To determine the serum vitamin D levels in premenopausal women with obesity compared with premenopausal women with normal body weight.

The analysis of variance test (ANOVA) was used to determine the difference in the mean vitamin D level across the groups. It was observed that there was statistically significant difference within the groups of participant at P-value = 0.000 and F = 24.3

Table 4.1 Vitamin D in normal weight, mildly obese, moderately obese and severely obese participants

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Group | No | Mean |  | F-statistics | P-value |
| Normal | 30 | 63.08±24.51 |  | 24.3 | 0.000\*\* |
| Mildly Obese | 29 | 38.22±24.43 |
| Moderately Obese | 31 | 23.58±13.89 |
| Severely Obese | 30 | 26.91±14.76 |

\*\*significant at P-value<0.001

The relationship between Vitamin D concentration within the normal and the test groups (mildly, moderately obese and severely obese)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | | Mean difference | t-test | P-value |
| Normal | Mildly Obese | 24.86 | 3.90 | 0.000\*\* |
|  | Moderately Obese | 39.50 | 7.78 | 0.000\*\* |
|  | Severely Obese | 36.17 | 6.92 | 0.000\*\* |

\*\* significant at P-value < 0.010

