

Influence of Regular Gym Exercise on Anthropometric, Biochemical and Physiological Parameters in Young Adults

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Abstract: Many young adults in Jaffna do gym exercises to shape up their body mainly to improve their sex appeal or body image. However the importance of regular exercise on improvement in health parameters is often ignored by young adults. This study was carried out to describe the effects of regular physical activity: resistance type of exercise using weights (weight lifting) on anthropometric, biochemical and physiological parameters. Regular exercisers (n=30) and a control group (n=30) ranging from 20-30 years of age were selected for this study to determine Body Mass Index (BMI), Total Body Fat percentage, serum levels of creatinine and uric acid, fasting plasma glucose level, blood hemoglobin concentration, heart rate and blood pressure. Independent t-test was performed using SPSS version 16 to analyze the means differences of various parameters. BMI was significantly higher ($p < 0.05$) in regular gym exercisers (23.55 ± 2.82) when compared to non exercisers (21.39 ± 3.47). The total body fat percentage was lower in regular gym exercisers ($20.96 \pm 3.02\%$) than the non exercisers ($22.56 \pm 4.14\%$), but the change was not statistically significant ($p > 0.05$). The serum creatinine level was significantly higher ($p = 0.01$) in regular gym exercisers ($1.62 \pm 0.54 \text{mg/dl}$) than non exercisers ($1.33 \pm 0.40 \text{mg/dl}$). The serum uric acid level was not significantly higher ($p > 0.05$) in regular gym exercisers ($8.38 \pm 2.03 \text{mg/dl}$) than non exercisers ($8.35 \pm 0.98 \text{mg/dl}$). The fasting plasma glucose level was significantly lower in regular ($p = 0.0001$) gym exercisers ($82.33 \pm 5.29 \text{mg/dl}$) than non exercisers ($89.43 \pm 6.79 \text{mg/dl}$). The blood hemoglobin level was significantly higher ($p < 0.05$) in regular gym exercisers ($15.50 \pm 1.21 \text{g/dl}$) than non exercisers ($14.32 \pm 1.12 \text{g/dl}$). The heart rate was significantly lower ($p = 0.0001$) in regular gym exercisers ($67.2 \pm 6.81 \text{beats/min}$) than non exercisers ($75.27 \pm 7.77 \text{beats/min}$). The systolic blood pressure was slightly higher in regular gym exercisers ($118.17 \pm 12.14 \text{mmHg}$) than non exercisers ($117.3 \pm 9.04 \text{mmHg}$), but this difference was not statistically significant ($p > 0.05$). The diastolic blood pressure was slightly lower in regular gym exercisers ($73.5 \pm 8.42 \text{mmHg}$) than non exercisers ($75.43 \pm 7.31 \text{mmHg}$) but the change observed in this study was not statistically significant ($p > 0.05$). The present study shows that the gym exercise improves health parameters in young adults.

Keywords: BMI, Fasting blood glucose, Gym exercise, Hemoglobin, Total body fat