|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| P\*\* | Group4 (n=20) | Group3 (n=17) | Group2 (n=22) | Group1 (n=19) |  |  |
| 0.45 | 27.45 ± 5.46 | 29.82 ± 8.23 | 26.36 ± 6.99 | 27.42 ± 6.09 | **Age\*** |  |
| 0.90 | 31.71 ± 5.09 | 32.07 ± 4.86 | 31.01 ± 4.81 | 31.23 ± 4.50 | **BMI\* (kg/m2)** |  |
| 0.42 | 30.41 ± 8.48 | 32.67 ± 8.72 | 29.91 ± 7.47 | 30.75 ± 6.87 | **BF\*** |  |
| 0.17 | 1.00 ± 0.05 | 1.02 ± 0.06 | 0.99 ± 0.06 | 0.97 ± 0.06 | **WHR\* (cm)** |  |

Table 1: General characteristics of participants at baseline study

BMI: Body Mass Index; BF: Body Fat; WHR: Weight to Hip Rate;

**\*:** Means ± SD; **\*\*:** Obtained from One-Way ANOVA test

Table 2: Comparison of clinical and biochemical characteristics of participants in groups1 & 2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Group2 ( n=19 )** | | | **Group1 ( n=19 )** | | |  |
| P\*\*\* | P\*\* | End of Treatment\* | Beginning of Treatment\* | P\*\* | End of Treatment\* | Beginning of Treatment\* |  |
| 0.660 | 0.001 | 29.65 ± 5.19 | 31.01 ± 4.81 | 0.001 | 30.05 ± 4.79 | 31.23 ± 4.50 | **BMI** |
| 0.862 | 0.001 | 27.68 ± 7.77 | 29.91 ± 7.47 | 0.001 | 28.38 ± 7.09 | 30.75 ± 6.87 | **BF** |
| 0.285 | 0.001 | 0.97 ± 0.05 | 0/99 ± 0/06 | 0.036 | 0.96 ± 0.05 | 0/98 ± 0/06 | **WHR** |
| 0.474 | 0.281 | 93.38 ± 22.34 | 98.27 ± 10.75 | 0.298 | 93.26 ± 9.06 | 95.10 ± 8.19 | **FBS (mg/dl)** |
| 0.340 | 0.003 | 7.91 ± 3.47 | 10.96 ± 4.45 | 0.945 | 9.41 ± 5.96 | 10.93 ± 5.91 | **Insulin (pmol/l)** |
| 0.234 | 0.147 | 2.19 ± 1.46 | 2.54 ± 1.34 | 0.147 | 2.19 ± 1.46 | 2.54 ± 1.34 | **HOMA-IR** |
| 0.190 | 0.006 | 81.71 ± 59.57 | 126.58 ± 91.66 | 0.107 | 117.81 ± 76.28 | 134.23 ± 87.19 | **HOMA-B** |
| 0.774 | 0.004 | 0.37 ± 0.06 | 0.33 ± 0.02 | 0.159 | 0.37 ± 0.09 | 0.34 ± 0.02 | **QUICKI** |
| 0.787 | 0.225 | 177.09 ± 25.84 | 181.81 ± 26.53 | 0.266 | 160.63 ± 25.53 | 167.31 ± 26.21 | **Total cholesterol (mg/l)** |
| 0.591 | 0.035 | 103.95 ± 40.44 | 128.40 ± 63.52 | 0.133 | 102.94 ± 38.54 | 119.26 ± 48.44 | **TG** |
| 0.173 | 0.647 | 119.27 ± 23.94 | 120.95 ± 23.76 | 0.292 | 103.94 ± 25.65 | 109.57 ± 20.95 | **LDL-C (mg/dl)** |
| 0.502 | 0.404 | 41.95 ± 9.75 | 43.05 ± 8.35 | 0.629 | 39.21 ± 7.88 | 42.57 ± 11.23 | **HDL-C (mg/dl)** |
| 0.983 | 0.663 | 2.95 ± 0.82 | 2.89 ± 0.72 | 0.728 | 2.75 ± 0.89 | 2.69 ± 0.70 | **LDL-C / HDL-C** |
| 0.034 | 0.015 | 17.13 ± 4.52 | 20.31 ± 7.08 | 0.716 | 21.73 ± 18.07 | 18.68 ± 4.61 | **AST** |
| 0.069 | 0.008 | 25.00 ± 11.14 | 21.09 ± 8.87 | 0.864 | 25.31 ± 25.28 | 22.63 ± 10.24 | **ALT** |

\* means ± SD, \*\*Obtained from Paired-Samples T test, \*\*\* within-group changes in comparison with the group 1: Obtained from One-Way ANOVA test

BMI: Body Mass Index;BF**:** Body Fat; WHR: Weight to Hip Rate; FBS: fasting Blood sugar; HOMA-IR: homeostasis model of assessment-insulin resistance; HOMA-β: homeostatic model assessment-beta-cell function; QUICKI: quantitative insulin sensitivity check index; TG: triglycerides; LDL-C: low-density lipoprotein cholesterol; HDL-C: high-density lipoprotein cholesterol; AST: Aspartate aminotransferase; ALT: Alanine aminotransferase.

Table 3: Comparison of clinical and biochemical characteristics of participants in groups3 & 4

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Group4 ( n=20 )** | | |  | **Group3 ( n=19 )** | | |  |
| P\*\*\* | P\*\* | End  of Treatment\* | Beginning of Treatment\* | P\*\*\* | P\*\* | End  of Treatment\* | Beginning of Treatment\* |  |
| 0.012 | 0.001 | 29.44 ± 4.89 | 31.71 ± 5.09 | 0.335 | 0.001 | 30.47 ± 4.57 | 32.07 ± 4.86 | **BMI** |
| 0.115 | 0.001 | 26.76 ± 8.48 | 30.41 ± 8.48 | 0.499 | 0.001 | 29.73 ± 7.96 | 332.67 ± 8.72 | **BF** |
| 0.059 | 0.001 | 0.98 ± 0.05 | 1.00 0/05 | 0.050 | 0.001 | 0.99 ± 0.05 | 1.02 ± 0/07 | **WHR** |
| 0.694 | 0.162 | 95.05 ± 9.58 | 98.60 ± 11.13 | 0.496 | 0.034 | 90.11 ± 7.59 | 95.04 ± 5.41 | **FBS (mg/dl)** |
| 0.406 | 0.008 | 7.14 ± 3.46 | 10.02 ± 6.23 | 0.060 | 0.001 | 6.57 ± 3.71 | 11.35 ± 5.86 | **Insulin (pmol/l)** |
| 0.265 | 0.008 | 1.72 ± 0.95 | 2.51 ± 1.73 | 0.045 | 0.003 | 1.45 ± 0.85 | 2.65 ± 1.35 | **HOMA-IR** |
| 0.823 | 0.167 | 80.51 ± 33.40 | 101.87 ± 56.61 | 0.364 | 0.0190 | 96.43 ± 64.52 | 138.81 ± 80.06 | **HOMA-β** |
| 0.677 | 0.009 | 0.36 ± 0.04 | 0.35 ± 0.04 | 0.160 | 0.001 | 0.41 ± 0.16 | 0.34 ± 0.04 | **QUICKI** |
| 0.097 | 0.005 | 183.00 ± 35.53 | 202.15 ± 37.74 | 0.347 | 0.018 | 176.41 ± 36.36 | 190.41 ± 33.72 | **Total cholesterol (mg/dl)** |
| 0.190 | 0.007 | 113.80 ± 57.49 | 150.50 ± 85.11 | 0.162 | 0.514 | 123.47 ± 60.89 | 117.11 ± 53.03 | **TG** |
| 0.152 | 0.026 | 122.80 ± 33.74 | 134.35 ± 32.13 | 0.956 | 0.013 | 112.88 ± 34.64 | 127.13 ± 30.60 | **LDL-C (mg/dl)** |
| 0.485 | 0.353 | 44.50 ± 6.92 | 45.45 ± 9.08 | 0.551 | 0.083 | 45.35 ± 7.38 | 50.87 ± 17.63 | **HDL-C (mg/dl)** |
| 0.134 | 0.030 | 2.83 ± 0.98 | 3.06 ± 0.98 | 0.181 | 0.025 | 2.56 ± 0.97 | 2.77 ± 1.17 | **LDL-C / HDL-C** |
| 0.006 | 0.001 | 17.85 ± 9.29 | 20.31 ± 7.08 | 0.071 | 0.092 | 16.64 ± 3.84 | 23.15 ± 11.82 | **AST** |
| 0.010 | 0.001 | 16.15 ± 7.49 | 23.10 ± 10.22 | 0.050 | 0.068 | 18.58 ± 5.93 | 23.47 ± 10.90 | **ALT** |

\* means ± SD, \*\*Obtained from Paired-Samples T test, \*\*\* within-group changes in comparison with the group 1: Obtained from One-Way ANOVA test