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**Original article:**

**Cardiac response to exercise determined by physical fitness index in young obese and normal-weight medical students**

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**Abstract**

**Introduction:** Obesity is associated with hemodynamic changes at rest. Whether these changes were reflected during exercise needed to be ascertained. The aim of the study was to assess and compare the cardiovascular response to exercise in young normal weight and over-weight subjects by comparing Physical Fitness Index (PFI) score obtained by Harvard’s Step Test.

**Method:** 200 medical students in the age group of 18-25 years were divided into study group consisting of 100 over-weight subjects and control group consisting of 100 normal weight subjects as determined by their Body Mass Index (BMI). For Harvard’s Step Test, the subjects were asked to step up and down on an 18 inch high platform at a rate of 20 steps per minute for 5 minutes. The post exercise pulse rate was counted between 1 to 1.5 minutes, 2 to 2.5 minutes, and 3 to 3.5 minutes after completion of exercise. PFI in two groups was calculated and compared in terms of excellent, good, average and poor by "Chi-square test".

**Observations and Results:** The value of Chi-square was found to be 1.261 with DF= 3 and P value of 0.000 which is extremely significant.

**Conclusion:** On comparison, it becomes clear that the normal weight subjects showed a significantly better cardiovascular response to exercise as compared to their overweight counterparts.

**Keywords:** BMI; cardiovascular; overweight; Physical Fitness Index