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## **Effect of Cardiac Rehabilitation Exercise Training for High-Risk Cardiac Patients**

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### **Objective**

To compare the effect of cardiac rehabilitation (CR) program to cardiorespiratory fitness (CRF), balance, hand grip strength, degree of physical activity between high-risk cardiac patients and participants without high-risk criteria.

### **Methods**

A total of thirty-nine patients who underwent percutaneous coronary interventions for acute myocardial infarction were participated. Nineteen high-risk cardiac patients were recruited as subjects. The high-risk criteria were: advanced heart failure with left ventricular ejection fraction (LVEF) of less than 30%, a recent history of cardiac arrest or dangerous arrhythmia, and cardiac device insertion. Another twenty CR participants without any high-risk criteria mentioned above were recruited as controls. Both groups underwent 8 weeks of CR exercise training.

### **Outcome Measures**

The primary outcome was CRF parameters examined by cardiorespiratory exercise test. The secondary outcome measures were the Results of hand grip strength test, Timed Up and Go (TUG), and the International Physical Activity Questionnaires- Short Form (IPAQ-SF). Outcome measures were assessed before and after completion of the CR program .

### **Results**

The peak aerobic capacity (VO<sub>2</sub>peak) (p=0.001), the metabolic equivalent (p=0.001), hand grip strength (p=0.001), and IPAQ-SF (p<0.001) also demonstrated significant improvement over time but showed no significant time and group interaction effects. Significant time and group interaction effects were evident in TUG (p<0.001).

### **Conclusions**

High-risk cardiac patients who completed a supervised CR program demonstrated significant improvements in CRF parameters, balance, hand grip strength, and physical activity level. The improvement rate was similar to that of control group.