
</tr>
<tr>
<td>Calcium (mg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>24</td>
<td>688.86</td>
<td>600</td>
<td>58.03</td>
<td>1.53</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>19</td>
<td>750.44</td>
<td></td>
<td>77.41</td>
<td>1.94*</td>
</tr>
<tr>
<td>Obese</td>
<td>12</td>
<td>682.22</td>
<td></td>
<td>90.91</td>
<td>0.88</td>
</tr>
<tr>
<td>Iron (mg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>24</td>
<td>21.06</td>
<td>21</td>
<td>0.91</td>
<td>0.06</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>19</td>
<td>21.44</td>
<td></td>
<td>1.05</td>
<td>0.42</td>
</tr>
<tr>
<td>Obese</td>
<td>12</td>
<td>22.07</td>
<td></td>
<td>0.75</td>
<td>1.41</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05

The mean intake of protein of Obese teaching respondents i.e. 49.90 gm found to be higher than the Pre-obese (47.79 gm) and Normal teaching respondents (47.58 gm) but lower than
the recommended value i.e.55 gm. The mean difference of protein intake of Normal and Pre-
obese respondents in G-I(T) found to be significant (t-value=2.84, 3.42 respectively).

Furthermore, the maximum mean intake of fats was found in Pre-obese respondents under G-I(T) i.e. (38.32 gm.) as compared to Obese (36.92 gm.) and Normal teaching respondents (36.74 gm.) which were greater than the recommended value i.e. 25 gm. The mean difference of intake of fats in Normal, Pre-obese and Obese teaching respondents came out to be significant at five percent level (t-values= 8.44, 4.59 and 6.41 respectively).

The mean intake of carbohydrates of Normal (433.94 gm.) and Obese teaching respondents (433.82 gm.) was almost same and found to be significant (t-values= 8.01, 2.20 respectively) as shown in Table 4.6.1. The least amount of mean intake of carbohydrates was found in Pre-obese respondents in G-I(T) but it came out be highly significant (t-value=7.05).

Table 4.6.1 represented the mean intake of calcium (750.44 gm.) in Pre-obese teaching respondents was greater than the recommended value i.e. 600 followed by Normal (688.86 gm.) and Obese teaching respondents (680.22 gm.). The mean difference of intake of calcium of Pre-obese respondents under G-I(T) found to be significant (t-value=1.94) at five percent level of significance.

The mean intake of iron was found to be higher in Obese teaching respondents (22.07 gm.). The least intake of iron was found in Normal respondents (21.06 gm.) and iron intake of Pre-obese respondents under G-I(T) was found to be 21.44 gm. (average). Therefore, no significant difference was found among the various categories of respondents.

The mean intake of nutrients by the Normal, Pre-obese and Obese respondents was presented in Table 4.6.2. The highest mean intake of energy was found in Obese teaching respondents in G-II(T) i.e.2181.08 k.cal whereas the least amount of energy intake i.e.2063.29 k.cal was found in Normal respondents. The mean intake of all i.e. Normal (2063.29 k.cal) Pre-obese (2154.21 k.cal) and Obese (2181.08 k.cal) respondents was found to be lower in comparison to recommended value of 2230 k.cal. The mean intake of energy by the sampled respondents was found to be insignificant in all the categories.

Table 4.6.2 highlighted the mean intake of protein of Obese respondents i.e. 52.94 gm which was higher than the Pre-obese (44.11 gm) and Normal respondents (39.86 gm).
but lower than the recommended value i.e. 55 gm. The mean intake of protein of Normal and Pre-obese teaching respondents were found to be significant (t-value=4.71, 6.01 respectively). Furthermore, the maximum mean intake of fats was found in Obese persons (38.35 gm) in comparison to Pre-obese (34.96 gm) and Normal teaching respondents (34.66 gm) which were greater than the recommended value i.e. 25 gm. The mean intake of fats in all the three categories i.e. Normal, Pre-obese and Obese respondents were came out to be significant at five percent level (t-value=3.58, 5.79 and 5.16 respectively).

**Table 4.6.2: Average nutrient intake of teaching respondents in Group II**

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>No. of respondents</th>
<th>RDA</th>
<th>Average</th>
<th>Standard deviation ±</th>
<th>T- value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy (k.cal)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>8</td>
<td>2230</td>
<td>2063.29</td>
<td>144.23</td>
<td>-1.16</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>24</td>
<td></td>
<td>2154.21</td>
<td>59.29</td>
<td>-1.28</td>
</tr>
<tr>
<td>Obese</td>
<td>13</td>
<td></td>
<td>2181.08</td>
<td>88.91</td>
<td>-0.55</td>
</tr>
<tr>
<td><strong>Protein (gm)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>79.05</td>
<td>-0.65</td>
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<td>818.17</td>
<td>59.36</td>
<td>3.67*</td>
</tr>
<tr>
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<td></td>
<td>786.07</td>
<td>83.33</td>
<td>8.77*</td>
</tr>
<tr>
<td><strong>Iron (mg)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
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<td>21</td>
<td>19.36</td>
<td>0.83</td>
<td>-1.96*</td>
</tr>
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<td>0.49</td>
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<tr>
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<td></td>
<td>20.65</td>
<td>0.95</td>
<td>36.04*</td>
</tr>
</tbody>
</table>

**Source:** Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05

The mean intake of carbohydrates of Pre-obese respondents found to be highest i.e. (430.47 gm.) whereas least intake of carbohydrates among Normal respondents was (397.63 gm.). The mean intake of carbohydrates of Normal and Pre-obese were came out
to be relatively significant at five percent level (t-value=1.93, 6.32) and in case of Obese respondents, t-value was found to be highly significant i.e. 21.52.

Pre-obese respondents had maximum mean intake of calcium (818.17 mg) which was greater than the recommended value i.e. 600 mg followed by Obese respondents (786.07 gm.) and Normal respondents (548.53 mg). The mean intake of carbohydrates of Pre-obese and Obese respondents was found to be significant (t-value=3.67, 8.77 respectively) at five percent level of significance.

The mean intake of iron was found to be higher in Pre-obese respondents (21.08 mg). The least intake of iron was found in Normal respondents (19.36 mg) and iron intake of Obese respondents was found to be 20.65 mg (average). The mean intake of iron of Normal was found to be significant (t-value=1.96) at five percent level of significance and the mean intake of iron of Obese respondents (Table 4.6.2) came to be highly significant (t-value=36.04).

The mean intake of nutrients and t-values of the Normal, Pre-obese and Obese non-teaching respondents under the G-I(NT) was presented in Table 4.6.3. The highest mean intake of energy was found in Pre-obese respondents’ i.e.2424.38 k.cal whereas the least amount of energy intake i.e.2359.45 k.cal was found in Obese respondents. The mean intake of energy of all the three categories i.e. Normal, Pre-obese and Obese respondents was found to be higher than the recommended value of 2230 k.cal but the t-values for Normal and Pre-obese respondents were found to be significant.

Table 4.6.3 highlighted the mean intake of protein of Pre-obese persons i.e. 53.66 gm which was higher than the Obese (51.63 gm) and Normal respondents (47.03 gm) but lower than the recommended value i.e.55 gm. The mean intake of protein of Normal respondents was found to be significant (t-value=2.57).

Furthermore, the mean intake of fats in Pre-obese and Obese teaching respondents was found to be almost same i.e. 38.07 gm and 38.03 gm respectively. The least amount of mean intake of fats in Normal respondents is 33.92 gm which were greater than the recommended value i.e. 25 gm. The mean intake of fats in all the three categories i.e. Normal, Pre-obese and Obese respondents were came out to be significant at five percent level (5.84, 5.53 and 5.82 respectively).
The mean intake of carbohydrates of Normal G-I\(_{\text{NT}}\) respondents (458.70 gm) is high as compared to Pre-obese respondents (435.77 gm) and Obese respondents (431.04). The mean intake of carbohydrates of Pre-obese and Obese non-teaching respondents was found to be significant (t-values=7.60, 4.03 respectively). Furthermore, the mean intake of carbohydrates was came to be highly significant in Normal non-teaching respondents (t-value=20.54).

**Table 4.6.3: Average nutrient intake of non-teaching respondents in Group I**

<table>
<thead>
<tr>
<th></th>
<th>Energy (k.cal)</th>
<th>Protein (gm)</th>
<th>Fats (gm)</th>
<th>Carbohydrates (gm)</th>
<th>Calcium (mg)</th>
<th>Iron (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of respondents</td>
<td>Average</td>
<td>RDA</td>
<td>Standard deviation ±</td>
<td>T-value</td>
<td></td>
</tr>
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<td>Normal</td>
<td>23</td>
<td>2383.59</td>
<td>2230</td>
<td>37.33</td>
<td>4.11*</td>
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</tr>
<tr>
<td>Pre-obese</td>
<td>9</td>
<td>2424.38</td>
<td>55</td>
<td>89.54</td>
<td>2.17*</td>
<td></td>
</tr>
<tr>
<td>Obese</td>
<td>14</td>
<td>2359.45</td>
<td></td>
<td>103.85</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
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<td>47.03</td>
<td>25</td>
<td>3.09</td>
<td>-2.57*</td>
<td></td>
</tr>
<tr>
<td>Pre-obese</td>
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<td>53.66</td>
<td></td>
<td>2.27</td>
<td>-0.59</td>
<td></td>
</tr>
<tr>
<td>Obese</td>
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<td>51.63</td>
<td></td>
<td>2.13</td>
<td>-1.58</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
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<td>25</td>
<td>1.52</td>
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<td></td>
<td>2.36</td>
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</tr>
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<td>38.03</td>
<td></td>
<td>2.24</td>
<td>5.82*</td>
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<td>458.70</td>
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<td>6.04</td>
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<tr>
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<td>435.77</td>
<td></td>
<td>13.31</td>
<td>7.60*</td>
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</tr>
<tr>
<td>Obese</td>
<td>14</td>
<td>431.04</td>
<td></td>
<td>23.95</td>
<td>4.03*</td>
<td></td>
</tr>
<tr>
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<td>23</td>
<td>596.74</td>
<td>600</td>
<td>54.35</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>Pre-obese</td>
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<td>442.90</td>
<td></td>
<td>21.11</td>
<td>-7.44*</td>
<td></td>
</tr>
<tr>
<td>Obese</td>
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<td>506.76</td>
<td></td>
<td>58.30</td>
<td>-1.59</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
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<td>23</td>
<td>21</td>
<td>0.724</td>
<td>2.75*</td>
<td></td>
</tr>
<tr>
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<td>19.40</td>
<td></td>
<td>1.30</td>
<td>-1.22</td>
<td></td>
</tr>
<tr>
<td>Obese</td>
<td>14</td>
<td>21.02</td>
<td></td>
<td>0.82</td>
<td>0.02</td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05

Normal respondents G-I\(_{\text{NT}}\) had maximum mean intake of calcium (596.74 mg) which is lower than the recommended value i.e. 600 mg followed by Obese (506.76 mg) and Pre-obese non-teaching respondents (442.90 mg). The mean intake of carbohydrates of Pre-obese persons was found to be significant (t-value=7.44) at five percent level of significance and others were insignificant (Table 4.6.3).
The mean intake of iron was found to be higher in Normal respondents (23 mg). The least intake of iron was found in Pre-obese respondents (19.40 mg) and iron intake of Obese non-teaching respondents was found to be 21.02 mg (average). Therefore, no significant difference was found in Pre-obese and Obese non-teaching respondents and significant difference found in Normal non-teaching respondents (t-value=2.75).

The mean intake of nutrients and t-values by the Normal, Pre-obese and Obese non-teaching respondents under G-II_{(NT)} is presented in Table 4.6.4. The mean intake of energy was found to be high in Pre-obese respondents i.e. 2361.39 k.cal. as compared to amount of energy intake i.e. 2349.46 k.cal. by Normal respondents. However the mean intake of energy by obese non-teaching respondents was found to be 2141.35 k.cal. lower to the recommended value of 2230 k.cal. (Table 4.6.3) The mean intake of energy of Normal and Pre-obese non-teaching respondents was found to be significant (t-value=1.79, 2.28 respectively).

Table 4.6.4 highlighted the mean intake of protein of Normal persons i.e. 49.75 gm which was higher than the Pre-obese (46.63 gm) and Obese non-teaching respondents (45.22 gm) but lower than the recommended value i.e. 55 gm. The mean intake of protein of Normal, Pre-obese and Obese non-teaching respondents was found to be significant (t-value=2.32, 3.02 and 4.05 respectively).

Furthermore, the higher mean intake of fats was found in Pre-obese non-teaching respondents i.e. 39.01 gm followed by Normal (34.63 gm) and Obese non-teaching respondents (31.45 gm) in G-II_{(NT)} which were greater than the recommended value i.e. 25 gm. The mean intake of fats in all the three categories i.e. Normal, Pre-obese and Obese respondents were came out to be significant at five percent level (t-values=6.35, 4.33 and 4.04 respectively).

The mean intake of carbohydrates of Normal non-teaching respondents (437.99 gm) in G-II_{(NT)} was higher as compared to Pre-obese respondents (430.12 gm) and Obese respondents (405.47 gm). The mean intake of carbohydrates of Pre-obese and Obese respondents was found to be significant (t-values=3.76, 3.21 respectively). The mean intake of carbohydrates was came to be highly significant in Normal non-teaching respondents (t-value=7.95).
Table 4.6.4: Average nutrient intake of non-teaching respondents in Group II

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>No. of respondents</th>
<th>RDA</th>
<th>Average</th>
<th>Standard deviation ±</th>
<th>T-value</th>
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<td>Energy (k.cal)</td>
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<td></td>
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<td></td>
</tr>
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<td>2230</td>
<td>2349.46</td>
<td>66.42</td>
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<td>2361.39</td>
<td>57.56</td>
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<tr>
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<td>49.75</td>
<td>2.25</td>
<td>-2.32*</td>
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<td>46.63</td>
<td>2.76</td>
<td>-3.02*</td>
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<tr>
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<td>45.22</td>
<td>2.41</td>
<td>-4.05*</td>
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<td>Fats (gm)</td>
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<td></td>
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<td>4.04*</td>
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<td></td>
<td></td>
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<td>437.99</td>
<td>13.01</td>
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<td>430.12</td>
<td>25.42</td>
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<td>405.47</td>
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<td>3.21*</td>
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<td>49.56</td>
<td>-2.13*</td>
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<td>0.164</td>
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</tbody>
</table>

* Significant t-values at p<0.05

Obese non-teaching respondents had maximum mean intake of calcium (494.24 mg) which was lower than the recommended value i.e. 600 mg followed by Normal (481.78 mg) and Pre-obese non-teaching respondents (477.62 mg). The mean intake of carbohydrates of Normal and Obese non-teaching respondents was found to be significant (t-values= 3.47, 2.13 respectively) at five percent level of significance (Table 4.6.4). However, the mean intake of calcium of Pre-obese non-teaching respondents found to be highly significant (t-value=14.18).

The mean intake of iron was found to be highest in Normal respondents (21.74 mg). The least intake of iron was found in Pre-obese non-teaching respondents (19.28 mg) and iron intake of Obese non-teaching respondents in G-II(NT) was found to be average (21.17 mg). Therefore, no significant difference was found in Normal and Obese non-
teaching respondents but significant difference (Table 4.6.4) found in Pre-obese non-teaching respondents (t-value=2.02).

4.7 Correlation of Anthropometric Variables with Nutrients among Teaching and Non-Teaching Obese Respondents

Table 4.7.1 highlighted that in case of Obese teaching respondents in G-I(T), there was significant positive correlation between BMI and fats (i.e. r=0.551, t-value=2.08 at 5% level). Although correlation existed between anthropometric variables like BMI, Waist Circumference, WHR and Body Fat with nutrients like Energy, Protein, Fats, Carbohydrates, Calcium and Iron but level of correlation is insignificant except a few.

Table 4.7.1: Correlation of anthropometric variables with nutrients under Group I for Obese respondents

<table>
<thead>
<tr>
<th></th>
<th>Energy</th>
<th>Protein</th>
<th>Fats</th>
<th>Carbohydrates</th>
<th>Calcium</th>
<th>Iron</th>
</tr>
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<tr>
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</tr>
<tr>
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<td>(1.047)</td>
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<td>(-0.166)</td>
<td>(1.261)</td>
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</tr>
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<td>0.074</td>
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</tr>
<tr>
<td></td>
<td>(1.261)</td>
<td>(1.125)</td>
<td>(0.004)</td>
<td></td>
<td>(0.331)</td>
<td>(1.93)*</td>
</tr>
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<td>(0.058)</td>
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<td><strong>WHR</strong></td>
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<td>-0.007</td>
</tr>
<tr>
<td></td>
<td>(0.151)</td>
<td>(1.61)</td>
<td>(-0.129)</td>
<td></td>
<td>(1.85)</td>
<td>(-0.504)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.141</td>
<td>0.057</td>
<td>0.198</td>
<td>-0.093</td>
<td>-0.146</td>
<td>-0.321</td>
</tr>
<tr>
<td></td>
<td>(-0.937)</td>
<td>(0.378)</td>
<td>(1.34)</td>
<td></td>
<td>(0.978)</td>
<td>(2.24)*</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05

Further, there existed a positive correlation between waist circumference and Iron (r=0.397) which came out to be significant (t-value=1.93) at 5% level in teaching respondents. No significant correlation was found between WC and other variables. The
correlation between the WHR and other variables was also not found in both the G-I(T) and G-I(NT).

The coefficient of correlation \((r=-0.321)\) was negative and exists between body fat and iron which tends to be significant \((t\text{-value}=2.24)\) in case of G-I(NT). It means that higher the body fat, lower the iron as negative relationship is co-existed (Table 4.7.1).

Table 4.7.2 exhibited that in case of Obese non-teaching respondents in G-II(NT), there was a significant negative correlation between WHR and Energy \((i.e. r=-0.601, t\text{-value}=-3.36\) at 5% level). Further, there existed a highly negative correlation between WHR and carbohydrates \((r=-0.719)\) which came out to be significant \((t\text{-value}=-4.62)\) at 5% level in non-teaching respondents. No correlation was found between the other variables.

**Table 4.7.2: Correlation of anthropometric variables with nutrients under Group II for Obese respondents**

<table>
<thead>
<tr>
<th></th>
<th>Energy</th>
<th>Protein</th>
<th>Fats</th>
<th>Carbohydrates</th>
<th>Calcium</th>
<th>Iron</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-0.046</td>
<td>0.064</td>
<td>0.286</td>
<td>-0.038</td>
<td>-0.005</td>
<td>0.061</td>
</tr>
<tr>
<td></td>
<td>(-0.15)</td>
<td>(0.202)</td>
<td>(0.943)</td>
<td>(-0.120)</td>
<td>(-0.015)</td>
<td>(0.193)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.241</td>
<td>0.269</td>
<td>-0.141</td>
<td>-0.143</td>
<td>-0.263</td>
<td>-0.154</td>
</tr>
<tr>
<td></td>
<td>(-0.993)</td>
<td>(1.127)</td>
<td>(-0.569)</td>
<td>(-0.577)</td>
<td>(-1.091)</td>
<td>(-0.623)</td>
</tr>
<tr>
<td><strong>WC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-0.021</td>
<td>-0.067</td>
<td>0.033</td>
<td>-0.054</td>
<td>0.126</td>
<td>-0.035</td>
</tr>
<tr>
<td></td>
<td>(-0.115)</td>
<td>(-0.367)</td>
<td>(0.181)</td>
<td>(-0.296)</td>
<td>(0.695)</td>
<td>(-0.191)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.071</td>
<td>0.172</td>
<td>-0.151</td>
<td>-0.089</td>
<td>0.068</td>
<td>0.229</td>
</tr>
<tr>
<td></td>
<td>(-0.318)</td>
<td>(0.781)</td>
<td>(-0.683)</td>
<td>(-0.372)</td>
<td>(0.304)</td>
<td>(1.059)</td>
</tr>
<tr>
<td><strong>WHR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.172</td>
<td>-0.022</td>
<td>-0.072</td>
<td>0.162</td>
<td>0.324</td>
<td>-0.135</td>
</tr>
<tr>
<td></td>
<td>(0.698)</td>
<td>(-0.088)</td>
<td>(-0.288)</td>
<td>(0.656)</td>
<td>(1.369)</td>
<td>(-0.544)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.601</td>
<td>-0.094</td>
<td>0.269</td>
<td>-0.719</td>
<td>0.281</td>
<td>-0.236</td>
</tr>
<tr>
<td></td>
<td>(-3.36)*</td>
<td>(-0.422)</td>
<td>(1.24)</td>
<td>(-4.62)*</td>
<td>(1.31)</td>
<td>(-1.08)</td>
</tr>
<tr>
<td><strong>Body Fat</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-0.047</td>
<td>0.324</td>
<td>0.091</td>
<td>-0.102</td>
<td>0.135</td>
<td>0.103</td>
</tr>
<tr>
<td></td>
<td>(-0.312)</td>
<td>(2.27)</td>
<td>(0.606)</td>
<td>(-0.68)</td>
<td>(0.903)</td>
<td>(0.686)</td>
</tr>
<tr>
<td>NT</td>
<td>0.032</td>
<td>-0.173</td>
<td>-0.193</td>
<td>0.119</td>
<td>0.151</td>
<td>-0.025</td>
</tr>
<tr>
<td></td>
<td>(0.231)</td>
<td>(-1.26)</td>
<td>(-1.41)</td>
<td>(0.864)</td>
<td>(1.102)</td>
<td>(-0.181)</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at \(p<0.05\)
4.8 Energy Intake and Energy Expenditure of Teaching Respondents and Non-Teaching Respondents

4.8.1 Comparison of energy intake with energy expenditure of teaching respondents in Group I and II

Table 4.8.1 highlighted the energy intake and energy expenditure of respondents in age groups G-I(T) & G-II(T). The average energy expenditure in all types of teaching respondents i.e. Normal, Pre-obese and Obese in age groups G-I(T) came out to be higher than the average energy intake whereas the maximum difference was found in Normal teaching respondent in G-I(T). In teaching respondents, again the average expenditure came to be more than the average energy intake G-II(T) as given in table 4.8.1. By applying paired sample t-test, energy intake and energy expenditure of teaching respondents in both age groups was separately evaluated. The results for Normal, Pre-obese and Obese teaching respondents in both age groups, the energy intake was found to be significantly lower than the energy expenditure.

Table 4.8.1: Comparison of energy intake with energy expenditure of teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Energy Intake</th>
<th>Energy Expenditure</th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation ±</td>
<td>Average</td>
</tr>
<tr>
<td>Normal</td>
<td>2260.63</td>
<td>277.16</td>
<td>2874.85</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>2063.10</td>
<td>392.67</td>
<td>2512.79</td>
</tr>
<tr>
<td>Obese</td>
<td>2263.39</td>
<td>206.84</td>
<td>2662.94</td>
</tr>
</tbody>
</table>

Comparison of energy intake with energy expenditure of teaching respondents in group II

<table>
<thead>
<tr>
<th></th>
<th>Energy Intake</th>
<th>Energy Expenditure</th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation ±</td>
<td>Average</td>
</tr>
<tr>
<td>Normal</td>
<td>1994.13</td>
<td>478.22</td>
<td>2780.98</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>2154.20</td>
<td>290.47</td>
<td>2578.68</td>
</tr>
<tr>
<td>Obese</td>
<td>2181.04</td>
<td>320.58</td>
<td>2809.80</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05
4.8.2 Comparison of energy intake with energy expenditure of non-teaching respondents in Group I and II

Table 4.8.2 highlighted the energy intake and energy expenditure of respondents in age G-I(NT) & G-II(NT). The average energy expenditure in all the respondents i.e. Normal, Pre-obese and Obese non-teaching respondents in G-I(NT) came out to be higher than the average energy intake whereas the maximum difference between energy intake and energy expenditure was found in Normal non-teaching respondent in G-I(NT). For non-teaching respondents in G-II(NT), again the average expenditure had come out to be more than the average energy intake. As far as the Obese non-teaching respondents were concerned, the difference has come out to be relatively lesser than the other non-teaching respondents in G-I(NT). By applying paired sample t-test, for non-teaching respondents in G-I(NT) & G-II(NT), the average energy intake of Pre-obese was insignificantly different from average energy expenditure.

Table 4.8.2: Comparison of energy intake with energy expenditure of non-teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Energy Intake</th>
<th></th>
<th>Energy Expenditure</th>
<th></th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation ±</td>
<td>Average</td>
<td>Standard deviation ±</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>2383.58</td>
<td>179.03</td>
<td>2916.45</td>
<td>510.68</td>
<td>-5.46*</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>2424.37</td>
<td>268.64</td>
<td>2766.74</td>
<td>644.92</td>
<td>-1.29</td>
</tr>
<tr>
<td>Obese</td>
<td>2359.45</td>
<td>388.58</td>
<td>2745.97</td>
<td>768.61</td>
<td>-2.55*</td>
</tr>
</tbody>
</table>

Comparison of energy intake with energy expenditure of non-teaching staff in group II

<table>
<thead>
<tr>
<th></th>
<th>Energy Intake</th>
<th></th>
<th>Energy Expenditure</th>
<th></th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation ±</td>
<td>Average</td>
<td>Standard deviation ±</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>2349.46</td>
<td>325.40</td>
<td>2699.09</td>
<td>651.86</td>
<td>-2.85*</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>2361.38</td>
<td>199.39</td>
<td>2718.04</td>
<td>493.48</td>
<td>-2.39*</td>
</tr>
<tr>
<td>Obese</td>
<td>2141.35</td>
<td>425.13</td>
<td>2300.61</td>
<td>599.24</td>
<td>-1.15</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05

For Normal and Obese in G-I(NT), the average energy intake was significantly different from average energy expenditure. For Normal and Pre-obese non-teaching
respondents in group G-II\textsubscript{NT}, average energy intake was again significantly different from average energy expenditure whereas average energy expenditure was insignificantly different than the average energy intake in Obese non-teaching respondents.

There is enough evidence available to indicate that absolute daily energy expended by Obese is higher than that expended by the lean (www.rowett.ac.uk, 2013). Another study by Delany et al. (2012) also throws light on the fact that greater body weight in Obese individuals leads to actually higher total daily energy expenditure and higher activity energy expenditure, which masks the fact that Obese are less physically active, which can be influenced by duration or intensity of activity than in lean individuals. Some studies indicate the under-reporting of nutrient intakes in Obese men and women (Bonnie et al. 2005; Antonie-Jonville et al. 2009) and some other studies have reported the over estimation of physical activities by the Obese persons (Lichtman et al., 1992) thus indicating a greater energy expenditure. It may be assumed that in the present sample of Obese women, there are chances of under-reporting of nutrient intakes and over reporting of energy expenditure in order to conform to the social psyche and prejudice against obesity. In depth follow up studies of the obese women from the standpoint of energy expenditure and energy intake are required to be undertaken in order to conclusively comment upon the energy balance in the obese individuals.

4.9 Health Related Fitness

For assessing the health related fitness in the subjects, various physical fitness tests were performed such as Run and walk test for assessing the cardiovascular endurance, Sit ups/30 seconds for assessing the muscular strength, Sit ups/minute for assessing the muscular endurance and Sit & reach test for assessing the flexibility of the respondents.

4.9.1 Sit ups per minute (muscular endurance) for teaching and non-teaching respondents

Table 4.9.1 represented the mean value of sit ups per minute (muscular endurance) of Normal teaching respondents in G-I\textsubscript{T} came out be higher i.e.12.52 per minute which has been followed by Pre-obese respondents (9.67 per minute). The least mean value of sits up per minute was found in Obese teaching respondents i.e. 12.50 per minute. The highest mean value of sit ups per minute (muscular endurance) in G-II\textsubscript{T} was found in Normal
teaching respondents (12.75 per minute) followed by Pre-obese (10.58 per minute) and Obese teaching respondents (7.62 per minute).

**Table 4.9.1: Physical Fitness tests for teaching and non-teaching respondents in Group I and II**

*Source: Compiled with SPSS and Ms-excel*

<table>
<thead>
<tr>
<th>Physical Fitness tests</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sit ups per minute (muscular endurance)</td>
<td>T 12.52</td>
<td>9.67</td>
</tr>
<tr>
<td></td>
<td>NT 2.00</td>
<td>3.78</td>
</tr>
<tr>
<td>Sit ups per 30 seconds (muscular strength)</td>
<td>T 10.04</td>
<td>7.44</td>
</tr>
<tr>
<td></td>
<td>NT 0.70</td>
<td>4.67</td>
</tr>
<tr>
<td>Flexibility (sit and reach test)</td>
<td>T 3.50</td>
<td>2.48</td>
</tr>
<tr>
<td></td>
<td>NT 4.63</td>
<td>2.01</td>
</tr>
<tr>
<td>9 minute Run and Walk test</td>
<td>T 1448.08</td>
<td>1265.86</td>
</tr>
<tr>
<td></td>
<td>NT 1581.35</td>
<td>1286.33</td>
</tr>
</tbody>
</table>

Table 4.9.1 showed the mean value of sit ups per minute (muscular endurance) of Pre-obese non-teaching respondents in G-I_{NT} came out be higher i.e. 3.78 per minute which had been followed by Obese non-teaching respondents (2.93 per minute). The least mean value of sit ups per minute was found in Normal respondents i.e. 2 per minute. The highest mean value of sit ups per minute (muscular endurance) in G-II_{NT} was found in Pre-obese respondents (8.92 per minute) followed by Normal (4.04 per minute) and Obese (2.39 per minute).

**4.9.2 Sit ups per 30 seconds (muscular strength) for teaching and non-teaching respondents**

Table 4.9.1 exhibited the mean value of sit ups per 30 second (muscular strength) of Normal teaching respondents in G-I_{T} came out be higher i.e.10.04 per 30 seconds followed
by Obese teaching respondents (8.17 per 30 seconds). The least mean value of sits up per 30 seconds was found in Pre-obese teaching respondents i.e. 7.44 per minute. The highest mean value of sit ups per 30 seconds (muscular strength) under G-II(T) was found in Normal teaching respondents (8.75 per second) followed by Pre-obese (8.38 per 30 seconds) and Obese teaching respondents (5.46 per 30 seconds).

Table 4.9.1 exhibited the mean value of sit ups per 30 second (muscular strength) of Pre-obese non-teaching respondents in G-I(NT) came out be higher i.e.4.67 per 30 seconds followed by Obese respondents (3.57 per 30 seconds). The least mean value of sits up per second was found in Normal respondents i.e. 0.70 per 30 seconds. The highest mean value of sit ups per 30 seconds (muscular strength) in G-II(NT) was found in Pre-obese non-teaching respondents (5.83 per 30 seconds) followed by Normal (2.08 per 30 seconds) and Obese respondents (1.56 per 30 seconds).

4.9.3 Flexibility (sit and reach test) for teaching and non-teaching respondents

Table 4.9.1 highlighted the mean value of flexibility (sit and reach test) of Normal teaching respondents in G-I(T) came out be higher i.e. 3.50 inches followed by Obese respondents (2.58 inches). The least mean value of flexibility (sit and reach test) was found in Pre-obese respondents i.e. 2.48 inches. The highest mean value of flexibility (sits and reach test) in G-II(T) was found in Normal respondents (3.40 inches) followed by Pre-obese (2.55 inches) and Obese respondents (1.49 inches).

Table 4.9.1 highlighted the mean value of flexibility (sit and reach test) of Normal non-teaching respondents in G-I(NT) came out be higher i.e. 4.63 inches followed by Pre-obese respondents (2.01 inches). The least mean value of flexibility (sit and reach test) was found in obese respondents i.e. 1.36 inches. The highest mean value of flexibility (sit and reach test) in G-II(NT) was found in Normal non-teaching respondents (5.48 inches) followed by Pre-obese (1.73 inches) and Obese respondents (1.61 inches).

4.9.4 Nine Minute Run and Walk test for teaching and non-teaching respondents

Table 4.9.1 highlighted the mean value of run and walk test of Normal teaching respondents in G-I(T) came out be higher i.e.1448.08 meter which had been followed by Pre-obese respondents (1265.86 meter). The least mean value of run and walk test was found in Obese respondents i.e. 1213.33 meters. The highest mean value of run and walk test in G-II(T) was found in Normal teaching respondents (1482.25 meter) followed by Pre-
obese (1333.06 meter) and least distance was covered by Obese teaching respondents (1203.08 meter).

Table 4.9.1 describes the mean value of run and walk test of Normal non-teaching respondents in G-I\(_{NT}\) came out be higher i.e. 1581.35 meter followed by Pre-obese respondents (1286.33 meter). The least mean value of run and walk test was found in Obese respondents i.e. 1204.93 meters. The highest mean value of run and walk test in G-II\(_{NT}\) was found in Normal non-teaching respondents (1552.25 meter) followed by Pre-obese (1314.20 meter) and least distance was covered by Obese respondents (1266.08 meter).

4.9.5 Correlation between BMI and Physical fitness parameters of obese respondents

Table 4.9.2 presented the highly negative correlation between BMI and Run and walk test of teaching Obese respondents under G-I\(_T\) which came out to be significant (\(r=-0.521\), \(t\)-value=\(-2.20\)). It means that both move in an opposite direction. Higher the BMI, the lesser the physical fitness i.e. run and walk test.

**Table 4.9.2: Correlation between BMI and Physical fitness parameters of obese respondents under group I and II**

<table>
<thead>
<tr>
<th></th>
<th>Pearson correlation</th>
<th>Flexibility</th>
<th>9 Minute Run and walk test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sit ups per minute (muscular endurance)</td>
<td>Sit ups per 30 seconds (strength)</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.0402 (0.145)</td>
<td>0.052 (0.187)</td>
<td>0.455 (1.84)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.0901 (-0.326)</td>
<td>-0.195 (-0.716)</td>
<td>-0.390 (-1.52)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pearson Correlation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sit ups per minute (muscular endurance)</td>
<td>Sit ups per 30 seconds (strength)</td>
</tr>
<tr>
<td>T</td>
<td>-0.357 (-1.38)</td>
<td>-0.2901 (-1.092)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.3452 (-1.326)</td>
<td>-0.2791 (-1.047)</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant \(t\)-values at \(p<0.05\)

Further, other relationships existed near to zero or little associations between them as shown by table 4.9.2. No correlation subsisted between BMI and physical fitness
parameters of non-reaching respondents. In G-II_{T}, there was a negative correlation between BMI-Flexibility (r=-0.765) and BMI-Run and walk test (r=-6.001) and both found to be significant (t-value= -4.28 and -2.704 respectively) and other variables does not coexisted together in any of the respondent class i.e. teaching or non-teaching. Jones (2003) studied that while caloric consumption has steadily increased, daily physical activity has significantly declined for several reasons.

4.10 Distribution of Respondents for Various Variables of Lifestyle Activity

4.10.1 Rest immediately after meal

The respondents from teaching categories in G-I_{T} and G-II_{T}, i.e. Normal (54.16%, 75% respectively), Pre-obese (76.47%, 70.83% respectively) and Obese (66.66%, 76.92% respectively) reported that they didn’t’ take rest immediately after meal. Similarly, non-teaching categories in G-I_{NT} & G-II_{NT}, i.e. Normal (86.96%, 66.66% respectively), Pre-obese (66.66%, 58.33%) also reported the same results. Though the study elaborated that there were respondents who took rest immediately after meals but the number was less in comparison to the number of respondents who affirmed ‘No’ rest after meals. The only exception was Obese respondents in G-I_{NT} who reported ‘Yes’ highest in number for having ‘rest immediately after meal’ as given in table 4.10.1.

4.10.2 Regular exercise Program

Table 4.10.1 reveals that teaching respondents from both age groups didn’t follow any regular exercise program. The study further highlighted that the respondents from teaching categories in G-I_{T} i.e. Normal (62.50%), Pre-obese (68.42%) and Obese (75%) and in G-II_{T}, Normal (62.50%), Pre-obese (83.33%) and Obese (92.30%) reported no regular exercise program, which establishes that non-following of regular exercise programme might be one of the causes of obesity in category of Obese teaching respondents as the number in G-II_{T} was very high i.e. 92.30%. The non-teaching respondents had shown contrasting results as the respondents in G-I_{NT} i.e. Normal (56.52%) and Obese (61.53%) and in G-II_{NT}, Normal (79.16%), Pre-obese (58.33%) and Obese (47.36%) reported that they follow a regular exercise program.

4.10.3 Stopped exercise Program ever

Teaching respondents were more studious than non-teaching respondents as the teaching respondents in both age groups i.e. Normal (66.66%, 75.00% respectively), Pre-
obese (78.94%, 77.27% respectively) and Obese (83.33%, 76.92% respectively) in G-I(T) and G-II(T) respectively reported that they didn’t stopped the exercise program which they once started. The study further revealed that large number of non-teaching respondents stopped the regular exercise program i.e. Normal (69.56%), Pre-obese (66.66%) and Obese (53.84%) in G-I(NT) and Normal (41.66%), Pre-obese (25.00%) and Obese (47.36%) in G-II(NT) which was higher than the number of teaching respondents in both the age groups. It is further revealed that the large number of non-teaching respondents was more cautious for continuation of exercise programme in age G-II(NT) in all categories than those respondents who stopped regular exercise programme once it was started.

**4.10.4 Any Other Engagement**

The table 4.10.1 highlighted that respondents in both age groups from teaching as well as non-teaching categories did not have any additional engagement which might have an impact on their obesity. The difference between ‘having additional engagement’ and ‘not having additional engagement’ was higher in G-I(NT) respondents i.e. Normal (8.69% in G-I(T), 91.30% in G-I(NT)), Pre-obese (11.11% in G-I(T), 77.77% in G-I(NT)) and Obese (7.69% in G-I(T), 92.30% in G-I(NT)) than teaching respondents i.e. Normal (45.83%, 54.16% respectively), Pre-obese (21.05%, 78.94% respectively) and Obese (25.00%, 75.00% respectively) in G-I(T). The results are similar in G-II(NT) as well.

**4.10.5 Change in Physical Activity after marriage**

In spite of fact established in Table 4.10.1 that the maximum percentage (91.66%) of working women from the category of Obese teaching had reported high level of change in their physical activity in comparison to non-teaching working women in G-I(T) but the maximum percentage of change in physical activity after marriage reported in Pre-obese category of teaching working women in G-II(T). Furthermore, in both the age groups there was a definite change in physical activity after marriage in teaching as well as non-teaching categories irrespective of categories of obesity.

**4.10.6 Role of family in supporting physical activity after marriage**

It was interesting to note that despite of definite change in physical activity after marriage in both the age groups, a large number of respondents in all the obesity categories in both age groups reported that they were not getting support of family in physical activity except the respondents of Pre-obese teaching working women (58.33%) in G-II(T) who
were getting support from the family in physical activity. It also highlights that the percentage of respondents getting no support was more in non-teaching respondents G-I\textsubscript{NT} like Normal (65.21%), Pre-obese (88.88%) and Obese (84.61%) in comparison to teaching respondents i.e. Normal (58.33%), Pre-obese (55.55%) and Obese (83.33%) in G-I\textsubscript{T} (Table 4.10.1). The results of group II were no better than group I in both teaching as well as non-teaching respondents.

4.10.7 Access to facilities for Physical activity

An interesting fact came out from the study that despite of large number respondents from non-teaching categories did not have access to facilities for physical activity in both age groups irrespective categories of obesity, their number was more in doing regular exercise against the number of teaching respondents (Table 4.10.1). The analysis also revealed that number of non-teaching respondents was more than the teaching respondents in group I like Normal (95.65%, 91.66% respectively), Pre-obese (100%, 83.33% respectively) and Obese (92.30%, 83.33% respectively). The results were also similar except the respondents falling in category of Normal (95.83%, 100% respectively) in G-II\textsubscript{NT}.

4.10.8 Interest in Sports

Another relatively interesting fact was lime lighted that respondents from both age groups in all categories of obesity did not have interest in sports except the respondents from category of Normal (60.86%) in G-I\textsubscript{NT} who had interest in sports. It is in congruence to the variable in which large number of respondents in both categories i.e. teaching & non-teaching in group I & II did not have access to facilities for physical activities (Table 4.10.1). Furthermore, the number of respondents who did not have interest in sports was maximum in Obese category of both (teaching & non-teaching) i.e. 81.81% in G-I\textsubscript{T}, 84.61% in G-I\textsubscript{NT} and 84.61% in G-II\textsubscript{T}, 84.21% in G-II\textsubscript{NT}. It could be inferred that obesity might have both causal and effect relationship with non interest in sports.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Y</td>
</tr>
<tr>
<td>Rest Immediately After Meals</td>
<td>11 (45.83)</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>25.00</td>
<td>16</td>
</tr>
<tr>
<td>Regular Exercise Programme</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>16.66</td>
</tr>
<tr>
<td>Stopped Exercise Programme ever</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>25.00</td>
<td>6</td>
</tr>
<tr>
<td>Any Other Engagement</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>12.50</td>
<td>10</td>
</tr>
<tr>
<td>Change in Physical Activity after Marriage</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>91.66</td>
</tr>
<tr>
<td>Role of Family in Supporting Physical Activity</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>42.85</td>
</tr>
<tr>
<td>Access to Facilities for Physical Activity</td>
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<td>22</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>42.85</td>
</tr>
<tr>
<td>Interest in Sports</td>
<td>6</td>
<td>18</td>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>42.85</td>
</tr>
<tr>
<td>Note: Figures in parentheses denote percentage</td>
<td></td>
<td></td>
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</tbody>
</table>
Table 4.10.2: Number of Times Exercise Programme followed in a week

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NT</td>
</tr>
<tr>
<td>Daily</td>
<td>10 (58.82)</td>
<td>4 (20.00)</td>
</tr>
<tr>
<td>3-5 days per week</td>
<td>0 (55.00)</td>
<td>11 (55.00)</td>
</tr>
<tr>
<td>Less than 3 days per week</td>
<td>7 (41.17)</td>
<td>5 (25.00)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage

Table 4.10.3: Timing for exercise

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<tr>
<th>Variable</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NT</td>
</tr>
<tr>
<td>Less than half an hour</td>
<td>12 (70.58)</td>
<td>12 (60.00)</td>
</tr>
<tr>
<td>30-45 mins</td>
<td>3 (17.64)</td>
<td>8 (40.00)</td>
</tr>
<tr>
<td>45-60 mins</td>
<td>3 (17.64)</td>
<td>2 (18.18)</td>
</tr>
<tr>
<td>More than 60 mins</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage
Table 4.10.4: Frequency of Participation in Sports

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T  (NT)</td>
<td>T (NT)</td>
</tr>
<tr>
<td>Very often</td>
<td>1 (4.76) 0</td>
<td>1 (6.25) 0</td>
</tr>
<tr>
<td>Sometimes</td>
<td>1 (4.76) 3 (13.04) 4 (25.00) 2 (25.00) 2 (40.00) 0</td>
<td>2 (25.00) 4 (17.39) 4 (5.00) 0</td>
</tr>
<tr>
<td>Rarely</td>
<td>5 (23.80) 20 (86.95) 5 (31.25) 6 (75.00) 1 (20.00) 12 (100.00) 0  18 (78.26) 10  6 (50.00) 10  90.90) 3  15 (83.33)</td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td>14 (66.66) 0</td>
<td>6 (37.50) 0</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage

Table 4.10.5: Frequency of Physical Activity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T  (NT)</td>
<td>T (NT)</td>
</tr>
<tr>
<td>Increased</td>
<td>16 (69.56) 15 (65.21) 12 (70.58) 1 (12.50) 8 (72.72) 10 (76.92) 5 (71.42) 17 (70.83) 19 (86.36) 4 (33.33) 7 (58.33) 10 (52.63)</td>
<td></td>
</tr>
<tr>
<td>Somewhat increased</td>
<td>5 (21.73) 3 (13.04) 2 (11.76) 7 (87.50) 2 (18.18) 1 (7.69) 1 (14.28) 6 (25.00) 2 (9.09) 5 (41.66) 4 (33.33) 7 (36.84)</td>
<td></td>
</tr>
<tr>
<td>Decreased</td>
<td>0  2 (9.52) 1 (5.88) 0  0  1 (7.69) 1 (14.28) 0  0  0  1 (8.33) 1 (5.26)</td>
<td></td>
</tr>
<tr>
<td>Somewhat decreased</td>
<td>2 (8.69) 1 (4.76) 2 (11.76) 0  1 (9.09) 1 (7.69) 0  1 (4.16) 1 (4.54) 3 (25.00) 0  1 (5.26)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage
### Table 4.10.6: Reasons for exercising

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group I</th>
<th>Group II</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
<td>Obese</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NT</td>
<td>T</td>
</tr>
<tr>
<td>Good Health</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(26.31)</td>
<td>(20.00)</td>
<td>(16.66)</td>
</tr>
<tr>
<td>Physical Fitness</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(21.05)</td>
<td>(15.00)</td>
<td>(41.66)</td>
</tr>
<tr>
<td>Weight Loss</td>
<td>10</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(52.63)</td>
<td>(40.00)</td>
<td>(33.33)</td>
</tr>
<tr>
<td>Enjoyable Relaxing</td>
<td>0</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(25.00)</td>
<td>(8.33)</td>
<td>(12.50)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage
4.10.9 Number of times exercise programs followed per week

Table 4.10.2 established that the non-teaching respondents had shown contrasting results as the respondents in G-I_{NT} i.e. Normal (56.52%) and Obese (61.53%) and in G-II_{NT}, Normal (79.16%), Pre-obese (58.33%) and Obese (47.36%) reported that they follow a regular exercise program. Despite of the fact that teaching respondents were less in number in comparison to non-teaching respondents who did regular exercise programme, the large number teaching respondents were more particular about the frequency of exercise. The table described that the teaching respondents in G-I_{T} did exercise daily and were more conscious about their exercise schedule than non-teaching respondents. The number of teaching respondents in G-II_{T} specially in Obese category (just 16.66) follow the ‘daily’ exercise programme; rather they (66.66) follow the exercise programme ‘less than 3 days per week’ whereas they (50.00) were not particular about frequency of exercise programme in G-I_{T}. The cause of obesity in teaching respondents also came out with an interesting fact that higher number of working women falling in Normal category did exercise daily in both age groups (58.82, 50.00 respectively) in comparison to other categories like Pre-obese and Obese. Larson (2001) reported the physical activity, inactivity, and perception of ideal body size which have emerged as the most important contributory factors to obesity status. Obese adults had significantly lower levels of physical activity, higher inactivity, and a larger perception of ideal body size than the non-obese. Physical activity was found to be significantly associated with abdominal obesity (odds ratio, .417; 95% CI, .180 to .968). The study concluded that working women need to increase the physical activity to prevent abdominal obesity. Jakicic and Otto (2005) showed that physical activity is an important component on long-term weight control, and there-fore adequate levels of activity were prescribed to combat the obesity epidemic.

4.10.10 Timing for exercise

Table 4.10.3 presented that the sampled respondents did exercise only for the ‘less than half an hour’ time slab by both teaching and non-teaching respondents irrespective of obesity categories. None of the non-teaching respondents reported that they do exercise for ‘45-60 minutes’ slab in both age groups except one respondent from Obese category of G-I_{NT} and one respondent from Pre-obese category of G-II_{NT}. Only three Normal and two
Pre-obese respondents in G-I(T) reported that they did exercise in ‘45-60 minutes’ slab. It can be inferred that the regular exercise with modest time slabs kept the respondents away from obesity. Golubic et al. (2012) investigate the relationship of body weight and its changes over time with physical activity. It was concluded that weight gain (during short-, medium- and long-term) is a significant determinant of future physical inactivity independent of baseline weight and activity.

4.10.11 Frequency of Participation in sports

Very high number of non-teaching respondents from G-I(NT) i.e. Normal (86.95%), Pre-obese (75%) and Obese (100%) and from group G-II(NT) i.e. Normal (78.26%), Pre-obese (90.90%) and Obese (83.33%) shown rare participation in sports. The teachers from Normal (23.80%), Pre-obese (31.25%) and Obese (20%) categories in G-I(T) also shown rare participation and in G-II(T), the teachers from Pre-obese (50%), Obese (30 %) categories were found with rare participation in sports which is comparatively higher to G-I(T) as represented in table 4.10.4. These results corroborate the results presented in table 4.10.1 where the large number of respondents from teaching as well as non-teaching in both age groups shown little interest in sports.

4.10.12 Frequency of Physical activity

The results delivered in table 4.10.1 that there is definite change in physical activity after marriage have been substantiated by the results in table 4.10.5. In this table a large number of respondents from teaching i.e. Normal (69.56%), Pre-obese (70.58%) in G-I(T) and Normal (71.42%), Pre-obese (86.36%) & Obese (58.33%) in G-II(T) reported increase frequency of physical work against the lesser number of respondents from non-teaching category except the high number of Obese non-teaching respondents (76.92%) in G-I(NT). Very few respondents were found with their response of decreased or somewhat decreased in their physical activity. Bansal et al. (2013) reported lifestyle factors being the important determinant of the obesity. Life style factors (dietary habits) increases the risk of obesity. The study showed that reduced opportunities for physical work and playtime could explain higher risks of getting obese among girls.

4.10.13 Reason for exercise

An attempt had been made in Table 4.10.6 to find reasons for exercising where very high number respondents from teaching and non-teaching in both age G-I(T) , G-I(NT)
and G-II(T), G-II(NT) reported weight loss as their major reason for exercising as compared to other reasons cited. The high percentage of Obese teaching and non-teaching respondents from G-I(T) and G-I(NT) (62.50%, 61.53%) respectively and Obese teaching respondents (57.14%) in G-II(T) have reported weight loss as one of the reasons for exercising. Another variable which had cosmetic shadow to keep the good health is reported by again both type of respondents i.e. teaching and non-teaching, whereas non-teaching respondents from Normal (25.00%), Pre-obese (12.50%) in G-I(NT) and teaching respondents from Pre-obese (8.33%) in G-I(T) and non-teaching respondents in G-II(NT) i.e. Normal (13.04%), Pre-obese (10.00%) & Obese (20.00%) in addition to teaching respondents from Pre-obese (16.66%) and Obese (28.57%) in G-II(T) found ‘enjoyable and relaxing’ as one reason for exercising.

4.10.14 Mode of Commuting

Results from the Table 4.10.7 revealed that the majority of respondents from teaching and non-teaching respondents in G-I(T), G-I(NT) and G-II(T), G-II(NT) were found using ‘personal vehicle’ whereas ‘public transport’ was used by very less number of respondents.

4.10.15 Efforts required for Household work

Non-teaching respondents from G-I(NT), i.e. Normal (78.26%), Pre-obese (100%) and Obese (61.53%) reported doing more ‘Lot of effort’ for their household work in comparison to their teaching counterparts in G-I(T) as shown in Table 4.10.8. However in G-II(T) the trends got reversed as the teaching respondents like Normal (50.00%), Pre-obese (62.50%) did ‘lot of efforts’ for their household work except category of Obese (84.21%) respondents. On the other hand, the maximum percentage of teaching respondents in G-I(T) and G-II(T) i.e. Normal (45.83%, 50.00% respectively), Pre-obese (31.57%, 33.33% respectively) and Obese (33.33%, 38.46% respectively) reported ‘not much’ efforts required for household work as compared to non-teaching category. Furthermore, the highest percentage of the respondents was found in Normal category (70.83%) in G-II(NT) as compared to others categories in case of ‘Minimal amount of
Table 4.10.7: Mode of Commuting

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NT</td>
</tr>
<tr>
<td>Personal Vehicle</td>
<td>18 (75.00)</td>
<td>16 (69.56)</td>
</tr>
<tr>
<td>Public Transport</td>
<td>6 (25.00)</td>
<td>7 (30.43)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage.

Table 4.10.8: Efforts required for Household Work

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<tr>
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<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
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<td></td>
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<td>Pre-obese</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NT</td>
</tr>
<tr>
<td>Lot of effort</td>
<td>9 (37.50)</td>
<td>18 (78.26)</td>
</tr>
<tr>
<td>Not much</td>
<td>11 (45.83)</td>
<td>2 (8.69)</td>
</tr>
<tr>
<td>Minimal amount of effort</td>
<td>4 (16.66)</td>
<td>3 (13.04)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage.
Table 4.10.9 Diseases

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<tbody>
<tr>
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<td>Normal</td>
<td>Pre-obese</td>
<td>Obese</td>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
<td>Obese</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
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<td>NT</td>
</tr>
<tr>
<td>Total no. of Respondents</td>
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<td>19</td>
<td>9</td>
<td>12</td>
<td>13</td>
<td>8</td>
<td>24</td>
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<td>2</td>
<td>2</td>
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<td>3</td>
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<td>4</td>
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<tr>
<td></td>
<td>(8.33)</td>
<td>(26.08)</td>
<td>(10.54)</td>
<td>(22.23)</td>
<td>(58.33)</td>
<td>(23.08)</td>
<td>(12.50)</td>
<td>(16.66)</td>
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<td>(8.33)</td>
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<td>(4.17)</td>
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<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(4.17)</td>
<td>(4.35)</td>
<td>(11.11)</td>
<td></td>
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<td>(12.50)</td>
<td>(4.17)</td>
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<tr>
<td>Hypertension</td>
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<td>1</td>
<td>1</td>
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<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4.35)</td>
<td>(11.11)</td>
<td>(11.11)</td>
<td>(25.00)</td>
<td>(15.38)</td>
<td>(4.17)</td>
<td>(8.33)</td>
</tr>
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<td>Kidney stone</td>
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<td></td>
<td></td>
<td></td>
<td>(10.52)</td>
<td></td>
<td></td>
<td></td>
<td>(4.17)</td>
<td></td>
</tr>
<tr>
<td>Common Cold</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(4.17)</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>19</td>
<td>15</td>
<td>14</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(79.17)</td>
<td>(65.22)</td>
<td>(73.68)</td>
<td>(55.55)</td>
<td>(16.67)</td>
<td>(53.85)</td>
<td>(87.50)</td>
<td>(58.33)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(83.33)</td>
<td>(50.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(53.85)</td>
<td>(77.77)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote percentage
Agrawal (2005) examined the changes in BMI status of women according to lifestyle and dietary habits and impact of BMI on their health status. The findings revealed that women who are less involved in physical activities and frequently consumes more sugary and fatty items had experienced significant increase in BMI status and perceived worst health status but found significantly higher among obese women than overweight and normal women.

4.10.16 Diseases

Table 4.10.9 highlighted that the most affected persons belong to Obese category of respondents in G-I(T) i.e. (25.00%) and (15.38%) in G-I(NT) who suffered from Hypertension. However the number of respondents from teaching and non-teaching Obese categories in G-II(NT) was very less who suffer from different diseases. Rather large number of non-teaching obese respondents (77.77%) told that they did not suffer from any disease. It was also revealed that Normal respondents (8.33%) who suffered from Diabetes in age group G-I(T) might be because of their life style. Similarly 12.50% of Normal non-teaching respondents suffered from thyroid in G-II(NT). Furthermore a large number of respondents from teaching and non-teaching categories i.e. Normal (79.17% in G-I(T), 65.22% in G-I(NT)) Pre-obese (73.68% in G-I(T), 55.55% in G-I(NT)) & Obese (53.85% in G-I(NT)) and Normal (87.50% in G-II(T), 58.33% in G-II(NT)), Pre-obese (83.33% in G-II(T), 50.00% in G-II(NT)) and Obese (53.85% in G-II(T)) said that they didn’t have any disease.

4.11 Socio-Economic Status of Teaching and Non-Teaching Respondents

Table 4.11.1 showed that the highest mean value of Obese teaching respondents (1274.22) belong to Upper class and the Normal (1168.88) and Pre-obese (1208.40) teaching respondents belong to Upper Middle class.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Teaching</th>
<th>Non-teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>t-score</td>
</tr>
<tr>
<td>Normal</td>
<td>1168.88</td>
<td>62.14</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>1208.40</td>
<td>66.95</td>
</tr>
<tr>
<td>Obese</td>
<td>1274.22</td>
<td>73.90</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS and MS-excel
Note: UMC denotes Upper Middle Class, UC denotes, Upper Class and MC denotes Middle Class.

However the analysis also revealed that the non-teaching respondents belong to Middle class as per their socio-economic status irrespective of their obesity categories.

4.11.1 Comparison of Mean BMI Scores of teaching and non-teaching respondents based on their socio-economic scores

4.11.1.1 Mean BMI scores of teaching respondents based on their socio-economic scores in Group I

According to table 4.11.2, the mean BMI of UMC (27.05) was higher as compared to MC (26.21) and UC (23.97). As far as the f-value (1.044) is concerned, there was no difference between mean BMI scores of teaching respondents based on their socio-economic scores in G-I(T) which tends to be insignificant at 5% significance level.

<table>
<thead>
<tr>
<th>Source: Compiled with SPSS and MS-excel</th>
</tr>
</thead>
</table>

* Significant F-value at p<0.05

Table 4.11.2: Difference between mean BMI scores of teaching respondents based on their socio-economic scores in Group I

<table>
<thead>
<tr>
<th></th>
<th>Upper class (UC)</th>
<th>Upper middle class (UMC)</th>
<th>Middle class (MC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>23.97</td>
<td>27.05</td>
<td>26.21</td>
</tr>
<tr>
<td>Variance</td>
<td>20.04</td>
<td>20.67</td>
<td>31.46</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>7</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>F value</td>
<td></td>
<td></td>
<td>1.044</td>
</tr>
</tbody>
</table>

4.11.1.2 Mean BMI scores of teaching respondents based on their socio-economic scores in Group II

According to Table 4.11.3, the mean BMI of UMC (28.65) was higher as compared to MC (27.85) and UC (25.02). As far as the f-value (1.933) was concerned, there was no significant difference between mean BMI scores of teaching respondents based on their socio-economic scores in G-II(T) at 5% significance level.
Table 4.11.3: Difference between mean BMI scores of teaching respondents in Group II based on their socio-economic scores

<table>
<thead>
<tr>
<th></th>
<th>Upper class (UC)</th>
<th>Upper middle class (UMC)</th>
<th>Middle class (MC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>25.02</td>
<td>28.65</td>
<td>27.85</td>
</tr>
<tr>
<td>Variance</td>
<td>15.86</td>
<td>13.97</td>
<td>12.33</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>5</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>F value</td>
<td></td>
<td></td>
<td>1.933</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS and Ms-excel

* Significant F-value at p<0.05

4.11.1.3 Mean BMI scores of non-teaching respondents based on their socio-economic scores in Group I

According to table 4.11.4, the mean BMI of MC (26.08) was higher as compared to UMC (23.73). As far as the t-value (0.584) is concerned, there was no significant difference between mean BMI scores of non-teaching respondents based on their socio-economic scores in G-I(NT) at 5% significance level.

Table 4.11.4: Difference between mean BMI scores of non-teaching respondents in Group I based on their socio-economic scores

<table>
<thead>
<tr>
<th></th>
<th>Middle Class (MC)</th>
<th>Upper Middle Class (UMC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>26.08</td>
<td>23.73</td>
</tr>
<tr>
<td>Variance</td>
<td>30.91</td>
<td>33.80</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>44</td>
<td>2</td>
</tr>
<tr>
<td>t-value</td>
<td></td>
<td>0.584</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS and MS-excel

* Significant t-value at p<0.05

4.11.1.4 Mean BMI scores of non-teaching respondents based on their socio-economic scores in Group II

According to table 4.11.5, the mean BMI of MC (27.24) was higher as compared to UMC (25.43). As far as the t-value (0.696) is concerned, there was no significant difference between mean BMI scores of non-teaching respondents based on their socio-economic scores in G-II(NT) at 5% significance level.
Table 4.11.5: Difference between mean BMI scores of non-teaching respondents in Group II based on their socio-economic scores

<table>
<thead>
<tr>
<th></th>
<th>Middle class (MC)</th>
<th>Upper Middle Class (UMC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>27.24</td>
<td>25.43</td>
</tr>
<tr>
<td>Variance</td>
<td>24.17</td>
<td>42.05</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>t-value</td>
<td>0.696</td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS and MS-excel

* Significant t-value at p<0.05

Lindstrom (2001) found that individuals in lower SES have less leisure time physical activity than those in a higher SES group. National Obesity Observatory (2012) examined the relationship between obesity prevalence and socioeconomic status. These studies substantiated that lower socioeconomic status is associated with a greater risk of obesity and also concluded that a strong relationship between obesity prevalence and occupation-based social class existed for women.

4.12 Components of Anxiety Level

4.12.1 Loneliness of non-teaching and teaching respondents

Normal teaching respondents showed a slightly higher inclination towards loneliness behaviour due to its highest mean score (8.44) as compared to Pre-obese (7.44) and Obese respondents (8.25) in G-I_{(T)} (Table 4.12.1). Similarly, in G-II_{(T)} as well, Normal respondents had highest mean value (8.25) followed by Pre-obese respondents (7.75) and Obese (7.23).

Table 4.12.1: Loneliness of teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Mean</td>
<td>8.44</td>
<td>7.44</td>
</tr>
<tr>
<td>S.D ±</td>
<td>2.71</td>
<td>2.61</td>
</tr>
<tr>
<td>CV</td>
<td>32.1%</td>
<td>35.1%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel
Coefficient of variation is a measure of relative variability in the data. Normal teaching respondents had least CV (32.1%) indicating higher relative stability of mean data in G-I\(_{(T)}\). As the CV of Normal teaching respondents was less, which mentioned that this score was much closer to mean and showed less variability than scores of other categories of respondents. Hence, it could be inferred than Normal teaching respondents in G-I\(_{(T)}\) show higher lonely behaviour than other categories of respondents.

Similarly, according to results in Table 4.12.1, Normal teaching respondents in G-II\(_{(T)}\) had higher mean value (8.25) as compared to Pre-obese (7.75) and Obese teaching respondents (7.23). But the lowest CV in Obese teaching respondents (40.77%) implied that these respondents show higher lonely behaviour.

The mean value of loneliness in Normal non-teaching respondents came out to be maximum (8.95) followed by Pre-obese (8.44) and Obese respondents (6.55) in G-I\(_{(NT)}\) (Table 4.12.2). It means that individuals with normal BMI showed more loneliness than other categories of respondents. However Pre-obese non-teaching respondents had a highest mean value (9.31) as compared to Normal (9.21) and Obese respondents (7.83) in G-II\(_{(NT)}\) which indicates that Pre-obese individuals showed more loneliness than other categories of respondents.

**Table 4.12.2: Loneliness of non-teaching respondents in Group I and II**

<table>
<thead>
<tr>
<th>No. of respondents</th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&lt;30)</th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&lt;30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23</td>
<td>9</td>
<td>14</td>
<td>23</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Mean</td>
<td>8.95</td>
<td>8.44</td>
<td>6.55</td>
<td>9.21</td>
<td>9.31</td>
<td>7.83</td>
</tr>
<tr>
<td>S.D ±</td>
<td>1.66</td>
<td>3.61</td>
<td>3.43</td>
<td>2.55</td>
<td>2.42</td>
<td>2.83</td>
</tr>
<tr>
<td>CV</td>
<td>18.5%</td>
<td>42.7%</td>
<td>52.3%</td>
<td>27.7%</td>
<td>26.1%</td>
<td>36.1%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Coefficient of variation is a measure of relative variability in the data. Normal non-teaching respondents had least CV (18.5%) indicating higher relative stability of mean data in G-I\(_{(NT)}\). As the CV of Normal non-teaching respondents was less, which mentioned that this score was much closer to mean and showed less variability than scores of other categories of respondents. Hence, it could be inferred than Normal non-teaching respondents in G-I\(_{(NT)}\) show higher lonely behaviour than other categories of respondents.
Similarly, according to results in Table 4.12.1, Pre-obese non-teaching respondents in G-II_{NT} had higher mean value (9.31) as compared to Normal (9.21) and Obese teaching respondents (7.83). The lowest CV in Pre-obese teaching respondents (26.1%) implied that these respondents show higher lonely behaviour than Normal (27.7%) and Obese teaching respondents (36.1%).

### 4.12.2 Depression

Table 4.12.3 presented depression data of Normal, Pre-obese and Obese teaching respondents. Table exhibited that the teaching Obese respondents in G-I_{T} show higher depression behaviour than Normal and Pre-obese respondents as standard deviations were almost similar and mean score is high in case of Obese teaching respondents (10.33).

Table 4.12.3 describes C.V was quite high in Pre-obese respondents (46.65%) followed by Normal (28.64%) and Obese (26.84%) respondents in G-I_{T}. In G-II_{T}, Pre-obese respondents show higher depression behaviour (mean=10.33) than Normal (9.87) and Obese respondents (9.31) as CV was least (32.86%) implying least variation in data in relation to other categories of respondents i.e. 33.22% in Obese and 42.77% in Normal respondents. As the mean value of Pre-obese respondents was high, this indicated that these respondents show higher depression behaviour.

#### Table 4.12.3: Depression of teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal (18.50-24.99)</td>
<td>Pre-obese (25.00-29.99)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Mean</td>
<td>8.12</td>
<td>8.36</td>
</tr>
<tr>
<td>S. D ±</td>
<td>2.32</td>
<td>3.91</td>
</tr>
<tr>
<td>CV</td>
<td>28.64%</td>
<td>46.65%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Table 4.12.4 presented depression data of Normal, Pre-obese and Obese non-teaching respondents. Table highlighted those non-teaching Obese respondents in G-I_{NT} show higher depression behaviour than Normal (8.65) or Pre-obese respondents (10) because of higher mean score of (11.21). Pre-obese respondents in G-II_{NT} showed high
mean value (12.33) that implies the higher depression behaviour as compared to Normal and Obese respondents.

Table 4.12.4: Depression of non-teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Mean</td>
<td>8.65</td>
<td>10</td>
</tr>
<tr>
<td>S.D ±</td>
<td>3.49</td>
<td>3.96</td>
</tr>
<tr>
<td>CV</td>
<td>40.43%</td>
<td>39.68%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and Ms-excel

Coefficient of variation of Normal respondents showed higher C.V (40.43%) followed by Pre-obese (39.68%) and Obese respondents (18.56%) in G-I\(_{(NT)}\) (Table 4.12.4). Obese respondents in G-II\(_{(NT)}\) showed higher C.V (38.42%) followed by Normal (28.11%) and Pre-obese respondents (25.71%) indicated high variation in data in relation to others.

4.12.3 Inferiority complex of teaching and non-teaching respondents

Table 4.12.5 showed inferiority complex of teaching respondents in G-I\(_{(T)}\) and G-II\(_{(T)}\). The mean value of Pre-obese respondents (12.84) in G-I\(_{(T)}\) was found to be high as compared to Obese (12.41) and Normal respondents (12.21) implying Pre-obese teaching respondents showed higher inferiority complex. In G-II\(_{(T)}\), the mean value was higher in Normal teaching respondents (14.25) than Pre-obese (13.66) and Obese teaching respondents (12.53) indicating Normal respondents showed higher inferiority complex.

Table 4.12.5: Inferiority complex of teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Mean</td>
<td>12.21</td>
<td>12.84</td>
</tr>
<tr>
<td>S.D ±</td>
<td>3.42</td>
<td>3.51</td>
</tr>
<tr>
<td>CV</td>
<td>28.16%</td>
<td>27.37%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and Ms-excel
Obese teaching respondents had the highest C.V. (31.55%) as compared to Normal (28.16%) and Pre-obese teaching respondents (27.37%) in G-I(T) (Table 4.12.5). However, Coefficient of variation was found to be higher in Normal respondents (33.28%) implying the higher variability in the data which had been followed by Pre-obese (30.94%) and Obese (28.49%) respondents in G-II(T).

**Table 4.12.6: Inferiority complex of non-teaching respondents**

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>(18.50-24.99)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>23</td>
</tr>
<tr>
<td>Mean</td>
<td>12.52</td>
</tr>
<tr>
<td>S.D ±</td>
<td>3.47</td>
</tr>
<tr>
<td>CV</td>
<td>27.75%</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>(18.50-24.99)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>24</td>
</tr>
<tr>
<td>Mean</td>
<td>14.79</td>
</tr>
<tr>
<td>S.D ±</td>
<td>4.84</td>
</tr>
<tr>
<td>CV</td>
<td>32.75%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Table 4.12.6 highlighted inferiority complex of non-teaching respondents in G-I(NT) and G-II(NT). Normal respondents in G-I(NT) did show least inferior complex behaviour as the mean score (12.52) of them found to be least as compared to the mean scores of Pre-obese (14.11) and Obese respondents (14.64). Therefore, it could be inferred that they had least tendency to show inferiority complex behaviour in comparison to Pre-obese and Obese respondents. On the other side, Pre-obese non-teaching respondents in the age group G-II(NT) had higher tendency (high mean value=16.25) to show high inferiority complex behaviour than Normal (14.79) and Obese respondents (13.22).

Table 4.12.6 showed the more dispersion in Pre-obese respondents (37.06%) as compared to Normal (27.75%) and Obese respondents (25.77%) in G-I(NT). In G-II(NT), C.V was found to be higher in Normal respondents (32.75%) followed by Obese (21.63%) and Pre-obese respondents (20.34%).

**4.12.4 Guilt-proneness of teaching and non-teaching respondents**

Guilt-proneness of teaching respondents in both age groups was shown by Table 4.12.7. In G-I(T), the mean value of Guilt-proneness in Obese respondents was found to be higher followed by Normal (7.12) and Pre-obese respondents (6.68) indicating Obese people were more guilt-prone than other categories of respondents. The mean score of
Guilt-proneness in Normal respondents (6.25) in G-II\textsubscript{(T)} came out to be higher as compared to Pre-obese (5.71) and Obese respondents (5.23) showed higher guilt-prone behaviour in Normal respondents.

**Table 4.12.7: Guilt-proneness of teaching respondents in Group I and II**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th></th>
<th>Group II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Mean</td>
<td>7.12</td>
<td>6.68</td>
<td>7.16</td>
<td>6.25</td>
</tr>
<tr>
<td>S.D ±</td>
<td>2.84</td>
<td>2.16</td>
<td>2.12</td>
<td>1.75</td>
</tr>
<tr>
<td>CV</td>
<td>39.97%</td>
<td>32.33%</td>
<td>29.64%</td>
<td>28.04%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Coefficient of variation was found to be higher in Normal respondent (39.97%) in G-I\textsubscript{(T)} as compared to Pre-obese (32.33%) and Obese respondents (29.64%). It showed the higher variability in the Normal teaching respondents shown in Table 4.12.7. In G-II\textsubscript{(T)}, the more dispersion was found in Obese respondents as compared to Pre-obese (33.66%) and Normal respondents (28.04%).

Pre-obese non-teaching respondent had highest CV (45.92%) as compared to Normal (37.71%) and Obese respondents (34.01%) in G-I\textsubscript{(NT)}. However, Obese respondents in G-II\textsubscript{(NT)} showed highest C.V in G-II\textsubscript{(NT)} indicating more guilt-prone behaviour (Table 4.12.8).

**Table 4.12.8: Guilt-proneness of non-teaching respondents in Group I and II**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th></th>
<th>Group II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>9</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>Mean</td>
<td>6.78</td>
<td>8</td>
<td>8.14</td>
<td>6.65</td>
</tr>
<tr>
<td>S.D ±</td>
<td>2.55</td>
<td>3.67</td>
<td>2.76</td>
<td>2.93</td>
</tr>
<tr>
<td>CV</td>
<td>37.71%</td>
<td>45.92%</td>
<td>34.01%</td>
<td>44.08%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel
4.12.5 Ergic tension of teaching and non-teaching respondents

Ergic tension data of teaching respondents under both age categories was presented in Table 4.12.9. In G-I(T), the mean value of ergic tension in Obese respondents came out to be maximum (13.07) followed by Pre-obese (11.41) and Normal respondents (10.75). It means that Obese individuals showed higher ergic tension than other categories of respondents. Similarly in G-II(T), Pre-obese respondents had a highest mean value (10.73) as compared to Normal (10.29) and Obese respondents (8.75) which indicated that Pre-obese individuals showed higher ergic tension than other respondents.

Table 4.12.9: Ergic tension of teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Mean</td>
<td>10.75</td>
<td>11.41</td>
</tr>
<tr>
<td>S.D ±</td>
<td>7.42</td>
<td>4.01</td>
</tr>
<tr>
<td>CV</td>
<td>69.03%</td>
<td>35.12%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Pre-obese individuals in both age groups showed less CV (35.12%, 20.78% respectively) from which it could be inferred that it showed less variability as presented in Table 4.12.9. The highest C.V in both G-I(T) and G-II(T) (69.03%, 37.52% respectively) found in Normal respondents followed by Obese respondents G-I(T) and G-II(T) (43.19%, 36.18% respectively).

Ergic tension of non-teaching respondents under both age groups was presented in Table 4.12.10. The mean value of ergic tension in Normal respondents in G-I(NT) came out to be maximum (11.61) followed by Pre-obese (11.00) and Obese respondents (10.28). It means that Normal individuals showed higher ergic tension than other categories of respondents. Similarly, Pre-obese respondents in G-II(NT) had a highest mean value (17.33) as compared to Normal (14.62) and Obese respondents (13.38) indicating that Pre-obese individuals showed higher ergic tension than other respondents.
Table 4.12.10: Ergic tension of non-teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal (18.50-24.99)</td>
<td>Pre-obese (25.00-29.99)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Mean</td>
<td>11.61</td>
<td>11</td>
</tr>
<tr>
<td>S.D ±</td>
<td>3.35</td>
<td>3.5</td>
</tr>
<tr>
<td>CV</td>
<td>28.89%</td>
<td>31.81%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Normal individuals in G-I(NT) showed less CV (28.89 percent) which explained less variability as presented in table. The highest C.V found in Obese non-teaching respondents (42.19%) followed by Pre-obese respondents (31.81%). Furthermore, Obese individuals in G-II(NT) showed least C.V (30.96%) as compared to Normal (31.02%) and Pre-obese respondent (35.59%). From which, It could be inferred that Obese respondents showed less variability in ergic tension behaviour than Pre-obese respondents.

4.12.6 Paranoid suspiciousness of teaching and non-teaching respondents

Paranoid suspiciousness of teaching respondents in both age groups was presented in Table 4.12.11. The mean value of Paranoid suspiciousness in Pre-obese respondents in G-I(T) came out to be higher (14.26) followed by Obese (13.00) and Normal respondents (12.87). It means that Pre-obese individuals showed higher Paranoid suspiciousness than other categories of respondents. Similarly Pre-obese respondents in G-II(T) had a highest mean value (13.61) as compared to Normal (13.50) and Obese respondents (13.43) indicating that Obese individuals show least paranoid suspiciousness than other categories of respondents.

Normal individuals in G-I(T) showed less CV (22.70%) which indicates less variability as presented in Table 4.12.11. The highest C.V found in Obese respondents (43.76%) followed by Pre-obese respondents (28.22%). Pre-obese individuals in G-II(T) showed least C.V (32.99%) as compared to Obese (33.26%) and Normal respondents (54.14%).
Table 4.12.11: Paranoid suspiciousness of teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Mean</td>
<td>12.87</td>
<td>14.26</td>
</tr>
<tr>
<td>S.D ±</td>
<td>2.92</td>
<td>4.02</td>
</tr>
<tr>
<td>CV</td>
<td>22.70%</td>
<td>28.22%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

From which, it could be inferred that Pre-obese respondents showed less variability in paranoid suspiciousness behaviour than other categories of respondents.

Table 4.12.12: Paranoid suspiciousness of non-teaching respondents in Group I and II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>S.D ±</td>
<td>2.74</td>
<td>4.91</td>
</tr>
<tr>
<td>CV</td>
<td>20.22%</td>
<td>36.16%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Paranoid suspiciousness data of non-teaching respondents under both age groups was presented in Table 4.12.12. Though the mean value of Paranoid suspiciousness in Normal (13.56), Pre-obese (13.55) and Obese (13.57) non-teaching respondents in G-I(NT) came out to be almost same, however the absolute values of Pre-obese individuals show higher Paranoid suspiciousness than other categories of respondents. Furthermore, Pre-obese respondents in G-II(NT) had a highest mean value (16.13) as compared to Normal (14.71) and Obese respondents (12.44) which implied that Obese individuals show least paranoid suspiciousness than other categories of respondents.

Normal respondents in G-I(NT) showed less CV (20.22%) which shows less variability as presented in Table 4.12.12. The highest C.V found in Pre-obese teaching respondents (36.16%) was followed by Obese respondents (27.52%). Pre-obese individuals in G-II(NT) showed least C.V (16.86%) as compared to Obese (23.42%) and Normal
respondent (32.29%). From which, it was inferred that Pre-obese respondents showed less variability in paranoid suspiciousness behaviour than other categories of respondents.

4.12.7 Emotional instability of teaching and non-teaching respondents

Emotional instability of teaching respondents in both age groups was presented in Table 4.12.13. The mean value of Emotional instability in Pre-obese (13.84) in G-I(T) was higher as compared to Obese (10.33) and Normal (9.95) respondents. It means that Pre-obese individuals showed higher Emotional instability than other categories of respondents. The mean value of Normal (11.87) and Obese (11.84) respondents in G-II(T) came out to be almost same. The least mean value of emotional instability was found in Pre-obese teaching respondents (11.04) which implied that Normal respondents show higher tendency towards emotional unstable behaviour.

Table 4.12.13: Emotional instability of teaching respondents in Group I & II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th></th>
<th>Group II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-obese</td>
<td>Obese</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>(18.50-24.99)</td>
<td>(25.00-29.99)</td>
<td>(&gt;30)</td>
<td>(18.50-24.99)</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Mean</td>
<td>9.95</td>
<td>13.84</td>
<td>10.33</td>
<td>11.87</td>
</tr>
<tr>
<td>S.D ±</td>
<td>5.13</td>
<td>3.78</td>
<td>1.82</td>
<td>4.22</td>
</tr>
<tr>
<td>CV</td>
<td>51.58%</td>
<td>27.37%</td>
<td>17.66%</td>
<td>35.56%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and Ms-excel

Table 4.12.13 explained that Obese respondents showed less CV (17.66%) in G-I(T) which shows less variability in said category. The highest C.V found in Normal teaching respondents (51.58%) was followed by Pre-obese respondents (27.37%). In contrast to G-I(T) Normal individuals in G-II(T) showed least C.V (35.56%) as compared to Obese (38.19%) and Pre-obese respondents (38.28%). It could be inferred that Normal respondents showed less variability in emotional instability behaviour than Obese and Pre-obese respondents in G-II(T).

Table 4.12.14 exhibited emotional instability of non-teaching respondents in both age groups. The mean value of emotional instability in Pre-obese (14.88) in G-I(NT) was higher as compared to Normal (11.65) and Obese (11.57) non-teaching respondents. It means that Pre-obese individuals showed higher emotional instability than other categories of respondents. Similarly the mean value of Pre-obese (17.25) respondents in G-II(NT)
found to be higher as compared to Normal respondents (14.87). Furthermore, the least mean value of emotional instability was found in Obese teaching respondents (13.83) which implied that obese respondents showed higher tendency towards emotional instability.

**Table 4.12.14: Emotional instability of non-teaching respondents in Group I & II**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Mean</td>
<td>11.65</td>
<td>14.88</td>
</tr>
<tr>
<td>S.D ±</td>
<td>4.55</td>
<td>4.64</td>
</tr>
<tr>
<td>CV</td>
<td>39.12%</td>
<td>31.22%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and Ms-excel

According to table 4.12.14, Pre-obese respondents in G-I_{(NT)} showed less CV (31.22%) which shows less variability. The highest C.V found in Obese non-teaching respondents (52.59%) was followed by Normal respondents (39.12%). Similarly, Pre-obese individuals in G-II_{(NT)} showed least C.V (23.46%) as compared to Normal (28.95%) and Obese respondent (32.54%). From which, it could be inferred that Pre-obese respondents showed less variability in emotional instability behaviour than other categories of respondents.

**4.12.8 Hypochondriacal tendencies**

Table 4.12.15 highlighted hypochondriacal tendencies of teaching respondents in both age groups. The mean value of hypochondriacal tendencies in Normal (12.45) was higher in comparison to Pre-obese (11.68) and Obese (9.58) respondents in G-I_{(T)}. It means that Normal individuals showed higher hypochondriacal tendencies than other categories of respondents.

The mean value of Normal (12.75) found to be higher as compared to Pre-obese respondents (11.41) in G-II_{(T)} in addition to least mean value of emotional instability in Obese respondents (11.31). It implied that Normal respondents show higher hypochondriacal tendencies than other categories of respondents.
According to table 4.12.15, Normal respondents showed less CV (13.59%) in G-I(T) which shows less variability in hypochondriacal tendencies. The highest C.V found in Obese teaching respondents (29.99%) followed by Pre-obese respondents (26.31%). However, Pre-obese individuals showed highest C.V (22.35%) as compared to Obese (21.77%) and Normal respondent (16.10%) in G-II(T). It could be inferred that Pre-obese respondents showed higher variability in hypochondriacal tendencies in G-II(T) in comparison to G-I(T).

Table 4.12.15: Hypochondriacal tendencies of teaching respondents in Group I & II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Mean</td>
<td>12.45</td>
<td>11.68</td>
</tr>
<tr>
<td>S.D ±</td>
<td>1.69</td>
<td>3.07</td>
</tr>
<tr>
<td>CV</td>
<td>13.59%</td>
<td>26.31%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Table 4.12.16 highlighted hypochondriacal tendencies of non-teaching respondents in both age groups. The mean value of hypochondriacal tendencies in Pre-obese (11.91) was higher in comparison to Normal (11.86) and Obese (10.45) respondents in G-I(NT). It means that Pre-obese individuals showed higher hypochondriacally tendencies than other categories of respondents. Similarly the mean value of Pre-obese (13.16) found to be higher as compared to Normal respondents (11.83) in G-II(NT). The least mean value of hypochondriacal tendencies was found in Obese respondents (11.11) in G-II(NT) which implied that Obese respondents showed higher hypochondriacally tendencies than others.

Table 4.12.16: Hypochondriacal tendencies of non-teaching respondents in Group I & II

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>Mean</td>
<td>11.86</td>
<td>11.91</td>
</tr>
<tr>
<td>S.D ±</td>
<td>2.63</td>
<td>2.23</td>
</tr>
<tr>
<td>CV</td>
<td>22.18%</td>
<td>18.74%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel
According to table 4.12.16, Obese respondents showed high CV (23.57\%) in G-\(\text{I}_{\text{NT}}\) which shows higher variability in hypochondriacal tendencies. The least C.V was found in Pre-obese (18.74\%) as compared to Normal non-teaching respondents (22.18\%). However, Normal individuals in G-II\(_{\text{NT}}\) showed highest C.V (26.91\%) as compared to Obese (18.23\%) and Pre-obese respondents (14.05\%). It could be inferred that Normal respondents show higher variability in hypochondriacal tendencies.

**4.12.9 Somatic reaction**

Table 4.12.17 highlighted somatic reaction of teaching respondents in both age groups. The mean value of somatic reaction in Pre-obese (14.26) was higher in comparison to Normal (12.21) and Obese (11.91) respondents in G-I\(_T\). It means that Pre-obese individuals showed higher somatic reaction than other categories respondents. The mean value of Pre-obese (12.71) found to be higher as compared to Normal respondents (12.50) in G-II\(_T\). The least mean value of somatic reaction was found in Obese teaching respondents (11.76) which implied that obese respondents showed less somatic reaction than other categories of respondents.

**Table 4.12.17: Somatic reaction of teaching respondents in Group I & II**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Nursery</th>
<th>Group II</th>
<th>Nursery</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of respondents</td>
<td>24</td>
<td>19</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Mean</td>
<td>12.21</td>
<td>14.26</td>
<td>11.91</td>
<td>12.50</td>
</tr>
<tr>
<td>S.D ±</td>
<td>3.99</td>
<td>3.55</td>
<td>4.29</td>
<td>6.30</td>
</tr>
<tr>
<td>CV</td>
<td>32.76%</td>
<td>24.93%</td>
<td>36.04%</td>
<td>50.41%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

According to table 4.12.17, Obese respondents show high CV (36.04\%) in G-I\(_T\) which showed higher variability in somatic reaction. The least C.V was found in Pre-obese (24.93\%) as compared to Normal teaching respondents (32.76\%). However, Normal individuals showed highest C.V (50.41\%) as compared to Pre-obese (35.75\%) and Obese respondents (28.42\%) in G-II\(_T\). It could be inferred that Normal respondents show higher variability in somatic reaction.
Table 4.12.18 highlighted somatic reaction of non-teaching respondents in both age groups. The mean value of somatic reaction in Pre-obese (15.11) was higher in comparison to Obese (13.85) and Normal (12.74) non-teaching respondents in G-I\textsubscript{(NT)}. It means that Pre-obese individuals showed higher somatic reactions than other categories of respondents. The mean value of Pre-obese (16.75) found to be higher as compared to Normal respondents (16.37) in G-II\textsubscript{(NT)} in addition to the least mean value of somatic reaction in Obese teaching respondents (12.38). It implies that Obese respondents showed less somatic reaction than other categories of respondents.

<table>
<thead>
<tr>
<th>Group</th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&gt;30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>23</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Mean</td>
<td>12.74</td>
<td>15.11</td>
<td>13.85</td>
</tr>
<tr>
<td>S.D ±</td>
<td>3.85</td>
<td>3.62</td>
<td>4.34</td>
</tr>
<tr>
<td>CV</td>
<td>30.23%</td>
<td>23.96%</td>
<td>31.37%</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

According to table 4.12.18, Obese respondents showed high CV (31.37%) in G-I\textsubscript{(NT)} which shows higher variability in somatic reaction. The least C.V was found in Pre-obese (23.96%) as compared to Normal non-teaching respondents (30.23%). However, Normal individuals in G-II\textsubscript{(NT)} showed highest C.V (27.18%) as compared to Pre-obese (22.50%) and Obese respondents (21.29%). It was inferred that Normal respondents showed higher variability in somatic reaction.

4.13 Comparative Analysis of Various Anxiety Components between Teaching and Non-Teaching Respondents

4.13.1 Loneliness

Table 4.13.1 highlighted the comparison of teaching and non-teaching respondents with regard to loneliness in Normal, Pre-obese and Obese categories in both the age groups. According to results in table, the difference between means of teaching G-I\textsubscript{(T)} and non-teaching G-I\textsubscript{(NT)} respondents in Normal, Pre-obese and Obese categories was found to be insignificant at 5% significance level. Furthermore, it was found that there is no significant difference between means of teaching G-II\textsubscript{(T)} and non-teaching G-II\textsubscript{(NT)} respondents in Normal, Pre-obese and Obese categories at 5% significance level.
4.13.2 Depression

Table 4.13.1 showed the comparison of teaching and non-teaching respondents with respect to depression data in Normal, Pre-obese and Obese physical characteristic in both the age groups. The difference between means of teaching G-I(T) and non-teaching G-I(NT) respondents in Normal, Pre-obese and Obese categories was found to be insignificant at five percent level of significance. In addition, the difference between means of teaching G-II(T) and non-teaching G-II(NT) respondents in Normal, Pre-obese and Obese categories was found to be insignificant at 5% significance level.

4.13.3 Inferiority Complex

An attempt had been made to compare the inferiority complex of teaching and non-teaching respondent of Normal, Pre-obese and Obese categories in both the age groups as represented in Table 4.13.1. The t-values highlighted that there is no significant difference between means of teaching G-I(T) and non-teaching G-I(NT) respondents in Normal, Pre-obese and Obese categories at 5% significance level. Moreover, the difference between means of teaching G-II(T) and non-teaching G-II(NT) respondents in Normal, Pre-obese and Obese categories was found to be insignificant at 5% significance level.

4.13.4 Guilt-Proneness

Table 4.13.1 presented the teaching and non-teaching respondents’ guilt-proneness in Normal, Pre-obese and Obese categories in both the age groups. From the table, it was analysed that the difference between means of teaching G-I(T) and non-teaching G-I(NT) respondents in Normal (t=0.432), Pre-obese (t= -1.19) and Obese physical characteristic (t= -0.994) tend out to be insignificant at 5% significance level. It was further found that there is no significant difference between means of teaching G-II(T) and non-teaching G-II(NT) respondents in Normal, and Obese physical characteristic at 5% significance level. However, the mean difference in Pre-obese category (t= -5.68) tend out to be significant.

4.13.5 Ergic Tension

The comparison of teaching and non-teaching respondents’ ergic tension in Normal, Pre-obese and obese categories in both the age groups is represented in Table 4.13.1. According to table 4.13.1, the difference between means of teaching G-I(T) and non-teaching G-I(NT) respondents in Normal, Pre-obese and Obese categories tend out to be insignificant at 5% significance level. However, the t-values highlighted that there is
significant difference between means of teaching G-II\textsubscript{T} and non-teaching G-II\textsubscript{NT} respondents in Normal (-3.56), Pre-obese (-4.27) and Obese (-3.28) categories at 5% significance level.

4.13.6 Paranoid Suspiciousness

Table 4.13.1 highlighted the comparison of teaching and non-teaching respondents’ paranoid suspiciousness in Normal, Pre-obese and Obese categories in both the age groups. The t-values established that there is no significant difference between means of teaching G-I\textsubscript{T} and non-teaching G-I\textsubscript{NT} respondents in Normal (-0.833), Pre-obese (0.405) and Obese (-0.306) categories at 5% significance level. Table 4.13.1 presented the t-values which examined that there is no significant difference between means of teaching G-II\textsubscript{T} and non-teaching G-II\textsubscript{NT} respondents in Normal (-0.541), Pre-obese (-1.743) and Obese (0.752) categories at 5% significance level.

4.13.7 Emotional Instability

Table 4.13.1 presented the comparison of teaching and non-teaching respondents’ emotional instability in Normal, Pre-obese and Obese categories in both the age groups. The t-values presented in the table highlighted that there is no significant difference between means of teaching G-I\textsubscript{T} and non-teaching G-I\textsubscript{NT} respondents in Normal (-1.193), Pre-obese (-0.635) and Obese (-0.677) categories at 5% significance level. According to table 4.13.1, the difference between means of teaching G-II\textsubscript{T} and non-teaching G-II\textsubscript{NT} respondents in Normal (t= -1.715) and Obese (t= -1.21) categories in G-II\textsubscript{T} and G-II\textsubscript{NT} was found to be insignificant at 5% significance level. However, the mean difference in Pre-obese category (t= -4.211) tend out to be significant.

4.13.8 Hypochondriacal Tendencies

Table 4.13.1 represented the comparison of teaching and non-teaching respondents’ hypochondriacal tendencies in Normal, Pre-obese and Obese categories in both the age groups.

According to Table 4.13.1, the difference between means of teaching G-I\textsubscript{T} and non-teaching G-I\textsubscript{NT} respondents in Normal (t= 0.915), Pre-obese (t= -0.226) and Obese (t= -0.776) categories was found to be insignificant at 5% significance level. Furthermore, it is also found that there is no significant difference between means of teaching G-II\textsubscript{T} and non-teaching G-II\textsubscript{NT} respondents in Normal (t= 0.758) and Obese (t= 0.243) categories at
5% significance level. However, the mean difference in Pre-obese category (t= -2.11) tend out to be significant.

4.13.9 Somatic Reaction

Table 4.13.1 presented the comparison of teaching and non-teaching respondents’ somatic reaction in Normal, Pre-obese and Obese categories in both the age groups.

Table 4.13.1: Components of Anxiety level

<table>
<thead>
<tr>
<th>Components</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>8.44</td>
<td>7.44</td>
</tr>
<tr>
<td>NT</td>
<td>8.95</td>
<td>8.44</td>
</tr>
<tr>
<td>t-value</td>
<td>-0.787</td>
<td>-0.824</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>9.87</td>
<td>10.33</td>
</tr>
<tr>
<td>NT</td>
<td>8.65</td>
<td>10.00</td>
</tr>
<tr>
<td>t-value</td>
<td>0.808</td>
<td>0.24</td>
</tr>
<tr>
<td>Inferiority complex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>12.21</td>
<td>12.84</td>
</tr>
<tr>
<td>NT</td>
<td>12.52</td>
<td>14.11</td>
</tr>
<tr>
<td>t-value</td>
<td>-0.311</td>
<td>-0.761</td>
</tr>
<tr>
<td>Guilt-proneness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>7.12</td>
<td>6.68</td>
</tr>
<tr>
<td>NT</td>
<td>6.78</td>
<td>8.00</td>
</tr>
<tr>
<td>t-value</td>
<td>0.432</td>
<td>-1.19</td>
</tr>
<tr>
<td>Ergic tension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>10.75</td>
<td>11.41</td>
</tr>
<tr>
<td>NT</td>
<td>11.61</td>
<td>11</td>
</tr>
<tr>
<td>t-value</td>
<td>-0.447</td>
<td>0.274</td>
</tr>
<tr>
<td>Paranoid suspiciousness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>12.87</td>
<td>14.26</td>
</tr>
<tr>
<td>t-value</td>
<td>-0.833</td>
<td>0.405</td>
</tr>
<tr>
<td>Emotional instability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>9.95</td>
<td>13.84</td>
</tr>
<tr>
<td>NT</td>
<td>11.65</td>
<td>14.88</td>
</tr>
<tr>
<td>t-value</td>
<td>-1.193</td>
<td>-0.635</td>
</tr>
<tr>
<td>Hypochondriacal tendencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>12.45</td>
<td>11.68</td>
</tr>
<tr>
<td>NT</td>
<td>11.86</td>
<td>11.91</td>
</tr>
<tr>
<td>t-value</td>
<td>0.915</td>
<td>-0.226</td>
</tr>
<tr>
<td>Somatic reaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>12.21</td>
<td>14.26</td>
</tr>
<tr>
<td>NT</td>
<td>12.74</td>
<td>15.11</td>
</tr>
<tr>
<td>t-value</td>
<td>-0.463</td>
<td>-0.585</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05.
Table represented the t-values which established that there is no significant difference between means of teaching G-I\textsubscript{(T)} and non-teaching G-I\textsubscript{(NT)} respondents in Normal (-0.463), Pre-obese (-0.585) and Obese physical characteristic (-1.14) at 5% significance level. Thus, hypothesis was accepted.

Table 4.13.1 also described the difference between means of teaching G-II\textsubscript{(T)} and non-teaching G-II\textsubscript{(NT)} respondents in Normal (t= -1.91) and Obese categories (t= 0.576) was found to be insignificant at 5% significance level. Further, the difference between means of teaching G-II\textsubscript{(T)} and non-teaching G-II\textsubscript{(NT)} respondents in Pre-obese category (t= -2.65) tends out to be significant at 5% significance level.

4.14 Correlation Values between BMI and Anxiety Score of Teaching and Non-Teaching Respondents

Table 4.14.1 highlighted the correlation values between BMI and anxiety score of teaching respondents in G-I\textsubscript{(T)} where it establishes that there was negative association between BMI score of Normal individuals and their anxiety score (r = -0.354). It implied that with increase in BMI of these individuals, their anxiety score decreases. Furthermore, there was a positive association between BMI score of Pre-obese individuals and their anxiety score (r =0.183) implying that with increase in BMI their anxiety level tends to increase. For Obese individuals BMI and anxiety levels had a positive relationship (r =0.127) which implied that with increase in one variable, there is increase in other too.

Table 4.14.1: Correlation values between BMI and Anxiety score of teaching respondents in Group I

<table>
<thead>
<tr>
<th></th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&gt;30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average anxiety score</td>
<td>99.66</td>
<td>27.32</td>
<td>33.52</td>
</tr>
<tr>
<td>Correlation coefficient ‘r’</td>
<td>-0.354</td>
<td>0.183</td>
<td>0.127</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS software and MS-excel

The results showed a strong positive relationship between BMI score and anxiety score of teaching respondents in the age group of G-II\textsubscript{(T)} which indicated that with increase in BMI levels, the respondents’ anxiety level also increased. For Pre-obese respondents, BMI and anxiety scores were negatively associated indicating increase in one variable with decrease of other (Table 4.14.2). There was positive association between BMI score and
anxiety score of Obese respondents represented in table which imply increase in BMI score, the anxiety scores would also increase.

**Table 4.14.2: Correlation values between BMI and Anxiety score of teaching respondents in Group II**

<table>
<thead>
<tr>
<th></th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&gt;30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average anxiety score</td>
<td>103.75</td>
<td>27.24</td>
<td>32.41</td>
</tr>
<tr>
<td>Correlation coefficient ‘r’</td>
<td>0.92</td>
<td>-0.491</td>
<td>0.332</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

BMI scores and anxiety scores were negatively related for all categories of non-teaching respondents in the age group of G-I(NT) as shown in Table 4.14.3.

**Table 4.14.3: Correlation values between BMI and Anxiety score of non-teaching respondents in Group I**

<table>
<thead>
<tr>
<th></th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&gt;30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average anxiety score</td>
<td>104.73</td>
<td>28.59</td>
<td>32.54</td>
</tr>
<tr>
<td>Correlation coefficient ‘r’</td>
<td>-0.434</td>
<td>-0.576</td>
<td>-0.194</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Table 4.14.4 highlighted that there was a positive relationship between BMI and anxiety scores of Normal and Pre-obese non-teaching respondents implying that their anxiety scores would increase with increase in BMI. Whereas the relationship between BMI an anxiety scores of Obese individuals was negative.

**Table 4.14.4: Correlation values between BMI and Anxiety score: Non-teaching respondents in Group II**

<table>
<thead>
<tr>
<th></th>
<th>Normal (18.50-24.99)</th>
<th>Pre-obese (25.00-29.99)</th>
<th>Obese (&gt;30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average anxiety score</td>
<td>120.66</td>
<td>27.17</td>
<td>33.05</td>
</tr>
<tr>
<td>Correlation coefficient ‘r’</td>
<td>0.403</td>
<td>0.531</td>
<td>-0.079</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

Rosmond and Lapidus (1998) suggested that psychiatric symptoms of depression and anxiety are associated with obesity and abdominal distribution of body fat in women increased with increasing body mass index (BMI) and the waist/hip circumference ratio (WHR).
4.15 Correlation of Socio-Economic Status Scores with BMI and Different Nutrients

Table 4.15.1 highlighted that in G-I\(_{(T)}\) and G-I\(_{(NT)}\), there is no significant relation between BMI and Socio-economic status scores of any of the respondents whether Normal, Pre-obese and Obese teaching & non-teaching respondents but there is positive correlation between socio-economic status scores and BMI of Pre-obese (r=0.009, p-value= 0.969), Obese (r=0.158, p-value= 0.623) respondents in G-I\(_{(T)}\) and correlation between socio-economic status scores and BMI of Obese (r=0.104, p-value= 0.725) respondents in G-I\(_{(NT)}\). Similarly in G-II\(_{(T)}\), G-II\(_{(NT)}\) there is no significant relationship between BMI and Socio-economic status scores of any of the respondents whether Normal, Pre-obese and Obese teaching & non-teaching respondents; but positive relationship has been found between socio-economic status scores and BMI of Normal (r=0.138, p-value= 0.744) teaching respondents and Pre-obese (r=0.232, p-value= 0.472) non-teaching respondents as is shown in the table. On the other hand, there is highly positive significant relation subsists between protein and socio-economic status scores of Obese (r=0.706, p-value=0.01) respondents in G-I\(_{(T)}\) and (r=0.677, p-value=0.008) respondents in G-I\(_{(NT)}\) as shown in table. It means that higher the protein intake, higher the socio-economic status of respondents or vice versa.

In G–II, positive correlation found between protein intake and socio-economic status scores of only Normal non-teaching respondents (r=0.575) came out to be highly significant (p-value= 0.003). Furthermore, there is a positive correlation exists between energy intake and scores of socio-economic status scores among all the teaching and non-teaching respondents whether Normal, Pre-obese and Obese in both the age groups and found to be highly significant at 5 per cent level. Likewise, it is also found positive and significant relationship between fats intake and socio-economic status scores of Normal (r=0.622, p-value=0.002) and Obese (r=0.231, p-value=0.469) teaching respondents in G-I\(_{(T)}\) and similar trends prevailed between fats intake and socio-economic status scores of Normal (r=0.446, p-value=.03) in the G-I\(_{(NT)}\) as shown in the table.

While positive correlation has been found between fats intake and socio-economic status scores of only Normal (r=0.480, p-value=0.228) respondents in G-II\(_{(T)}\) and (r=0.137, p-value=0.523) in G-II\(_{(NT)}\); the negative, though not so significant, correlation has been found between socio economic status scores and fats intake of Pre-obese (r=-0.185,
p-value=0.386) and Obese (r=0.131, p-value=0.669) respondents in G-II(T), and also of Pre-obese (r=0.111, p-value=0.731) and Obese (r=0.183, p-value=0.466) respondents in G-II(NT).

Table 4.15.1: Correlation with Socio-Economic Status Scores

<table>
<thead>
<tr>
<th></th>
<th>Group-I</th>
<th>Group-II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Pre-Obese</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-0.199</td>
<td>0.009</td>
</tr>
<tr>
<td>(0.362)</td>
<td>(0.969)</td>
<td>(0.623)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.177</td>
<td>-0.569</td>
</tr>
<tr>
<td>(0.417)</td>
<td>(0.109)</td>
<td>(0.725)</td>
</tr>
<tr>
<td><strong>Protein</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.236</td>
<td>0.258</td>
</tr>
<tr>
<td>(0.76)</td>
<td>(0.285)</td>
<td>(0.525)</td>
</tr>
<tr>
<td>NT</td>
<td>0.387</td>
<td>0.388</td>
</tr>
<tr>
<td>(0.067)</td>
<td>(0.301)</td>
<td>(0.008)</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.994</td>
<td>0.997</td>
</tr>
<tr>
<td>(0.000)*</td>
<td>(0.000)*</td>
<td>(0.000)*</td>
</tr>
<tr>
<td>NT</td>
<td>0.992</td>
<td>0.988</td>
</tr>
<tr>
<td>(0.000)*</td>
<td>(0.000)*</td>
<td>(0.000)*</td>
</tr>
<tr>
<td><strong>Fats</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.622</td>
<td>-0.346</td>
</tr>
<tr>
<td>(0.002)*</td>
<td>(0.147)</td>
<td>(0.469)*</td>
</tr>
<tr>
<td>NT</td>
<td>0.446</td>
<td>0.355</td>
</tr>
<tr>
<td>(0.03)*</td>
<td>(0.347)</td>
<td>(0.549)</td>
</tr>
<tr>
<td><strong>Carbohydrates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.841</td>
<td>0.965</td>
</tr>
<tr>
<td>(0.000)*</td>
<td>(0.000)*</td>
<td>(0.000)*</td>
</tr>
<tr>
<td>NT</td>
<td>0.669</td>
<td>-0.069</td>
</tr>
<tr>
<td>(0.000)*</td>
<td>(0.864)</td>
<td>(0.000)*</td>
</tr>
<tr>
<td><strong>Iron</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-0.35</td>
<td>0.554</td>
</tr>
<tr>
<td>(0.101)</td>
<td>(0.014)*</td>
<td>(0.267)</td>
</tr>
<tr>
<td>NT</td>
<td>0.037</td>
<td>-0.157</td>
</tr>
<tr>
<td>(0.864)</td>
<td>(0.686)</td>
<td>(0.014)*</td>
</tr>
<tr>
<td><strong>Calcium</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>-0.232</td>
<td>-0.133</td>
</tr>
<tr>
<td>(0.286)</td>
<td>(0.587)</td>
<td>(0.146)</td>
</tr>
<tr>
<td>NT</td>
<td>-0.206</td>
<td>0.215</td>
</tr>
<tr>
<td>(0.311)</td>
<td>(0.578)</td>
<td>(0.107)</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.264</td>
<td>0.141</td>
</tr>
<tr>
<td>(0.223)</td>
<td>(0.551)</td>
<td>(0.88)</td>
</tr>
<tr>
<td>NT</td>
<td>0.051</td>
<td>-0.068</td>
</tr>
<tr>
<td>(0.445)</td>
<td>(0.865)</td>
<td>(0.322)</td>
</tr>
</tbody>
</table>

Source: Compiled with SPSS Software and MS-excel

* Significant t-values at p<0.05
A significant and positive correlation has been found between socio economic status scores and carbohydrates intake of Normal, Pre-obese and Obese teaching and non-teaching respondents at 5 percent significance level except for negative relationship of Pre-obese respondents in G-I(NT). On the other hand, the results have not been found significant, rather there has been negative correlation between socio economic status scores and iron intake of Normal (r= -0.35, p-value=0.101) respondents in G-I(T) and (r= -0.037, p-value=0.864) respondents in G-I(NT).

However, results are found to be significant and positive between socio economic status scores and iron of Pre-obese (r=0.554, p-value=0.014) and Obese (r=0.348, p-value=0.267) respondents in G-I(T) along-with Normal (r=0.496, p-value=0.014) and Obese (r=-0.588, p-value=0.01) respondents in G-II(NT). Though, results have not been found to be significant, but there has been positive correlation between socio-economic status scores and calcium of Obese respondents in G-I(T) and Pre-obese & Obese respondents in G-I(NT). But in G-II(NT), significant and positive results have been found at 5 percent level of significance for Obese respondents. On the more, positive correlation has been found between socio-economic status scores and calcium of Pre-obese (r=0.174, p-value=0.415) teaching and Obese (r=0.208, p-value=0.515) of non-teaching respondents in group II.

No significant relationship has been found between socio-economic status scores and anxiety of Normal, Pre-obese and Obese in both the age groups as shown in the table. But still positive relationship has been found between the socio-economic status scores and anxiety of Normal (r= -0.264, p-value=0.223) and Pre-obese (r= -0.0.141, p-value=0.551) respondents in G-I(T) and also of Normal (r= -0.051, p-value=0.445), Obese (r= -0.290, p-value=0.322) respondents in G-I(NT). In addition, positive relationship has also been found between socio-economic status scores and anxiety of Normal (r= -0.017, p-value=0.969), Pre-obese (r= -0.071, p-value=0.07) respondents in G-II(T) along with Obese (r= -0.293, p-value=0.234) respondents in G-II(NT). However, negative correlation has been found between the socio-economic status scores and anxiety of Obese (r= -253, p-value=0.397) respondents in G-I(T) and also of Normal (r= -309, p-value=0.142) and Pre-obese (r= -0.151, p-value=0.65) respondents in G-II(NT).