



CODEN [USA]: IAJPB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.886334>Available online at: <http://www.iajps.com>**Review Article****MYOCARDIAL INFARCTION AND PHYSICAL EXERCISES  
-REVIEW ARTICLE****Zohreh Mahmoodi<sup>1</sup>, Mahmood Anbari<sup>2</sup>, Morteza Salarzai<sup>3\*</sup>**<sup>1</sup> Department of Cardiology, Faculty of Medicine, Zabol University of Medical Sciences,  
Zabol, Iran<sup>2</sup> Zabol University of Medical Sciences, Zabol, Iran.<sup>3</sup> Medical Student, Student Research Committee, zabol University of Medical Sciences,  
Zabol, Iran**Abstract:**

**Introduction:** *cardiovascular diseases, an increasing incidence of which is observed, especially in low-income countries, are the first cause of death in the world and in Iran. Therefore, since the identification of predictive factors plays an important role in reducing mortality, this review article examines the relationship between physical training and stroke.*

**Methods:** *In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies Myocardial infarction and physical exercises.*

**Results:** *Physical exercise as part of a comprehensive rehab program can reduce the development of coronary artery atherosclerosis. With complicated risk factors for type 2 diabetes mellitus and coronary artery disease, physical exercise is more than just the benefits of controlling blood glucose, which may improve some of the cardiovascular imbalances caused by diabetes, such as left ventricular dysfunction, vascular endothelial dysfunction and systemic inflammation.*

**Discussion and conclusion:** *The combined effect of the two endurance and resistance exercise, which is currently used in rehabilitation centers, should be taken into consideration. Despite limited constraints on both types of exercise at the same time, one of these two types of exercises can be used as a substitute in many cases. Despite fundamental and specific differences in the mechanisms of the effect of these two methods on the body, the majority of therapeutic effects of these two are, respectively, consistent.*

**Key words:** *Myocardial infarction, physical exercises, diabetes mellitus.*

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*Please cite this article in press as Morteza Salarzai et al, Myocardial Infarction and Physical Exercises-A  
Review article, Indo Am. J. P. Sci, 2017; 4(09).*

**INTRODUCTION:**

Cardiovascular diseases, an increasing incidence of which is observed, especially in low-income countries, are the first cause of death in the world and in Iran(1). Based on international reports, mortality rates of coronary artery disease are rising and cardiovascular disease will remain among the three main causes of global burden of disease(2). by the year 2030. Despite declining trend of coronary heart disease and increasing life expectancy in the US during past four decades, a close analysis of age-adjusted rates to describe the attenuation of coronary artery disease showed that this decrease was mainly due to the delay in the death of patients suffering from these diseases(3). Therefore, the burden of these diseases is rising along with the increase in life expectancy(5). Despite a significant decrease in the incidence of coronary disease in various countries and the progress of discovery in the treatment of patients, the rate of death following the onset of acute myocardial infarction remains high in both sexes(6). On the other hand, the mortality rate and the prevalence of cardiovascular diseases, especially coronary arteries, is among the first causes of death in the world. According to several studies conducted in various countries in the world, factors such as age, sex, blood thrombosis, diabetes mellitus, hyperlipidemia, diabetes mellitus, hyperlipidemia, smoking, and previous history of myocardial infarction as predictors of death from myocardial infarction(7). Therefore, since the identification of predictive factors plays an important role in reducing mortality, this review article examines the relationship between physical training and stroke.

**METHOD:**

In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies Myocardial infarction and physical exercises.

**FINDINGS:**

Physical exercise as part of a comprehensive rehab program can reduce the development of coronary artery atherosclerosis (8). Several factors directly and indirectly interact with this anti-arterial activity. It seems that during exercise, a moderate increase in shear stress Arterial walls help improve endothelial function, which relates to the synthesis, aromatization, and duration of nitric oxide(9). Nitric oxide is responsible for the dilatation of endothelial-vascular vessels, as well as the control of multiple processes involved in atherosclerosis and thrombosis(10). A 36-session program of aerobic training increases the amount of nitrate in the plasma and nitrite and increases the activity of superoxide dismutase, which is the main cause of

antioxidation in the body, in coronary artery disease patients; it also decreases oxidative stress (11). Chronic inflammation plays a major role in the pathogenesis of coronary artery disease and the stability of the atheroma plaque(12). The plasma level of plasma protein C, which is biochemical marker of inflammation, is associated with an increased risk of coronary artery disease(13). Aerobic physical training and increased cardiac arterial firmness are associated with lower levels of reactive plasma protein levels, indicating that physical activity has anti-inflammatory effects(14). However, these observations, especially in patients with AS Coronary artery disease, need to be confirmed. Physical exercise and regular physical activity can reduce body weight and body fat(15). Endurance exercises may also decrease blood pressure, serum triglyceride, elevated cholesterol levels in lipoprotein, and increase sensitivity to insulin and glucose(16). Reducing moderate weight reduces the risk of type 2 diabetes mellitus in people who are intolerant to glucose(17). Thus, aerobic exercises can ideally modulate all components of metabolic syndrome and act as a first line of coping. With complicated risk factors for type 2 diabetes mellitus and coronary artery disease, physical exercise is more than just the benefits of controlling blood glucose, which may improve some of the cardiovascular imbalances caused by diabetes, such as left ventricular dysfunction, vascular endothelial dysfunction and systemic inflammation.

**DISCUSSION AND CONCLUSION:**

Aerobic exercises improve the tolerance to exercise, which is related to the duration of exercise. Physiological compatibility such as left ventricular reconstruction, improvement of maximum aerobic power and improvement of ventilation quality are observed in these exercises(18). Aerobic training reduces the risk factors of the vessels Coronary artery disease, such as reduced body fat percentage, decreased blood pressure, and decreased levels of triglyceride; it also reduces depression, increases self-confidence, and improves job performance over a five-year follow-up period(19). A considerable decrease in inflammatory and cardiovascular risk factors was observed after 36 sessions of resistance training program in coronary artery disease patients(20). Resistance training also reduced the protein and anti-myelocyte monocyte reductase in patients exposed to coronary events, which is one of the important factors in the prognosis of atherosclerosis. Aerobic or endurance exercises impose a volume overload on the cardiovascular system, increasing oxygen consumption, heart rate, and cardiac output, as well as the volume of impulse(21). During physical exercises, peripheral

vascular resistance and diastolic blood pressure decrease and systolic blood pressure increases progressively(22). While doing exercise, active and involved muscles receive more blood and the difference in oxygen-arterial blood levels is higher, which results in a higher total oxygen content with exercise in the muscle. The combined effect of the two endurance and resistance exercise, which is currently used in rehabilitation centers, should be taken into consideration. Despite limited constraints on both types of exercise at the same time, one of these two types of exercises can be used as a substitute in many cases. Despite fundamental and specific differences in the mechanisms of the effect of these two methods on the body, the majority of therapeutic effects of these two are, respectively, consistent.

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