Introduction:

Cardiovascular disorders are the leading cause of mortality and morbidity in the industrialized world, accounting for almost 50% of all deaths annually. The survivors constitute an additional reservoir of cardiovascular disease morbidity. In the United States alone, over 14 million persons suffer from some form of coronary artery disease (CAD) or its complications including congestive heart failure (CHF), angina, and arrhythmias. Of this number, approximately 1 million survivors of acute myocardial infarction (MI), and 309,000 patients who have undergone coronary bypass surgery annually, are candidates for cardiac rehabilitation (**Robert et al., 2006)**.

Cardiac rehabilitation encompasses both short-term and long-term goals that are to be achieved through exercise, education, and counseling. The patients generally fall into following categories: Lower-risk patients following an acute cardiac event, patients who have undergone coronary bypass surgery, patients with chronic stable angina pectoris, patients who have undergone heart transplantation, Patients following percutaneous coronary angioplasty, patients without prior events but at risk because of remarkably unfavorable risk factor profile, patients with stable heart, failure, patients following non-coronary cardiac surgery, patients with previously stable heart disease now seriously deconditioned by intercurrent comorbid illnesses. The short-term goals of cardiac rehabilitation include restoration of the physical, psychological, and social condition, while the long-term goals involve promotion of heart-healthy behaviors that enable the individual to return to productive and/or joyful vocational and avocational activities ***(Ades and Coello, 2000).***

Cardiac rehabilitation has become a well-established treatment modality in patients with heart disease. Effects have been demonstrated on functional and psychosocial recovery and on cardiac morbidity and mortality. Studies also demonstrated beneficial effects in various categories of cardiac patients. In

addition to postmyocardial infarction patients, patients with chronic heart failure or after heart transplantation were shown to benefit from such programs (**Wybe et al., 2000)**.

Rehabilitation in coronary patients is therefore not only aimed at improving objective physical status and at reducing risk factors, but also at returning patients to the optimal psychosocial status. This multidimensional aspect of cardiac rehabilitation is increasingly acknowledged and multidisciplinary programs are now applied widely consisting of a set of components that in addition to exercise training include health education, stress management, relaxation therapy, dietary interventions, and referral to psychotherapy when necessary. These programs recently have shown to effect overall health-related quality of life (HRQoL) positively. The improvement in quality of life in multidisciplinary rehabilitation is believed to be based on the complementary effects of the various components, but the cornerstone in most programs is still aerobic exercise training. The frequency of exercise sessions however, varies considerably ***(Mulcahy, 1991 and Denollet and Brutsaert, 1995).***

A higher exercise frequency accompanies higher costs of a program and requires more time and effort of the patient to complete rehabilitation. From this perspective, it is important to gain understanding about the effect of exercise frequency on patients' recovery. Systematic evaluation of whether different frequencies of aerobic exercise sessions produce different rehabilitation outcomes, has not been described ***(Berkhuysen et al., 1999).***

Using existing models of cardiac rehabilitation in the National Heart Institute, Imbaba, Cairo, we had the unique opportunity to evaluate high-frequency exercise training compared with that more commonly used low frequency exercise training program.

Aim of the Work:

To study the impact of two different cardiac rehabilitation program characteristics (high frequency versus low frequency exercises) on the cardiopulmonary outcome of patients with coronary artery disease such as functional capacity and quality of life. Relation of these exercise programs on the recurrence of myocardial morbidity was also defined.