



Faculty of Nursing
Ain Shams University

Factors Related to Complications among Clients Post Open-heart Surgery after Discharge

Thesis

Submitted for Partial Fulfilment of Master Degree

In Nursing Sciences

(Community Health Nursing)

By

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(B.Sc. of Nursing, 2005)

Faculty of Nursing
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2016

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿وَقُلْ رَبِّ زِدْنِي
عِلْمًا﴾

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List of Abbreviations

Abb.	Full term
ACE	Angiotensin-Converting Enzyme
ADH	Antidiuretic Hormone
ADL	Activities of Daily Living
BMI	Body Mass Index
CABG	Coronary Artery Bypass Graft
CAD	Coronary Arteries Disease
CHD	Coronary Heart Disease
CO	Cardiac Output
CVDs	Cardiovascular Diseases
ECG	Electro Cardio Gram
FCI	Family Crowding Index
IHD	Ischemic Heart Disease
INR	International Normalize Ratio
LV	Left Ventricle
MI	Myocardial Infarction
OHS	Open-Heart Surgery
PCI	Percutaneous Coronary Intervention
PVT	Prosthetic Valve Thrombosis
VR	Valve Replacement
WHO	World Health Organization

Factors Related to Complications among Clients Post Open-heart Surgery after Discharge

Abstract

By Amira Abdelaal Genedy

Recently cardiac Surgeries are one of the most critical surgeries in Egypt, which cause a lot of complications that harm clients' health. There are many factors that affect the client post open-heart surgery and mainly cause cardiac complications. The **Aim** of this study was to identify factors related to complications among clients post open-heart surgery after discharge. **Setting:** outpatient clinic for open-heart surgery at Nasser Institute Hospital for Research and Treatment. **Sample:** a purposive sample comprised 150 clients. **Tools** for data collection: **First Tool:** An interviewing questionnaire for assessing socio-demographic data of cardiac surgery clients, client's Knowledge related to heart diseases, assessing factors related to cardiac complications: physically, psychologically, level of dependence, social relations, environmental and spiritual factors, and assessing client's practices related to their needs including diet, exercise and dressing. **Second Tool:** Medical Record investigation for assessing client's health status. **Third tool:** Activities of Daily Living scale for assessing dependency level of clients. **Fourth Tool:** Home Environment Checklist for assessing the clients' environmental conditions. **The results:** Total study sample from females was 50.7%, 62 % of the sample aged from 40 to 60 years old, 40 % of the sample had intermediate education, and 83.3 % were married. The entire sample had abnormal coagulation profile, 99.3 % of the sample had abnormal cardiac enzymes and urine culture. There are 80.7% of the clients correctly done all practices post open-heart surgery and 86% of them had satisfactory level of knowledge. 90 % of the study sample complied with their follow-up regimen, 78 % of the clients had correct dietary regimen, 46% of the clients were doing their physical activities correctly and 60% of the clients applied dressings on their wounds correctly. While 43% of the clients were doing breathing exercises by using "Tri-flow" correctly and 36% of the clients had adequate sleep & rest. The majority of clients didn't have always score of psychological & economic factors post-operative; two thirds didn't always have always score of physical factors. While more than two fifths of clients had always score of social factors, and more than half had always score of spiritual factors. There was a significant relation between client's educational level and their knowledge. **Conclusion:** There was a significant relation between myocardial infarction and clients' practices. There was a significant relation between arrhythmias, psychological disturbance & intellectual dysfunction, decreased & elevated coagulation profile and clients' knowledge **Recommendations:** there is a need for a specific booklet written in simple Arabic illustrating, with pictures, the clients' needs, and hotline should be accessible in case of emergency.

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- Key words: Open Heart Surgery, Complications, Knowledge, practice, factors
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Introduction

Open-heart surgeries (OHS) are a threatening and complex life event that affects individuals in various ways; they change the patient's life and have impact on the family as an interactive unit. The ability to recognize the signs of decreased well-being is important for reducing the negative effect of OHS on the clients (*Karlsson, 2010*).

The total number of cardiovascular disease (CVD) deaths (mainly coronary heart disease, stroke, and rheumatic heart disease) had increased globally to 13 million. Of these, 7.6 million were attributed to coronary heart disease and 5.7 million to stroke. More than 80% of the deaths occurred in low and middle income countries. The World Health Organization (WHO) estimates there were about 20 million CVD deaths in 2015, accounting for 30 per cent of all deaths worldwide (*The World Health Organization, 2015*).

In Egypt 11% of people between 20 and 40 have CVD, while 37% between 40 and 60, 71% of people between 60 and 80, and 85% of people over 80 have CVD. The average age of death from coronary artery disease is around 68 and disease onset is typically seven to ten years earlier in men as compared to women (*National Center for Health Statistics, 2015*).

In Egypt, At Nasser Institute for Research and Treatment Hospital, the total number of admission to open-heart surgeries was 1588 patients in 2012; while in 2013 it was 1582 patients and 1463 patients in 2014. According to the medical record of

the intensive care unit (*Information Centre in Nasser Institute for Research and Treatment Hospital, Medical Record Office, 2014*)

The aim of Open-Heart Surgery by means of coronary artery bypasses grafting or heart valve replacement is the prolongation of life as well as the relief of symptoms such as angina and dyspnoea. The main focus has been on decreasing mortality and morbidity related to OHS. However, the increased ability to prolong life has given rise to a variety of questions about quality of life including not only physical but also psychological and social dimensions (*Naderi et al., 2009*).

Cardiac Complications post open-heart surgery may be short term complications such as low cardiac output syndrome, cardiac tamponade, alternation in fluid and electrolyte balance, myocardial infarction and ischemia, Arrhythmias. Cardiac complications also may be long term complications such as post pericardiotomy syndrome. (*Kaplow and Hardin, 2012*)

There are many factors that affect the client post open-heart surgery and mainly cause cardiac complications such as physical factors that include energy; fatigue; psychological factors that included positive feelings; level of dependence as mobility; social relations that include practical social support; environmental factors that include accessibility of health care; and personal beliefs/spiritual factors that include meaning of life (*Brunner, 2012*).

The role of the community health nurse and caregivers of cardiac surgery clients is an essential component of client care. Nursing management requires a strategy to help the client and family come to terms with an illness which is chronic and in which sudden death can occur. Nursing intervention should aim to help the client maintain a good quality of life by developing ways to cope and comply with the constraints of the treatments and the possibility of complications occurring, also defining all possible cardiac complications post OHS and the preventive measures to prevent complications from occurrence. Clients whose caregiver is more supportive, more flexible, less critical, and good at problem solving have been found to have fewer problems in adherence (*Runciman, 2011*).

Significance of the study

Cardiovascular disease (CVD) is a major cause of morbidity and premature mortality in women and men worldwide. During the past 2 decades, the prevalence of CVD, stroke and open-heart surgeries has increased and accelerated. Complications after heart surgeries vary and have an effect on clients after surgery and may contribute to major problems in client's adaptation with their life. Coronary Artery Bypass Graft (CABG) is the most common cardiac operation worldwide, accounting for 16,000 operations; Atrial fibrillation (AF) is about 35%, 21% for Mediastinitis, 18% for bleeding, 8% for memory loss and 6% for cardiac tamponade (*The World Health Organization, 2015*).

Coronary artery bypass graft surgery is one of several major advances in the effort to manage cardiovascular diseases and the leading cause of death and disability in Egypt, which expose the patients to major complications that may affect their life; 25% for risk of bleeding from site of attached graft and other sources; 17% for heart rhythm problems most commonly atrial fibrillation; 13% for blood clots (stroke), 11% for infection at the incision site (Mediastinitis) and 5% for kidney failure (*National Center for Health Statistics, 2015*).

Aim of the Study

This study aimed to:-

Identify factors related to complications among clients post open-heart surgery after discharge through:-

- 1) Assessing client's knowledge related to heart disease & OHS.
- 2) Determining client's practices according to their care after OHS.
- 3) Identifying factors (physical, psychological, level of dependence, social relationship, environmental, spiritual) related to cardiac complications among clients post open-heart surgery.

Research Questions:-

- 1) Is there a relation between clients' knowledge and their socio-demographic status?
- 2) Is there a relation between cardiac complications and clients' practices?
- 3) Is there a relation between clients' knowledge and cardiac complications?