

Patients with Myocardial Infarction: Factors Affecting Adherence to Therapeutic Regimen

Thesis

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By

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مرضى إحتشاء عضلة القلب : العوامل المؤثرة في

الإلتزام بالنظام العلاجي

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فى تـمريض جراحى باطنى

مقدم من:

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SUMMARY

MI is the leading cause of death for both men and women worldwide. When the blood supply to part of the myocardium is interrupted, there are profound changes in the myocardium that lead to irreversible changes and death of muscle cells. The patient's current status baseline should be noted immediately to identify factors affecting adherence to therapeutic regimen. Therapeutic adherence can only be obtained if the patient has accepted his/her disease and understands the significance of the treatment proposed. Nurses are in the unique position of being able to provide education, counseling and communication to clients with multiple problems and to develop interventions that will impact and enhance patients to adhere to their prescribed regimens.

Aim of the Study:

The aim of this study was to identify factors affecting adherence to therapeutic regimen for patients with MI.

Research questions:

- Does patients with MI adhere to therapeutic regimen?
- What are the factors affecting adherence with therapeutic regimen in patients with MI?

Research design:

A descriptive research design was used in this study.

Setting:

This study was conducted in outpatient clinics of cardiology at Ain Shams university hospitals and Mansoura university hospitals.

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SUBJECT and METHODOLOGY

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LIST OF ABBREVIATIONS

- ACS:** Acute coronary syndrome.
- AHA:** American Heart Association.
- AMI:** Acute myocardial infarction.
- BNP:** B-type natriuretic peptide.
- CABG:** Coronary Artery Bypass Graft.
- TMR:** Transmyocardial laser revascularization.
- CADs:** Coronary artery disease.
- CVA:** Cerebrovascular accident.
- CHD:** Coronary heart disease.
- CK:** Creatine Kinase.
- CRP:** C-reactive protein.
- ECG:** Electrocardiogram.
- HDL:** High-density lipoprotein.
- HGV:** Heavy goods vehicle.
- LBBB:** Left bundle branch block.
- LVMT:** Left ventricular mural thrombus.
- MRI:** Magnetic resonance imaging.
- NSTEMI:** Non-ST elevation MI.
- PCI:** Percutaneous coronary intervention.
- PTCA:** Percutaneous transluminal coronary angioplasty.
- PVCs:** Premature Ventricular Contractions.
- RV:** Right ventricular.
- SCDNT:** Self care deficit nursing theory.
- STEMI:** ST elevation myocardial infarction.
- TEE :**Transesophageal Echocardiography.
- t-PA:** tissue plasminogen activator.
- WHO:** World health organization.

ABSTRACT

Little is known about the effect of non-adherence among patients with coronary artery disease (CAD) on a broad spectrum of outcomes including cardiovascular mortality, cardiovascular hospitalizations and revascularization procedures. The aim of the study was to identify factors affecting adherence to therapeutic regimen for patients with myocardial infarction. Research questions, does patients with MI adhere to therapeutic regimen? and what are the factors affecting adherence with therapeutic regimen in patients with MI? This was descriptive design composed of purposive sample of 201 adult patients were taken from both Ain Shams and Mansoura university hospitals. The data were collected through using the questionnaire sheet which included sociodemographic data, patient medical history, patient's knowledge questionnaire regarding MI and factors affecting patient's adherence questionnaire sheet. The result showed that a highly significant relation was found between adherence to medications and level of education and occupation, while age, gender, social status, income and place of residence affect significantly the adherence with medications intake. A highly significant relation was found between adherence to diet and level of education, occupation, and income and a significant relation was found in gender, and social status. A significant relation was found between adherence to exercise and level of education, occupation, and social status, while age, gender, income, and place of residence did not affect significantly the adherence to exercise. A highly significant relation was found between adherence to follow up and age, level of education, occupation, and income and a significant relation was found in social status, and place of residence. The study concluded that (50.2%) not adhered to medications, (74.1%) of the patients adhered to diet, (64.2%) not adhered to exercise, and (61.2%) adhered to follow up. The study recommended that periodic health teaching programme for MI patients including self management, education, and clinical management to improve their adherence are highly recommended.

Key words: Myocardial infarction, adherence.

INTRODUCTION
&
AIM OF THE STUDY

Introduction

Coronary artery disease (CAD), also called ischemic heart disease, is a condition in which fatty plaque deposits build up in the heart arteries. These plaque deposits cause arteries to become narrow and blocked, which restricts blood and oxygen flow to the heart muscle. CAD is the leading cause of death, for both men and women, in the United States (**Libby et al, 2007**). The world health organization (WHO) has estimated that by 2020, the global number of deaths from CAD will have risen from 7.2 million in 2002 to 11.1 million (**American Heart Association, 2006**).

Myocardial infarction (MI) is the major cause of deaths in Egypt, the majority rate reaches up to 4.218 deaths, and about 1.300.000 American suffer from MI annually (**American Association of Cardiovascular and Pulmonary Rehabilitation, 2004**). Although male victims outnumber female almost 2:1, females die more frequently after an acute myocardial infarction. According to the (**American Heart Association, 2008**), heart disease is the leading cause of death all over the world. Most patients who develop an acute myocardial infarction are older than 60 years.

Elderly people also tend to have higher rates of morbidity and mortality from their infarcts. Age (≥ 75 y) is the strongest predictor of 90-day mortality in patients with ST elevation MI (STEMI) undergoing percutaneous coronary intervention (**Gharacholou et al., 2011**).

One third of patients who experience STEMI die within 24 hours of the onset of ischemia, and many of the survivors experience significant morbidity. However, a steady decline has occurred in the mortality rate from STEMI over the last several decades. Acute myocardial infarction is associated with a 30% mortality rate; half of the deaths occur prior to arrival at the hospital. An additional 5-10% of survivors die within the first year after their MI. Approximately half of all patients with a myocardial infarction are rehospitalized within 1 year of their index event **(Chughatai, Ratner & Pozo, 2011)**.

A myocardial infarction occurs as a result of sustained ischemia, causing irreversible myocardial cell death (necrosis). Eighty percent to 90% of all acute MIs are secondary to thrombus formation **(Gibbons et al., 2002)**. In addition MI occurs when complete obstruction of a coronary artery interrupts blood supply to an area of myocardium. An interruption in the supply of myocardial oxygen and nutrients occurs when a thrombus is superimposed on an ulcerated or unstable atherosclerotic plaque and results in coronary occlusion. Affected tissues become ischemic and eventually die **(Lemone & Burke, 2008)**. When a thrombus develops, perfusion to the myocardium distal to the occlusion is halted, resulting in necrosis. Contractile function of the heart stops in the necrotic area(s). The degree of altered function depends on the area of the heart involved and the size of the infarction. Most MIs involve some portion of the left ventricle **(Antman & Braunwald, 2005)**.

The severity of an acute myocardial infarction depends on the location of infarction which may locate at any branch of coronaries. The coronary circulation is the left main coronary that divides into left anterior descending and circumflex branches, and the right main coronary artery. The left and right coronary arteries originate at the base of the aorta from openings called the coronary ostia located behind the aortic valve leaflets. These vessels distribute blood flow to different regions of the heart **(Klabunde, 2009)**.

Myocardial blood flow cut off for longer than 20 to 40 minutes initiates a dynamic process of cellular death, which extends over a period of several hours. Subsequent to cellular death, myocardial tissue undergoes remodeling characterized by the deposition of collagen in place of normal myocytes, muscle thinning and dilations. These pathologic changes result in several complications that include ventricular failure, dysrhythmias and mechanical defects **(Winblad, 2008)**.

Adherence has been defined as the active, voluntary, and collaborative involvement of the patient in a mutually acceptable course of behavior to produce a therapeutic result. This implies that the patient has a choice and that both patients and providers mutually establish treatment goals and the medical regimen **(Delamater, 2006)**. Adherence is defined as the ability and willingness to abide to a prescribed therapeutic regimen **(Inkster, 2006)**.