**Original article**

**Effect of short term exercise on serum cortisol and lipid profile in young male of college of health sciences Nnamdi Azikiwe University, Nnewi Campus**

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**Abstract**

**Background**: Exercise is one of the activities to achieve fitness and when performed accurately gives maximum beneficial effect to health. It can be in the form of endurance, resistance or concurrent exercise. The side effect of it could arise due to excessive increase in blood cortisol.

**Objectives**: The objective of this study was to determine the effect of short-term endurance, resistance and concurrent exercise on serum cortisol and lipid profile.

**Methods**: 48 less physically active males between the ages of 18-25 years were included in this study. Subjects were randomly assigned to various forms of exercise as follows. Endurance (n=16, jogged round a 400metre field for 15minutes), resistance (n=16, jump squat and bench press exercise for 15mintes), concurrent (n=16, jump squat and bench press for 7minutes and jogged for 8minutes). Blood samples were collected before exercise and 3 minutes after exercise. Serum cortisol was analyzed by ELISA method and lipid profile (Cholesterol, Triglycerides, HDL-C, LDL-C) by colorimetric method.

**Results:** There was no significant difference in serum Cholesterol, Triglycerides, LDL-C after all forms of exercise (p>0.05). There was significant difference in HDL-C in endurance and concurrent training, (1.49±0.37 to 1.81±0.58) and (1.45±0.29 to 1.53±0.24) before and after each exercise respectively (P<0.05). Cortisol showed a significant increase in endurance and concurrent training, (9.94±4.22 to 11.67±5.37) and (11.70±3.73 to 14.64±6.72) before and after each exercise respectively. (p <0.05).

**Conclusion**: Longer duration of exercise is needed to elicit a significant decrease in total cholesterol, triglyceride and LDL-C levels.

**Key words:** Exercise, Cortisol, Lipid-profile.