Health Related Quality of Life for Patients After Myocardial Infarction

Thesis

Submitted for Partial Fulfillment of the Requirements
of the Master Degree in Medical Surgical Nursing

(Critical Nursing)

By

Ahmed Hassan Hussien Awinat

Clinical instructor in the Technical institute of Nursing
Faculty of nursing- Ain Shams University

Faculty of Nursing
Ain Shams University
2016

Health Related Quality of Life for Patients After Myocardial Infarction

Thesis

Submitted for Partial Fulfillment of the Requirements
of the Master Degree in Medical Surgical Nursing
(Critical Nursing)

Supervised by

Prof. Dr / Ola Abd-Elaty Ahmed

Professor of Medical Surgical Nursing

Faculty of Nursing - Ain Shams University

Prof. Dr / Manal Salah Hassan

Professor of Medical Surgical Nursing

Faculty of Nursing - Ain Shams University

Faculty of Nursing
Ain Shams University
2016

In the name of Allah the Most Gracious and most Merciful, for granting me the power accomplish this work.

There are no words to show my appreciation for Prof. Dr. Ola Abd-Elaty Ahmed, Professor of Medical Surgical Nursing, Faculty of Nursing – Ain Shams University, for her enormous help, for the enduring wisdom that this work retains from her invaluable years of expertise and input. Her constructive criticism, her guidance, and tremendous support that enabled me to accomplish this work

I am profoundly grateful to Prof. Dr. Manal Salah, Professor of Medical Surgical Nursing, Faculty of Nursing – Ain Shams University, for being there every single step and for his inspiring passion for this work. Thank you for your encouragement, meticulous revision, and continuous support.

I would like to express my feelings of admiration, love and respect to my Family for their overwhelming support.

Contents

Subjects	Page
List of abbreviations	II
List of figures	IV
List of Tables	V
Abstract	VIII
• **Introduction**	1
• **Aim of the Study**	6
• **Review of Literature**	
♦ Anatomy and physiology of the heart	7
♦ Health related quality of life for patients after myocardial infarction	30
♦ Assessment of health related quality of life for patients after myocardial infarction	33
♦ Nursing management according to nursing process for patients after myocardial infarction	41
• **Subject and Methods**	53
• **Results**	62
• **Discussion**	114
• **Conclusion and Recommendations**	133
• **Summary**	136
• **References**	144
• **Appendices**	
• **Arabic Summary**	

List of Abbreviations

ACE : Angiotensin converting enzymes

ACS : Acute coronary syndrome

AMI : Acute Myocardial Infarction

A-V valve : Atrioventricular valve

BNP : B-type natriuretic peptide

BP : Blood pressure

CABG : Coronary artery bypass graft

CADs : Coronary artery diseases

CCUs : Coronary care units

CHD : Coronary heart disease

CK : Creatine kinase

CRP : C-reactive protein

DKA : Diabetic Ketoacidosis

DM : Diabetes Mellitus

ECG : Electrocardiogram

HDL : High density lipoprotein

HRQoL : Health-related quality of life

IHD : Ischemic heart disease

LDL : Low density lipoprotein

LOC : Level of consciousness

MRI : Magnetic resonance imaging

NSTEMI : Non ST elevation Myocardial Infarction

PCI : Percutaneous coronary intervention

STEMI : ST elevation Myocardial Infarction

TEE : Trans-esophageal echocardiography

T-PA : Tissue plasminogen activator

U.S. : United States

UK : United Kingdom

WHO : World Health Organization

List of Figures

No.	Figure	Page
	FIGURES IN REVIEW	
1	Structure of the heart.	8
2	Structure of myocardial infarction.	11
3	Four patches of atheroma as an example of causes of myocardial infarction.	17
	FIGURES IN RESULTS	
1	Number and percentage distribution of total current health complaints regarding the disease among the studied subjects.	72
2	Number and percentage distribution of total patient's knowledge regarding myocardial infarction among the studied subjects.	74
3	Assessment of total health related quality of life dimensions among the studied subjects.	77

List of Tables

No.	Table	Page
	TABLES IN RESULTS	
1	Number and percentage distribution of socio-demographic characteristics among the studied subjects.	63
2	Number and percentage distribution of housing, residence and income condition among the studied subjects.	65
3	Number and percentage distribution of personnel habits among the studied subjects.	67
4	Numbers and percentage distribution of medical history regarding disease duration & predisposing factors for the disease among the studied subjects.	69
5	Number and percentage distribution of the medical history regarding diagnosis and treatment recommended for the disease among the studied subjects.	70
6	Number and percentage distribution of medical history regarding disease follow up and medical recommendations among the studied subjects.	71
7	Number and percentage distribution of current health complaints regarding the disease among the studied subjects.	73
8	Number and percentage distribution of patient's knowledge regarding myocardial infarction among the studied subjects.	75
9	Assessment of health related quality of life dimensions among the studied subjects.	78

No.	Table	Page
10	Number and percentage distribution of physical functioning dimension among the studied subjects.	80
11	Number and percentage distribution of role limitations caused by physical health problems dimension among the studied subjects.	82
12	Number and percentage distribution of role limitations caused by emotional health problems dimension among the studied subjects.	83
13	Number and percentage distribution of social functioning dimension among the studied subjects.	84
14	Number and percentage distribution of emotional well-being dimension among the studied subjects	85
15	Number and percentage distribution of energy/fatigue dimension among the studied subjects	87
16	Number and percentage distribution of pain dimension among the studied subjects.	88
17	Number and percentage distribution of general health perception dimension among the studied subjects.	89
18	Relation between quality of life and socio-demographic characteristics among the studied subjects	91
19	Relationship between socio-demographic data and physical function among the studied subjects	94
20	Relationship between socio-demographic data and role limitation caused by physical health problems among the studied subjects.	97

No.	Table	Page
21	Relationship between health related quality of life domains and medical history among the studied subjects.	100
22	Relationship between patient's current health complaints and quality of life among the studied subjects.	102
23	Relationship between patient's knowledge and quality of life among the studied subjects.	103
24	Relationship between patients current health complains and socio-demographic characteristics among the studied subjects.	104
25	Relation between patient's knowledge about the disease and socio-demographic characteristics among the studied subjects.	107
26	Relationship between patient's current health complaints and medical history among the studied subjects.	110
27	Relationship between patient's knowledge about the disease and medical history among the studied subjects.	112

Abstract

Background: Myocardial infarction (MI) occurs when the flow of blood to the heart becomes blocked and this occurs because of coronary artery disease. This can cause tissue damage and can even be life-threatening condition and affected on patient's total quality of life and also is associated with significant morbidity and mortality. **Aim:** Assessing health related quality of life for patients after myocardial infarction. **Design:** Descriptive exploratory design was used. **Setting:** This study was conducted at Outpatient Cardiac Clinic which affiliated to Ain Shams University Hospitals. **Sample**: Purposive sample of 70 adult patients were included in the study. **Tools:** Two tools were used for data collection 1-Interview questionnaire: It's composed of five parts. Socio-demographic data, patient personal habits, medical history, patient's current health complaints and patient knowledge about the diseases. 2- RAND 36-Item Health Survey Questionnaire Item to assess patients' health related quality of life after MI. **Results:** There was a statistically high significant difference between the patients' age and income and their overall quality of life domains. While there was a statistically significant difference between the patients' work and their overall quality of life domains. Also there was a statistically highly significant difference between patient's current health complaints and quality of life. **Conclusion:** The present study revealed that the majority of the studied patients had a bad to moderate quality of life after MI suffering mostly of role limitations, caused by physical and emotional health problems. **Recommendations:** Healthcare providers should encourage patients to participate in rehabilitation programs post MI which has a planned programs regarding therapeutic regiment, follow up, and exercise and dietary information to prevent complications after MI.

Keywords: myocardial infarction, health related quality of life

Introduction

Myocardial infarction (MI) is the medical term for an event commonly known as a heart attack. It happens when blood stops flowing properly to part of the heart and the heart muscle is injured due to not receiving enough oxygen. Usually this is because one of the coronary arteries that supplies blood to the heart develops a blockage due to an unstable buildup of white blood cells, cholesterol and fat **(Dohi & Daida, 2010).**

Myocardial infarction occurs when atherosclerotic plaque slowly builds up in the inner lining of a coronary artery and then suddenly ruptures, causing catastrophic thrombus formation, totally occluding the artery and preventing blood flow downstream **(Reznik, 2010).** There are two types of MI, ST segment elevation myocardial infarction (STEMI) and non ST segment elevation myocardial infarction (NSTEMI) and these determined by electrocardiograms (ECGs) **(Clarke, Halsey, Bennett & Lewington , 2011).**

Myocardial Infarction is the leading cause of death in the United States and in most industrialized nations throughout the world. Approximately 500,000 episodes of acute myocardial infarction (AMI) (30% of acute coronary syndrome (ACS) cases) occur per year. Around 600 in

every 100,000 men and 200 in every 100,000 women have an AMI every year **(Valensi, Lorgis & Cottin, 2015).** Also there is an annual decline in the overall mortality rates among AMI patients in the U.S. the survival rate for U.S patients hospitalized with MI is approximately 95%. This represents a significant improvement in survival and is related to improvements in emergency medical response and treatment strategies **(Woollard & Geissmann, 2010).**

In Egypt at Ain Shams University Hospital total number of patients admitted to Outpatient Cardiac Clinic were 7392 patients in 2013, 1260 of them having old MI and follow up in outpatient clinic **(Informational Center in Ain Shams University, 2013).**

The onset of symptoms in (MI) is usually gradual, over several minutes, and rarely instantaneous. Chest pain is the most common symptom of acute MI and is often described as a sensation of tightness, pressure, or squeezing. Pain radiates most often to the left arm, but may also radiate to the lower jaw, neck, right arm, back, and upper abdomen, where it may mimic heartburn **(Van de Werf, Bax & Betriu, 2014).** Also shortness of breath (dyspnea) occurs when the damage to the heart limits the output of the left ventricle, causing left ventricular failure and consequent pulmonary edema. Other symptoms

include diaphoresis (an excessive form of sweating), weakness, lightheadedness, nausea, vomiting, and palpitations **(Mallinson, 2010)**.

Important risk factors are previous cardiovascular disease, old age, tobacco smoking, high blood levels of certain lipids (low-density lipoprotein, cholesterol, triglycerides) and low levels of high density lipoprotein (HDL) cholesterol, diabetes, high blood pressure, lack of physical activity, obesity, chronic kidney disease, excessive alcohol consumption, and the use of cocaine and amphetamines **(Graham, Atar and Borch-Johnsen, 2007; Devlin & Henry, 2008).**

Immediate treatments for a suspected MI include aspirin, which prevents further blood from clotting and sometimes nitroglycerin to treat chest pain and oxygen **(Cabello, Burls, Emparanza, Bayliss & Quinn, 2013)**. STEMI is treated by restoring circulation to the heart, called reperfusion therapy, and typical methods are angioplasty, where the arteries are pushed open, and thrombolysis, where the blockage is removed using medications. Non-ST elevation myocardial infarction (NSTEMI) may be managed with medication, although angioplasty may be required if the person is considered to be at high risk **(Roe, Messenger & Weintraub, 2010).**

The quality of life is not only a harmony inside a man but also a harmony between a man and his world. The overall quality of life comprises all factors which influence on someone health and health related quality of life **(Central European Journal of Medicine, 2013).** Also health-related quality of life (HRQoL) is an important outcome for patients diagnosed with coronary heart disease **(Duenas, Ramirez, Arana & Failde, 2011).** Health related quality of life is a multi-dimensional concept that includes domains related to physical, mental, emotional and social functioning. It goes beyond direct measures of population health, life expectancy and causes of deaths and focuses on the impact health status has on quality of life **(National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand, 2012).** Related concept of HRQOL is well-being, which assess the positive aspects of a person life such as positive emotion and life satisfaction **(Selim et al., 2009).**