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## Evaluation of a Cardiac Home Care Program

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**EVALUATION OF A CARDIAC HOME CARE PROGRAM**

**By**

**Donna Mayo-Rosa**

**A THESIS**

**Submitted to  
Grand Valley State University  
in partial fulfillment of the requirements for the  
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## ABSTRACT

### EVALUATION OF A CARDIAC HOME CARE PROGRAM

By

Donna Mayo-Rosa

The purpose of this study was to evaluate the effectiveness of a cardiac home care program in promoting self-care through supportive-educative nursing. Orem's self-care model served as the conceptual model for this study. Self-care was measured in this study by evaluating the patient's level of cardiac knowledge and functional ability.

This study was conducted at a home care agency in Midwest Michigan. A convenience sample of seven was obtained from patients admitted to a cardiac home care program following coronary artery bypass grafting surgery (CABG).

A descriptive design with a one group paired *t* test was used to analyze the differences between the patient's knowledge score and dependence score on a pretest and posttest. A statistical significant improvement in the patient's knowledge level ( $p = .002$ ) was demonstrated. The improvement in patients' functional status at the time of discharge from home care was also statistical significant ( $p = 0.000$ ).

The results of this study support the role that home care plays in providing supportive-educative care and promoting self-care in the recovery period post CABG surgery.

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## Table of Contents

List of Tables.....	vi
List of Appendices.....	vii
<b>CHAPTER</b>	
1 INTRODUCTION.....	1
2 CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW.....	4
Conceptual Framework.....	4
Literature Review.....	5
Summary and Implications for Study.....	10
Research Question .....	11
Definition of terms.....	11
3 METHODOLOGY.....	12
Design.....	12
Sample and Setting.....	12
Instrument.....	13
Sociodemographic data collection tool.....	14
Cardiac Home Care Program Pretest and Posttest.....	14
Discharge Summary Data.....	14
Cardiac Care Knowledge Pretest and Posttest.....	15
Procedure.....	20
4 RESULTS.....	22
Sample Description.....	23
Results.....	23
Knowledge Level.....	23
Dependence Level.....	23

## Table of Contents

5	Discussion and Implications for Nursing Practice.....	25
	Discussion.....	25
	Implications for Nursing Practice.....	27
	Limitations.....	28
	Recommendations for Further Research.....	28
	APPENDICES.....	30
	REFERENCES.....	45

## List of Tables

### Table

1	Interrater Reliability for OASIS Data Items.....	17
2	OCMI Subscales.....	18

## List of Appendices

### Appendix

A	Sociodemographic Data Collection Tool.....	30
B	Cardiac Home Care Program: Pretest and Posttest .....	33
C	Discharge Summary Data.....	35
D	Permission for Replication of the Outcome and Assessment Information Set (OASIS)....	36
E	Cardiac Care Knowledge: Pretest and Posttest.....	37
F	Permission for Adaptation of Outcome Measure for Myocardial Infarction.....	42
G	Information and Consent for Participation in Evaluation study of Cardiac Home Care Program.....	43

# CHAPTER I

## INTRODUCTION

Cardiovascular disease is the leading cause of mortality in the United States (American Heart Association, 1997). It is also one of the most costly health care problems. The American Heart Association estimates that 274.2 billion dollars will be spent in 1998 on cardiovascular illness (American Heart Association, 1997). In response to the need to contain costs of treating cardiovascular illness, health care professionals are facing the challenge of how to provide cost effective care without compromising quality.

In an attempt to decrease health care costs, early hospital discharge is becoming routine. Patients undergoing coronary artery bypass grafting (CABG) surgery may be discharged from the hospital as early as two days post-operatively. Early discharge has advantages and disadvantages related to cost and quality. Advantages of early discharge include a decrease in iatrogenic problems and the return of patients to their families and normal activities (Brooten, et al., 1988). One major disadvantage of early discharge occurs when hospitalized patients are discharged while still acutely ill and without the education and support for self-care. Although no evidence suggests that earlier discharge harms the health of the elderly patient, little doubt exists that their care after discharge places a burden on families and the health care system (Naylor, et al., 1994).

Various nursing research studies examining the recovery of CABG patients indicate that patients encounter various physiological and psychosocial concerns, for which they need support and education (Nicklin, 1986; Tack & Gilliss, 1990; Wu, 1995).

In the study by Wu (1995), it was found that in a group of 365 patients recovering from CABG surgery, 55% used a telephone support system after hospital discharge to report physical concerns and ask questions about the recovery process. In the study by Tack and Gilliss (1990), nurses called patients (n=75) at one, two, three, four, six and eight weeks after discharge for the purpose of providing nursing care during the early recovery period. A content analysis of detailed nurses' recordings revealed the following nursing actions during phone calls: assessment, provision of support, reinforcement of predischARGE teaching, referrals and teaching. The five nursing diagnoses that occurred most frequently during the eight week recovery period included: pain, ineffective coping, activity intolerance, sleep pattern disturbance and altered nutrition. Another study by Nicklin (1986) with a telephone callback system also described the types of problems encountered at home by patients recovering from CABG surgery. Over a 4 ½ month period, 217 calls were received, of those, 125 calls were related to different patient concerns. Of the 217 calls, many patients had more than one concern, resulting in a total of 253 different concerns for which RNs provided education or referral for further intervention. The majority of patient concerns fell into three categories; cardiopulmonary (i.e., arrhythmias, chest pain and shortness of breath), medications (i.e., patient questions related to drug dosage ), and gastrointestinal ( i.e., constipation, diarrhea and nausea). Fifty-five percent of these concerns occurred within two weeks after discharge.

In summary, these studies indicate that patients may benefit from follow-up nursing intervention during home recovery. The results of these studies suggest that it is

important to provide support during the first few weeks after discharge to address patient concerns and monitor physical progress of the patient recovering from CABG surgery. The availability of follow-up nursing care during recovery from CABG surgery is important in facilitating a safe recovery and promoting self-care.

Nurses are in an excellent position to develop innovative models of care delivery to address patients' needs after discharge from the acute care setting. Home health care services provide a source of care that can ensure a smooth transition from the acute care setting to home.

#### Purpose

The purpose of this study was to evaluate the effectiveness of a cardiac home care program in promoting self-care through supportive-educative nursing care.

## CHAPTER 2

### CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

#### Conceptual Framework

Orem's self-care model served as the basis for this study (Orem, 1991). Orem's self-care deficit theory focuses on the individual's need for self-care to sustain life and health and to recover from disease or injury while coping with its effects. Self-care is defined as activities an individual initiates and performs to maintain life, health and well being. According to Orem, nursing care is required when a deficit exists between an individual's self-care needs and self-care abilities. The central belief within Orem's theory is that nursing can assist an individual to overcome self-care deficits. Self-care deficits emerge when an individual cannot meet the demands placed upon them, and the desired self-care behavior is not produced as cited in Joseph, 1980.

Orem (1991) describes three nursing systems designed to assist an individual in overcoming their self-care deficits. The three nursing systems include: a) the wholly compensatory system, in which the nurse compensates for a patient's total inability to engage in self-care activities; b) the partially compensatory system, in which both the nurse and the patient perform self-care measures; and c) the supportive-educative system, in which either the patient or the caregiver is able to perform or can learn to perform required self-care measures. Within the supportive-educative system, five nursing interventions are classified as helping techniques: a) acting or doing for, b) guiding, c) supporting, d) providing a developmental environment, and e) teaching (Orem 1991).

A patient who has had CABG surgery experiences a change in his or her health status. According to Orem's (1991) theory, this change can lead to a self-care deficit. This study is based on the assumption that a supportive-educative nursing system promotes self-care abilities. The supportive-educative nursing system in this study is a cardiac home care program. Once a patient is discharged from the hospital a supportive-educative nursing system can provide assistance with decision making, behavior modification, and reinforcement of knowledge and skills (Orem, 1991). The patient's ability to overcome their self-care deficits can be facilitated by home health care services. Home health care services can provide a patient with a combination of support, guidance, and teaching.

### Literature Review

An extensive search of the literature revealed a limited number of studies evaluating the effectiveness of home care programs and home care nursing interventions. The literature review for this study focused on home care and the various supportive-educative interventions provided during a patient's recovery.

Buls (1995) conducted a study to determine the effect of home visits by a nurse on anxiety levels of patients and families following CABG surgery. Subjects included a convenience sample composed of an experimental group (n=30) and a control group (n=30). The State Trait Anxiety Inventory (STAI), Form Y-1, and the Affect Adjective Check List (AACL) measured anxiety. Type A Behavior Pattern (TABP) was also assessed by the Jenkins Activity Survey and a tool based on the Framingham Type A scale.

The experimental group received 2 home visits. On the first home visit, 2 days after discharge, the nurse administered the TABP tool and a pretest consisting of the STAI, Form Y-1, and the AACL to the patient and family. After administering the tools, the nurse assessed the patient's physical status and provided education and support. At the second home visit, seven days after discharge, the nurse again assessed the patient's physical status and addressed any questions or concerns. A posttest of the STAI and AACL was given to the patient and family during this second visit. The patients in the control group received no home visits and were given STAI and AACL to complete with explicit instructions to complete them at 2 and 7 days after discharge.

A t-test showed that patients and families who received home visits had significantly lower anxiety levels than those who did not receive home visits. On the STAI posttest the experimental group scored 29.7 and the control group scored 38.0 ( $p < 0.05$ ). On the AACL posttest the experimental group scored 5.1 and the control group scored 6.9 ( $p < 0.05$ ). A t-test also showed that Type A patients and families had the same or even lower anxiety scores than Type B patients and families, but were not significant ( $p < 0.05$ ). The results of Bul's (1995) study indicated that home visits could be beneficial in decreasing the anxiety level of patients recovering from CABG surgery. The sample size of this study was too small to allow for generalization of the findings, and should be replicated using a larger sample. In addition, the level of anxiety for both groups should be determined prior to surgery.

Phillips (1993) conducted an experimental, group design with a pretest and posttest to examine the effect of a post discharge follow-up program on patient satisfaction with care and quality of life (QOL). The experimental group (n=32) participated in a postdischarge follow-up program, in which a nurse administered a Postdischarge Follow-up Assessment via telephone 48 to 72 hours after discharge. Based upon this assessment, additional teaching, counseling, or a referral was provided. One week later, an additional phone call was made to see if problems had resolved. The control group (n=30) received no discharge follow-up.

Phillip's (1993) study revealed a positive correlation with a patient's level of satisfaction and post-discharge follow-up. Patients in the experimental group had higher levels of satisfaction with care ( $p=.001$ ). No significant difference in QOL was reported between the two groups. The researcher also noted that all 32 telephone calls to discharged patients, resulted in additional teaching or counseling to patients.

The results of Phillip's (1993) study indicated that follow-up in the post-discharge period might impact a patient's level of satisfaction with care and provide an opportunity for further teaching. The findings of this study were limited due to a small sample size. The subjects in Phillip's study underwent back or abdominal surgery, with a mean age of 44 years. The results of Phillip's study are not easily generalized to the population undergoing CABG surgery.

Rich, Beckham, Wittenberg, Leven, Freeland, and Carney (1995) conducted a prospective randomized trial on the effect of a nurse-directed, multidisciplinary intervention on readmission rates, QOL, and costs of care for patients hospitalized with

congestive heart failure (CHF). QOL was measured with the Chronic Heart Failure Questionnaire developed by Guyatt (1989). Patients underwent blinded randomization to conventional care (control group n=140) or the multidisciplinary intervention care (treatment group n=142). The multidisciplinary intervention group received comprehensive education regarding CHF and its treatment, comprehensive discharge planning, consultation with a geriatric cardiologist and intensive follow-up after discharge. Post-discharge follow-up included home visits and telephone contact. The primary goals of follow-up were to reinforce education regarding CHF, ensure adherence with medications and diet, and identify recurrent symptoms amenable to outpatient treatment.

Patients who received the nurse-directed multidisciplinary intervention demonstrated significantly higher scores on the Chronic Heart Failure Questionnaire measuring QOL ( $P=0.001$ ). In addition, patients in the intervention group had fewer readmissions to the hospital ( $p=0.02$ ). Due to the reduction in hospital admissions, the overall cost of care was \$450.00 less per patient in the intervention group. The study demonstrated that a nurse-directed multidisciplinary intervention could reduce hospital readmissions and improved the QOL for the CHF patient. Due to the multidisciplinary nature of the intervention, it is difficult to determine which elements were most important in reducing readmission rates and improving QOL.

Robinson (1991) conducted a pretest posttest experimental study to determine the differences between three groups of post myocardial infarction (MI) patients (n=91) and their level of self-care behaviors. The three groups included those who received no follow-up, those who received telephone follow-up and those who received home visit

follow-up. Self-care behaviors were measured by knowledge of and adherence with their cardiac regimen, and six-month hospital readmission. The Self-Care Scale (SCS) measured the patient's knowledge of the cardiac regimen. Adherence with their cardiac regimen was evaluated using the Health Behavior Scale (HBS). Hospital readmission rates were obtained six months after hospitalization by contacting the subjects.

Both the home visit group and telephone group demonstrated more knowledge and adherence with their cardiac regimen than the control group ( $p < .0001$ ). The home visit group had significantly more cardiac knowledge than the telephone group ( $p < .039$ ). There was no difference between the home visit group and telephone group on the HBS. The hospital readmission rate revealed no significant difference between the groups. This study suggests that follow-up after hospital discharge may impact patients' knowledge and adherence with cardiac teaching.

The purpose of a study by Beckie (1989) was to investigate the impact of a supportive-educative telephone program on the levels of knowledge and anxiety of patients after CABG surgery during the first 6 weeks after hospital discharge. Using a posttest only control group design, 74 patients were randomly assigned to either an experimental or a control group. The patients in the experimental group ( $n = 37$ ) participated in a supportive-educative telephone program, in which the cardiac rehabilitation nurse specialist made a series of four to six telephone calls to the patient during the first six week home recovery period. During the telephone calls the nurse reinforced information provided during hospitalization, and gave additional information about self-care measures, and treatment regimens. Patients in the control group ( $n = 37$ )

received routine in-hospital teaching and no telephone follow-up. The effectiveness of the telephone program on patient knowledge levels and anxiety was tested using a knowledge test developed by Horn and Swain (1977) and a State Anxiety Inventory. Patients who participated in the supportive-educative telephone program demonstrated significantly greater knowledge levels than the control group ( $p < 0.05$ ). Patients in the experimental group also demonstrated lower state anxiety levels than the control group ( $p < 0.05$ ).

Beckie concluded that a supportive-educative telephone program appears to be one effective method of decreasing anxiety of patients recovering from CABG surgery and increasing self-care knowledge. A limitation of the study identified by the author was that no attempt was made to observe the expected self-care behavior of the participants. The author suggests that observing the participant actually performing the task would provide more valid and reliable evidence of the program effectiveness. Home visits would allow direct assessment of patient's self-care abilities.

#### Summary and Implications for Study

In summary, the literature review reveals various methods of providing patients with support in the post-discharge period. The effectiveness of these different methods varies. As patients and families are given more responsibility for care after hospitalization, health care providers must identify the most cost-effective method to promote self-care and meet patient needs. The results of this study add to a limited research base in regards to the effectiveness of home follow-up care programs.

### Research Question

This study addressed the question: How effective is a cardiac home care program in promoting self-care through supportive-educative nursing care.

### Definition of terms

*Cardiac home care program* is supportive-educative nursing care provided by expert cardiovascular/rehabilitation nurses in the patient's home following hospital discharge.

*Supportive-educative care* includes: 1) education, 2) monitoring of physical progress, and 3) emotional support to the family and patient (Orem, 1991).

*Coronary artery bypass grafting (CABG)* surgery refers to the bypassing of stenotic coronary arteries using the patient's leg veins or mammary arteries.

*Self-care* is defined as actions directed toward oneself or the environment in order to regulate one's functioning in the interest of one's life, integrated functioning, and well-being (Orem, 1985). Self-care will be measured in this study by evaluating the patient's level of cardiac care knowledge and functional ability.

*Effective* is defined as achievement of the cardiac care program goals of: 1) improvement or stabilization in a patient's physical and functional status, 2) an increase in the patient's knowledge level about the management, treatment, and prevention of cardiovascular disease, and 3) not requiring acute care services (i.e. emergency room visits, and hospital readmission) while receiving cardiac home care services.

## CHAPTER 3

### METHODOLOGY

#### Design

A descriptive design with a one group pretest-posttest was used to examine the effectiveness of the cardiac home care program. In the absence of a control group, the data from the pretest and posttest was analyzed for differences. The differences found between the pretest and posttest were used to describe the effectiveness of the cardiac care program. The effectiveness of the home care program was measured by examining the patient's physical and functional status, knowledge level regarding the management, treatment, and prevention of cardiovascular disease and utilization of acute care services while receiving home care. A descriptive research design was used for this study to allow the investigator to describe to what degree program goals were met.

#### Sample and Setting

This study was conducted at a home care agency in Midwest Michigan. A convenience sample of seven subjects was obtained from patients admitted to a cardiac home care program following CABG surgery. In an attempt to obtain a larger sample size data were collected over a seven-month period of time. The two barriers to obtaining a larger sample size were identified as 1) the number of referrals from physicians to home health care services for follow-up care post CABG and 2) a large number of patients referred to the agency had only two visits approved by their physician or payer. These patients were excluded from the study due to the short time frame available for follow-up and completion of the study procedure. All subjects in the study met the following

criteria: (a) were over 21 years of age, (b) had CABG surgery, (c) were actively receiving cardiac home care services at the time of data collection, (d) received three or more home health care visits and (e) could read and write English. Approval for this study was obtained from Grand Valley State University's Human Research Review Committee and the home care agency.

### Instrument

The effectiveness of the cardiac home care program was evaluated using data measures from outcome based quality improvement. According to Shaughnessy and Crisler (1995) the use of the specific data measures from outcome based quality improvement allows home care agencies to analyze their performance in terms of effectiveness of care. The following four tools were used to collect data: 1) Sociodemographic Data Collection Tool (Appendix A), 2) Cardiac Home Care Program (CHCP) pretest and posttest (Appendix B), 3) Discharge Summary Data (Appendix C), and 4) Cardiac Care Knowledge (CCK) pretest and posttest (Appendix E).

Sociodemographic Data Collection Tool. Items one through eight described demographic characteristics of the study sample and included: patient ID number, start of care date, age, gender, race/ ethnicity, date of inpatient discharge, date of CABG surgery, and length of stay in the acute care setting following CABG surgery. Items 9, 10, 14, 15, 16, and 17 described the support systems and resources available to the patients. Included in these items are payment sources, financial factors, who the patient lives with, who the patient receives assistance from, who are the patient's primary caregiver, and safety hazards present in the patient's place of residence. Items 11, 12, and 13 described

the patient's prognosis and risk factors.

Cardiac Home Care Program Pretest and Posttest. The CHCP was developed by the investigator based on items in the Outcome and Assessment Information Set (OASIS) by Shaughnessy and Crisler (1995) (see Appendix D for permission to reproduce OASIS data items). The OASIS contains 79 items for the purpose of outcome measurement, risk adjustment, and patient identifiers. Of the 79 items, seven were chosen for inclusion in the CHCP. On the CHCP items 19 through 25 described and measured functional and physical status. These items include: ability to bathe, ability to safely ambulate, level of dyspnea, ability to take oral medications, level of pain, number of wounds present, and status of wound. The score on the CHCP will provide a measure of the patient's dependence level. The higher the score on the CHCP, the more dependent the patient was on assistance.

The data items included in the CHCP, which were based on OASIS have undergone interrater reliability testing by the Center for Health Policy Research (1994). For each data item, two measures of agreement were computed: Cohen's kappa and Pearson's correlation coefficient. Cohen's kappa correlation ranged from .37 to 1.00 and Pearson's  $r$  ranged from .48 to 1.00. (Table 1). The stability of the CHCP tool used in this study was established using test-retest reliability. The correlation coefficient (Pearson's  $r$ ) obtained from test-retest reliability for the CHCP tool was established at 0.50. The CHCP tool was accepted to be moderately stable based on a correlation coefficient of 0.50.

Discharge Summary Data. Items 52 through 55 describe the services provided to

the patient, the length of service, and discharge disposition. Items 56, 57 and 58 described utilization of acute care services while the patient was receiving cardiac home care and included: emergent care services utilized, reason for emergent care, and reason for hospitalization.

Cardiac Care Knowledge Pretest and Posttest. The cardiac home care program goal of increasing a patient's level of knowledge regarding the management, treatment, and prevention of cardiovascular disease was evaluated by a Cardiac Care Knowledge (CCK) pretest and posttest. The CCK pretest and posttest was based on the Haussman and Hegyvary (1977) Outcome Criteria for Myocardial Infarction (OCMI) (see Appendix F for permission to adapt OCMI). The OCMI provides a comprehensive measure for all of the dimensions identified as relevant for the evaluation of coronary care at the time of discharge, namely, the physical and emotional status of patients, their knowledge of their illness, and prescriptions for their continued care and treatment (Edwardson, 1988). The OCMI contains 38 items divided into eight subscales. The subscales along with a description of their contents are presented in Table 2. The four subscales of general health knowledge, medication knowledge, activity knowledge, and nutrition knowledge were chosen by the investigator for inclusion in CCK pretest and posttest.

Modifications were made to the original OCMI in order to evaluate knowledge areas specific to the patient recovering from CABG surgery. The modifications made included: 1) development of a subscale to evaluate CABG post-operative care knowledge, 2) addition of two items in the general health knowledge subscale to evaluate the patient's understanding related to coronary artery disease and CABG surgery, 3) addition of signs

and symptoms that require medical attention post CABG surgery, and 4) addition of a question related to the patient's exercise prescription. No modifications were made to the medication knowledge and nutrition knowledge subscales.

Table 1

Interrater Reliability For OASIS Data Items

<b>Measure</b>	<b>Cohen's Kappa</b>	<b>Pearson's r</b>
Bathing	.70	.81
Ambulation	.60	.84
Management of oral medications	.78	.91
Risk factors	~.65 to 1.00	~.70 to 1.00
Patient sex	1.00	1.00
Patient race	1.00	1.00
Dyspnea scale	.60	.85
Pain	.60	.77
Number of wounds present by type	1.00	1.00
Wound/Lesion Status	1.00	1.00
Prognosis	.62	.67
Rehabilitation potential	.62	.62
Payment Source	~.37 to 1.00	~.48 to 1.00
Patient lives with	~.62 to 1.00	~.62 to 1.00
Assisting persons	~.82 to .96	~.74 to 1.00

Note. ~ Ranges represent multiple factors within the category

Table 2

OCMI Subscales

<b>Subscales</b>	<b>Indicators Assessed</b>
General Health Knowledge*	Own health status Symptoms of fluid retention Ability to take own pulse Date for follow-up care
Medication Knowledge*	Names of prescribed drugs Dosage Schedule Action Side effects Action in event of side effects Drug interactions
Activity Knowledge*	Activity limits prescribed Identifying own limits Risk Factors
Nutrition Knowledge*	Types of diet prescribed Foods to avoid Prescribed fluid consumption Reason for fluid prescription
General Health Status	Pulse rate at rest /Cardiac rhythm SBP/DBP Respiratory rate at rest /Quality of respirations
Rest and Sleep	Freedom for chest pain Uninterrupted sleep ( > 6hr) Relaxed body musculature
Activities of daily living	Feeding                      Personal care Walking                    Toileting Bathing                    Dressing
Anxiety	Content of conversation Manner

\* Subscales included in Cardiac Care Knowledge pretest and posttest

The internal consistency of the original OCMI was established using the alpha statistic (Waltz, Strickland, & Lenz, 1984). The overall alpha statistic for the instrument was 0.79. The overall alpha for the four knowledge subscales of general health knowledge, medication knowledge, activity knowledge and nutrition knowledge was 0.84. The index of content validity on the overall instrument was 0.95. Based on these findings, it was concluded that the instrument had content validity. The stability of the CCK tool used in this study was established using test-retest reliability. The correlation coefficient (Pearson's  $r$ ) obtained from the test-retest reliability for the CCK tool was established at 0.74. A correlation coefficient of 0.74 indicated that the CCK tool was stable instrument.

The CCK pretest and posttest was designed to be administered by interview. An interview method was chosen because a written pretest can be difficult for patients to complete following CABG surgery. Patients frequently experience poor concentration and memory deficits following CABG surgery ( Bruce, Bruce, Hossack, & Kusumi, 1983).

The responses to the CCK pretest and posttest were scored as either correct, partially correct, or incorrect. A response of correct was accepted when the patient's response matched the correct response on the CCK test. In addition, a correct response indicated that no further teaching was required. A response of partially correct was recorded when the patient provided a portion of the correct response, and the RN only prompted the patient to elicit the full correct response. A response of incorrect was recorded when the patient was unable to provide any information related to the question and required teaching in order to provide the correct answer. The higher the total scores

on the CCK the higher the patient's knowledge level. It was expected that the patient would have a higher knowledge level after receiving supportive-educative nursing care provided by the cardiac home care program.

#### Procedure

Participants in this study included patients who had received cardiac home care during the recovery period following CABG surgery. The investigator identified subjects who fit the study inclusion criteria. After the identification of subjects, the RN care manager (RNCM) assigned to the patient's care described the purpose of the research study to the patient. Individuals agreeing to participate signed a written consent form (Appendix G). An informed consent form was given to the patient to follow while the RN read the consent to the patient. Two copies of the signed consent were obtained, one copy was left with the patient and the other was returned to the investigator. Patients were informed that if they chose not to participate in the study, no aspect of their care would be affected.

The CHCP pretest and posttest and the CCK pretest and posttest described in the instrument section were used to collect data. Data were collected at the time of admission to the cardiac home care program and at the time of discharge from cardiac home care.

After written consent was obtained, the RNCM assigned to the patient's care completed the CHCP pretest and administered the CCK pretest. At discharge from cardiac home care program the RNCM completed the CHCP posttest and administered the CCK posttest. Four RNCMs were used to collect data for this study. All four

RNCMs participated in a training session to prepare them for data collection. The purpose of the study, subject inclusion criteria, confidentiality, and how to administer the study instruments were discussed

There were minimal risks to participants in this study. The only risk identified was that patients might become fatigued during the interview. Methods to reduce fatigue included observing for signs of fatigue and terminating the interview if necessary and making appointments with the patients when they were well rested. Confidentiality was maintained by coding questionnaires with number identification codes. At the conclusion of the study all data with identifying patient information was destroyed.

## CHAPTER 4

### RESULTS

The effectiveness of the cardiac home care program was described by comparing the difference in the pretest and posttest scores on the CHCP and CCK. A one group paired *t* test was used to analyze the difference between the patient's knowledge score on the CCK pretest and posttest, and the difference in patient's dependence score on the CHCP pretest and posttest. The difference in pretest and posttest scores on the CHCP and CCK was considered statistically significant at a  $p < 0.05$ . The relationship between selected sociodemographic characteristics, and knowledge and dependence scores were also examined using appropriate correlation coefficients. The results of data collection were analyzed using the Statistical Package for the Social Studies (SPSS).

#### Sample Description

The data from seven subjects were analyzed. The sample consisted of six males (85.7 %) and one female (14.3 %). The subject ages ranged from 28.0 years to 66.0 years. The mean age was 53.2 years with a median of 57.0 and a standard deviation of 13.351. The ethnic background of the sample was Caucasian (100%).

Six (85.7 %) of the subjects were discharged from the acute care setting on the third post-operative day and one subject (14.3 %) was discharged on the fourth day post-operative. All the subjects received home health visits by a RN twenty-four hours after discharge from the acute care setting. The subjects received a mean of 6.3 home health care visits with a median of 6.0 visits and a range of 3 to 9 visits. Five of the subjects

(71.4 %) lived with a spouse and two subjects lived alone. The primary caregiver for five subjects (71.4%) was a spouse and two subjects received assistance from their children. All the subjects had health care insurance. The payer mix included: Medicare (28.6 %), HMO (42.9 %), and Blue Cross/Blue Shield (28.6 %). One subject identified a financial barrier of no sick pay that may limit his ability to meet his basic health care needs. One subject (14.3%) received urgent care in an emergency room for respiratory difficulties and was discharged home the same day.

## Results

Knowledge level. The effectiveness of the cardiac home care program in improving a patient's knowledge level was measured using the CCK pretest and posttest. The possible range of scores for the CCK was 0 to 66. A score of zero indicated no knowledge and a score of 66 indicated a high level of knowledge. The CCK pretest scores ranged from 40.0 to 56.0 with a mean of 51.0 and median of 52.0 with a standard deviation of 5.3. The CCK posttest scores ranged from 56.0 to 61.0 with a mean of 59.2 with a median of 60.0 and a standard deviation of 1.9. The difference in the CCK pretest and posttest scores were calculated using one group paired *t* test. The results of the *t* test demonstrate a statistically significant improvement in the subjects knowledge level ( $t= 5.31$ ;  $df= 6$ ;  $p= .002$ )

Dependence level. The effectiveness of the cardiac home care program in facilitating an improvement in patients' functional status post CABG was measured using the CHCP pretest and posttest. The possible range of scores for the CHCP was 0 to 22.

A score of zero indicated a high level of independence and a score of 22 indicated a high level of dependence. The CHCP pretest scores ranged from 4 to 7 with a mean of 5.3 and median of 5.0 and a standard deviation of 1.1. The CHCP posttest scores ranged from 1 to 3 with a mean of 1.8 and median of 2.0 and a standard deviation of 0.69. The difference in the CCHP pretest and posttest scores were calculated using a one group paired  $t$  test. The results of the  $t$  test demonstrate a statistically significant improvement in the subjects functional status ( $t= 9.30$ ;  $df= 6$ ;  $p= .000$ )

A moderately strong negative relationship ( $r= -0.42$ ) was identified between the number of visits made and knowledge scores. The number of visits made decreased when the patient demonstrated a high knowledge score on the CCK pretest. A moderately strong relationship ( $r= 0.58$ ) was identified between dependence scores and the number of visits made to the patient. Patients with high dependence scores received more visits than those with low dependence scores. A weak negative relationship ( $r=-0.20$ ) was identified between age and knowledge level. Age was not found to influence knowledge level. A strong relationship ( $r= 0.83$ ) was found between age and dependence scores. The older the patient the higher the dependence score.

## CHAPTER 5

### DISCUSSION AND IMPLICATION FOR NURSING PRACTICE

#### Discussion

The effectiveness of a cardiac home care program in promoting self-care through supportive-educative nursing was evaluated in this study. Self-care was measured in this study by evaluating the patient's level of cardiac knowledge and functional ability.

Patient's cardiac knowledge levels were higher after receiving home visits. A statistically significant improvement in the patient's knowledge level ( $p = .002$ ) was demonstrated.

The improvement in patient's functional status at the time of discharge from home care was also statistically significant ( $p = 0.000$ ). The results of this study support the role that home care plays in providing supportive-educative care and promoting self-care in the recovery period post CABG surgery. The supportive-educative nursing care provided during home visits facilitated the patient's self-care as evidenced by an improvement in the patient's knowledge level and functional status. In addition, the results of this study support the achievement of the cardiac care program goals including; 1) the improvement or stabilization in a patient's physical and functional status, and 2) an increase in the patient's knowledge level about the management, treatment, and prevention of cardiovascular disease.

Patients undergoing CABG surgery experience a change in their health status, which leads to a self-care deficit. According to Orem's (1991) self-care model the use of a supportive-educative nursing system can promote the patient's ability to overcome a self-

care deficit. The results of this study are similar to other research studies that examined the effect of supportive-educative nursing system on a patient's level of self-care. Beckie (1989) conducted a study that investigated the impact of a supportive-educative telephone program on knowledge levels of patients recovering from CABG surgery. Beckie identified a statistically significant ( $p < 0.05$ ) improvement in the knowledge levels of the subjects who received supportive-educative telephone follow-up from those who received no follow-up. Robinson (1991) found similar results when investigating the impact of home visits and telephone support on knowledge levels during the recovery period post myocardial infarction. None of the studies reviewed investigated the impact of supportive-educative care on a patient's functional status. The current study identified an improvement in the patient's functional status after receiving home care visits. However, it is difficult to determine if the improvement in the patient's functional status was due to the care provided during home visits or the expected improvement that would occur as a patient recovers from an acute event such as CABG surgery.

The results of this study support the findings of Beckie (1989) and Robinson (1991) that supportive-educative care can improve a patient's knowledge level and promote self-care. In summary, the supportive-educative nursing care provided by the cardiac home care program provided needed support during the patient's recovery and facilitated their ability to overcome their self-care deficits.

### Implications for Nursing Practice

Early discharge following post CABG surgery is common. Eighty-six percent of the patients in this study were discharged on the third post-operative day. One disadvantage of early discharge is that patients maybe discharged without the needed education and support for self-care. Early discharge provides a limited amount of time in the acute care setting to provide the patient with the education and tools necessary for a smooth recovery at home. Attempting to provide patients with an extensive amount of information while in the hospital may be ineffective. The knowledge retention of patients who have had CABG surgery is often limited during the acute phase of illness because of anxiety and the physiologic effects of surgery (Beckie, 1989). It may be more effective to provide hospitalized patients with limited and essential information. The remaining information necessary to facilitate self-care behavior might be more effectively presented to the patient recovering at home (Beckie, 1989). The results of this study indicated that home health services provided a source of care that could facilitate self-care behavior and ensure a smooth transition from the acute care setting to home. The major implication for nursing practice based on the results of this study is that follow-up care post CABG can be effective in promoting self-care behaviors. It is important that nurses consider patients discharge needs and plan for appropriate follow-up after hospital discharge. This study supports that home health care is one method for providing support to CABG patients during the recovery phase.

Another implication for nursing practice and health care delivery based on the

results of this study is the importance of developing health care services that provide care across the continuum. In order, to provide care to patients during an entire episode of illness health care providers must collaborate in the development of services that extend from the hospital into the community. Nursing administrators, physicians, community agencies, clinics, insurance providers, and home health care providers must work together to develop services that support patients during an episode of illness. This study illustrates that a home health care program developed in collaboration with physicians and an acute care hospital can be successful in improving patient outcomes.

### Limitations

A major limitation of this study was the small sample size. Although statistically significant improvements were identified in the patient's knowledge level and functional status, a sample size of seven limits the generalization and validity of the results. Also, the instruments used require more testing to establish a higher level of reliability. In addition, the time between the administration of the pretest and posttest varied making it difficult to determine whether to patient's improvement was secondary to the expected improvement over time or the intervention of home care visits.

### Recommendations for Further Research

It is recommended that this study be used as a pilot study and be replicated with a larger sample size. It is also recommended that further studies be conducted that expand upon the outcome variables examined. There are few studies documenting patient outcomes related to home care interventions. In order, to demonstrate the role home

health care plays in providing high quality cost-effective care research must be conducted that investigates the effect of home care interventions on a variety of outcomes. The influence of home health care on outcomes such as knowledge level, functional status, quality of life, satisfaction with care, complication rates, financial factors, and health care resource utilization should be investigated. Nurses must take the lead in conducting research that demonstrates that care can be safely provided in the home, in cost-effective manner, and with positive patient outcomes.

## APPENDIX A

## APPENDIX A

### SOCIODEMOGRAPHIC DATA COLLECTION TOOL

1. **Patient ID Number** \_\_\_\_\_
2. **Start of Care Date** \_\_\_\_/\_\_\_\_/\_\_\_\_
3. **Patient age:** \_\_\_\_\_
4. **Gender**  
☐ 1- Male    ☐ 2- Female
5. **Race/Ethnicity:** What is the patient's racial/ethnic background ?  
☐ 1- African-American  
☐ 2- American Indian, Eskimo  
☐ 3- Asian, Pacific Islander  
☐ 4- Hispanic  
☐ 5- White  
☐ 6- Other  
☐ UK- Unknown
6. **Inpatient Discharge Date:** Indicate the date of the most recent discharge from an inpatient facility.  
  
\_\_\_\_\_  
Month/ day/year
7. **Date of CABG surgery:**  
  
\_\_\_\_\_  
Month/ day/year
8. **Post-operative day discharge from acute care setting:**  
  
\_\_\_\_\_  
Month/ day/year

Note. From Outcome-based quality improvement: A manual for home care agencies on how to use outcomes by Shaughnessy, P. W., & Crisler, K. S., 1995, Denver, CO: Colorado Center for Health Policy and Services Research. Copyright 1995 by National Association for Home Care. Used by permission.

9. **Payment sources:** What are the payment sources for home care at this time?
- ☐ 0-None
  - ☐ 1- Medicare
  - ☐ 2- Medicaid
  - ☐ 3-Private third party (ex. Private insurance)
  - ☐ 4- Private third party (HMO/Managed care )
  - ☐ 5- Self-pay
  - ☐ 6- Other (specify) \_\_\_\_\_
  - ☐ UK-Unknown
10. **Financial Factors:** Are there financial factors . which can or do limit the ability of the patient / family to met basic health needs? (Mark all that apply)
- ☐ 0- None
  - ☐ 1- Unable to afford medicine or medical supplies
  - ☐ 2- Unable to afford medical expenses that are not covered by insurance (ex. Copayments)
  - ☐ 3- Unable to afford rent/utility bills
  - ☐ 4- Unable to afford food
  - ☐ 5- Other (specify)
11. **Overall Prognosis:** Which of the BEST describes the patient's overall prognosis with regard to recovery from this episode of illness?
- ☐ 1-Poor: little or no recovery is expected and/or further decline is imminent
  - ☐ 2-Good/fair: partial to full recovery is expected
  - ☐ UK-Unknown
12. **Rehabilitative Prognosis:** Which of the following BEST describes the patient's prognosis with regard to functional status?
- ☐ 1-Guarded: minimal improvement in functional status is expected; decline in possible
  - ☐ 2-Good: marked improvement in functional status is expected
  - ☐ UK-Unknown
13. **High Risk Factors:** Which of the following risk factors characterize this patient?
- ☐ -1 Heavy smoking
  - ☐ -2 Obesity
  - ☐ -3 Alcoholism
  - ☐ -4 Drug dependency
  - ☐ -5 None of the above
  - ☐ UK-Unknown

14. **Client lives with:** With who is the patient currently living with ?
- ☐ 1- Lives alone
  - ☐ 2- With spouse/significant other
  - ☐ 3- With other family member
  - ☐ 4- With a friend
  - ☐ 5- With paid help (ex. Housekeeper)
  - ☐ 6- With other than the above
15. **Assisting Person(s):** From whom does the patient receive assistance ? (mark all that apply)
- ☐ 1- Relatives, friends, or neighbors living outside the home
  - ☐ 2- Persons residing in the home (excludes paid help)
  - ☐ 3- Paid help
  - ☐ 4- None of the above
16. **Primary caregiver:** Who if anyone, emerges as the patient's primary caregiver (i.e. the person taking lead responsibility for providing or managing the patient's care, providing the most frequent assistance, etc.)?
- ☐ 0- No one person
  - ☐ 1- Spouse/significant other
  - ☐ 2- daughter/son
  - ☐ 3- Other family member
  - ☐ 4- Friend
  - ☐ 5- Neighbor/community/church member
  - ☐ 6- Paid help (other than home health agency care provider)
  - ☐ 7- UK- Unknown
17. **Safety Hazards:** Which safety hazards are found in the patient's current place of residence ?
- ☐ 0- None
  - ☐ 1- Inadequate floor, roof or windows
  - ☐ 2- Inadequate lighting
  - ☐ 3- Unsafe gas/electric appliance
  - ☐ 4- Inadequate heating
  - ☐ 5- Inadequate cooling
  - ☐ 6- Lack of fire safety devices
  - ☐ 7- Unsafe floor coverings
  - ☐ 8- Inadequate stair railings
  - ☐ 9- Improperly stored hazardous materials
  - ☐ 10- Lead based paint
  - ☐ 11- Other

## **APPENDIX B**

## APPENDIX B

### CARDIAC HOME CARE PROGRAM: PRETEST AND POSTTEST

#### 18. Patient ID Number

\_\_\_\_\_

19. **Bathing:** Refers to the client's ability to wash his/her entire body: Excludes grooming (washing face and hands only)

- ☐ 0- Able to bathe self independently
- ☐ 1- With the use of devices, is able to bathe self in shower or tub independently
- ☐ 2- Able to bathe in shower or tub with the assistance of another person: a) for intermittent supervision/ encouragement/ reminders, or b) to get in and out of the shower/tub or c) for washing difficult to reach areas
- ☐ 3- Participates in bathing self in shower or tub but requires presence of another person throughout the bath for assistance/ supervision
- ☐ 4- Unable to use the shower or tub and is bathed in bed or bedside chair
- ☐ 5- Unable to effectively participate in bathing and is totally bathed by another person
- ☐ UK- unknown

20. **Ambulation/Locomotion:** Refers to the patient's ability to SAFELY walk, once in a standing position, or use a wheelchair, once in a seated position, on variety of surfaces.

- ☐ 0- Able to independently walk on even and uneven surfaces and climb stairs with or without railings (i.e. needs no human assistance or assistive device)
- ☐ 1- Requires use of a device (ex. cane, walker, to walk alone or requires human supervision/ assistance to negotiate stairs/steps or uneven surfaces)
- ☐ 2- Able to walk only with the supervision/ assistance of another person at all times
- ☐ 3- Chair fast, unable to ambulate but is able to wheel self independently.
- ☐ 4- Chair fast, unable to ambulate and is unable to wheel self
- ☐ 5- Bedfast, unable to ambulate or be up in a chair
- ☐ UK- unknown

21. **Dyspnea:** When is the patient noticeably short of breath ?

- ☐ 0- Never, patient is not short of breath
- ☐ 1- When walking more than 20 feet, climbing stairs
- ☐ 2- With moderate exertion (ex. while dressing, using commode/bedpan, walking distances less 20 feet)
- ☐ 3- With minimal exertion (ex. while eating, talking, or performing other ADL's or with agitation).
- ☐ 4- At rest (during day and/or night)

Note. From Outcome-based quality improvement: A manual for home care agencies on how to use outcomes by Shaughnessy, P. W., & Crisler, K. S., 1995, Denver, CO: Colorado Center for Health Policy and Services Research. Copyright 1995 by National Association for Home Care. Used by permission.

22. **Management of oral medications:** Refers to the patient's ability to prepare and take all prescribed oral medications reliably and safely, including administration of the correct dosage at the appropriate times/intervals. (Note this refers to ability not compliance or willingness)
- ☐ 0- Able to independently take the correct oral medication(s) and proper dosage(s) at the correct times.
  - ☐ 1- Able to take medication(s) at correct time if: (a) individual dosages are prepared in advance by another person; or (b) given daily reminders; or (c) someone develops a drug diary or chart
  - ☐ 2- Unable to take medication unless administered by someone else
  - ☐ NA- No oral medications prescribed
  - ☐ UK- unknown
23. **Pain:** How often does pain interfere with the patient's activity/movement?
- ☐ 0- None of the time (i.e. patient had pain, but it does not interfere with movement)
  - ☐ 1- Some of the time (i.e. Less than daily)
  - ☐ 2- Most of the time (daily)
  - ☐ 3- All of the time
  - ☐ NA- no pain
24. **Wounds present:** Indicate the numbers of each wound/lesion currently present on this patient.  
Note: If a wound (e.g. surgical) is partially closed but has more than one opening, consider each openings as separate open wound/lesion)
- Surgical Wounds**
- ☐ 0   ☐ 1   ☐ 2   ☐ 3   ☐ 4
  - ☐ 4 or more
25. **Wound/lesion status:** Indicate the status of open wounds. If the patient had more than one wound/lesion, indicate the status of the one that is most problematic.
- ☐ 0- no wound
  - ☐ 1- fully granulating
  - ☐ 2- early/partial granulation
  - ☐ 3- not healing

## APPENDIX C

## APPENDIX C

### DISCHARGE SUMMARY DATA

48. Patient ID Number: \_\_\_\_\_
49. Date of discharge from cardiac home care services \_\_\_\_\_
50. Number of RN visits \_\_\_\_\_
51. Disciplines utilized during time patient receiving home care: (check all that apply)  
RN \_\_\_\_\_ PT \_\_\_\_\_ OT \_\_\_\_\_ SLP \_\_\_\_\_ MSW \_\_\_\_\_ HHA \_\_\_\_\_
52. Discharge Disposition: Where is the patient after discharge from home health care? (Choose only one answer)  
☐ 1- Patient remained in the community (not in hospital, nursing home or rehab facility)  
☐ 2- Patient transferred to health care institution for 48 hours or longer  
☐ 3- Patient transferred to hospice  
☐ 4- Patient died  
☐ 5- Unknown because patient moved to a geographic location not served by this agency  
☐ UK- Other unknown
53. Emergent Care: Since you last completed this questionnaire, has the patient utilized any of the following services for emergent care? (Mark all that apply)  
☐ 0- No emergent care services  
☐ 1- Hospital emergency room (includes 23-hour holding)  
☐ 2 Doctor's office emergency visit/house care  
☐ 3- Outpatient department/clinic emergency (includes urgicenter sites)  
☐ UK- Unknown
55. Reason for Hospitalization: If the patient was admitted to an acute care hospital, for what reason was he/she admitted?  
☐ 1-Hospitalization for emergent (unscheduled) care  
☐ 2- Hospitalization for urgent (scheduled within 24 hours of admission) care  
☐ 3- Hospitalization for elective (scheduled more than 24 hours before admission) care  
☐ 4- No hospital admission  
☐ UK-Unknown

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## APPENDIX D

APPENDIX D

PERMISSION FOR REPLICATION OF THE OUTCOME AND ASSESSMENT  
INFORMATION SET (OASIS)

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Date: 05/08/97 Signature: Kathryn S. Crisler

Name Printed: Kathryn S. Crisler

Institution/Agency: Center for Health Policy & Services Research

Address: 1355 So. Colorado Blvd, #306

City: Denver

State: CO ZIP: 80222

Witness: Angela Arnold Richard

Date: 5/8/97

## APPENDIX E

## APPENDIX E

### CARDIAC CARE KNOWLEDGE: PRETEST AND POSTTEST

**Instructions:** Read the following questions to the patient. Record the patient's response as correct, partially correct or incorrect. A response of correct will be accepted when the patient's response matches the statement following correct and no further teaching was required. A response of partially correct will be recorded when the patient provided a portion of the correct response, and you only prompted the patient to elicit the full correct response. A response of incorrect will be recorded when the patient was unable to provide any information related to the question and required teaching in order to provide the correct answer.

#### **General Health Knowledge**

26. What is coronary artery disease?

Correct	3-- physiological description
Partially correct	2
Incorrect	1
NA	0

27. How would you explain what the doctor did during your surgery?

Correct	3 --bypassed blocked arteries
Partially correct	2
Incorrect	1
NA	0

28. What activities or characteristics sometimes called risk factors may increase the chances of having a heart attack?

Correct	3--Must include patients identified risk factors by history and assessment
Partially correct	2
Incorrect	1
NA	0

**Note.** Adapted from “Measurement of Nursing Outcomes: Vol 1 (p. 38-46), by Waltz and Strickland, 1988, New York: Springer Publishing Company, Inc. 10012. Copyright 1988 by Springer Publishing Company. Used by permission.

29. When would you seek medical attention?

Correct	3 -- List all of the following: temp > 101, increased incisional swelling, redness of incision, drainage from incision, weight gain of 3 to 4 pounds in one or two days
Partially correct	2
Incorrect	1
NA	0

### **Activity Knowledge**

30. What are your prescribed activities /exercise prescription?

Correct	3--Describes exercise prescription including warm-up, type of aerobic exercise, duration & frequency of activity, cool down, and activities to avoid such as exercise after meals and environmental considerations, compare patients responses to written exercise prescription
Partially correct	2
Incorrect	1
NA	0

31. Patient demonstrated ability to take own pulse.

Correct	3--Patient uses correct placement of fingers, optimal pressure, 30-sec. correct count within 5 beats
Partially correct	2
Incorrect	1
NA	0

32. What are your activity restrictions?

Correct	3--No driving, no lifting, over 10-15 lbs.
Partially correct	2
Incorrect	1
NA	0

33. How will you know if you have done too much activity?

Correct	3--Includes at least two of the following symptoms: Prolonged fatigue, pain, SOB, chest pain, heart rate > than target rate, lightheadedness, confusion, cold sweat, pallor
Partially correct	2
Incorrect	1
NA	0

34. What role does exercise play in decreasing a persons risk for heart disease?

Correct	3-- List at least on of the following: strengthens heart, lowers BP, decreases stress, control weight, and cholesterol
Partially correct	2
Incorrect	1
NA	0

### **Medication Knowledge**

35. What are the names of the medications you will be taking?

Correct	3--Must match medications on discharge instruction sheet
Partially correct	2
Incorrect	1
NA	0

36. How much medication will you be taking of each type?

Correct	3--Must match dosage on discharge instruction sheet
Partially correct	2
Incorrect	1
NA	0

37. When will you be taking these medications?

Correct	3--Must include frequency and time of day of each medication prescribed
Partially correct	2
Incorrect	1
NA	0

38. What do these drugs do for you, how do they help you?

Correct	3--States one medically intended effect of all medications prescribed
Partially correct	2
Incorrect	1
NA	0

39. What side effects should you be watching for?

Correct	3-- List one side effect of each prescribed medication
Partially correct	2
Incorrect	1
NA	0

40. If you should have any side effects after taking the medication what should you do for yourself?

Correct	3--Notify health care provider
Partially correct	2
Incorrect	1
NA	0

### **Nutrition Knowledge**

41. What type of diet are you on?

Correct	3--Response matches diet ordered on discharge instruction sheet
Partially correct	2
Incorrect	1
NA	0

42. What types of foods should you avoid in order to stay on this diet?

Correct	3-- List four appropriate foods that match ordered diet
Partially correct	2
Incorrect	1
NA	0

43. What role does diet play in heart disease?

Correct	3-- High cholesterol and fat diets lead to blocked arteries
Partially correct	2
Incorrect	1
NA	0

## **Post-operative care**

44. How do you care for your incisions?

Correct	3-- Response matches incisional care guidelines on hospital D/C instructions
Partially correct	2
Incorrect	1
NA	0

45. For what reason should you elevate your legs and how often?

Correct	3-- To decrease swelling
Partially correct	2
Incorrect	1
NA	0

46. Patient demonstrates correct way to elevate legs.

Correct	3--Patient elevates legs above heart level
Partially correct	2
Incorrect	1
NA	0

47. If TED hoses prescribed, patient is wearing as instructed.

Correct	3-- Wear at least the first two weeks after discharge. Do not wear them at night.
Partially correct	2
Incorrect	1
NA	0

## APPENDIX F

APPENDIX F

PERMISSION FOR ADAPTATION OF OUTCOME MEASURE FOR MYOCARDIAL  
INFARCTION

Donna Mayo-Rosa BSN RN  
2146 Gingerwood Ct.  
Grand Rapids MI 49508

-----  
Please refer to  
this number in  
correspondence:  
-----

BPL 97 - 58  
-----

Dear Ms. Mayo-Rosa,

Thank you for your request of 10 May 1997 to reprint from our publication  
Waltz/Strickland: MEASUREMENT OF NURSING OUTCOMES; Vol 1; 1988  
the following material, modified for this use:

"Outcome Measure for Myocardial Infarction," Haussman/Hegyvary

Your reprint is requested for inclusion in: (Title, Author, Publisher,  
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Masters Thesis: "Evaluation of a Cardiac Home Care Program,"  
D. Mayo-Rosa, Grand Valley State University; 1997

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Dorothy Kouwenberg, Permissions Coordinator

Date: 13 May 1997

## APPENDIX G

## APPENDIX G

### INFORMATION AND CONSENT FOR PARTICIPATION IN AN EVALUATION STUDY OF A CARDIAC HOME CARE PROGRAM

#### **INTRODUCTION**

This is a study to evaluate the effectiveness of the cardiac home care program in meeting your needs and promoting your self-care. The information gained will be used in the continuous quality improvement of the cardiac home care program.

#### **PROCEDURE**

During your initial assessment the nurse will be asking you 25 questions about your knowledge of heart disease and your care following surgery. There are no right or wrong answers, the information you provide will help you and the nurse plan your care. At the time of your discharge from home care, the nurse will be asking you the same questions to see if you have any further learning needs.

The nurse will also be assessing how much assistance you need to perform daily activities. This is part of the standard admission to home care. This information will help you and the nurse plan your care.

The only portion of this study that is not part of the standard admission process to home care is the 25 interview questions about your knowledge of heart disease and your care following surgery. The addition of these questions adds approximately 15 minutes to your admission to home care.

#### **BENEFIT**

The information we receive from our clients helps us to continuously improve our services.

#### **RISK**

There are no risks to participating in this study. All information is confidential. Your decision to participate (or not to participate) will in no way affect the current or future care you receive from Nurses Unlimited, Inc.

#### **VOLUNTARY PARTICIPATION**

Your participation in this study is entirely voluntary. You have that right to withdraw from this study at any time. You will be one of fifty participants in this study.

### **COMPENSATION**

You will receive no financial compensation of any kind for participation. Nor will you or your insurance company be billed for the nurse's interview time with you.

### **CONFIDENTIALITY**

You have the right to confidentiality. All the information you provide will be kept strictly confidential and the data will be coded so that identification of individual participants will not be possible. At the conclusion, of this study data collected will be destroyed.

If you have any questions about this study, please contact Donna Mayo-Rosa RN, at (616) 456-8773 or Paul Huizenga, chair Human Research Review Committee Grand Valley State University 895-2472.

"I acknowledge that I have read and understand the above information, and that I agree to participate in this study."

-----  
Witness

-----  
Date

-----  
Participant Signature

-----  
Date

## LIST OF REFERENCES

- American Heart Association. (1997). 1998 Heart and Stroke Statistical Update. Dallas, TX: American Heart Association.
- Beckie, T. (1989). A supportive-educative telephone: Impact on knowledge and anxiety after coronary artery bypass graft surgery. Heart & Lung, 18(1), 46-55.
- Brooten, D., Brown, L. P., Munro, B. H., York, R., Cohen, S. M., Roncoli, M., & Hollingsworth, A. (1988). Early discharge and specialist transitional care. Image: Journal of Nursing Scholarship, 20(2), 64-68.
- Bruce, E.H., Bruce, R. A., Hossack K. F., Kusumi, F. (1983). Psychosocial coping strategies and cardiac capacity before and after coronary artery bypass grafting. Internal Journal of Psychiatry Medicine, 13, 69-84.
- Buls, P. (1995). The effects of home visits on anxiety levels of the client with coronary artery bypass graft and of the family. Home Healthcare Nurse, 13(1), 22-29.
- Centers for Health Policy and Services Research. (1994). Volume 1: Final report measuring outcomes of home health care, September 1994. Denver, CO: Author.
- Edwardson, S. R., (1988). Revision and testing of the Haussmann and Hegyvary outcome measure for myocardial infarction. In C. Waltz , & O. Strickland (Eds.), Measurement of nursing outcomes: Volume 1 measuring client outcomes (pp. 24-46). New York: Springer.
- Gilliss, C. L., Gortner, S. R., Hauck, W. W., Shinn, J. A., Sparacino, P. A., & Tompkins, C. (1993). A randomized clinical trial of nursing care for recovery from cardiac surgery. Heart & Lung, 22(2), 125-133.
- Guyatt, G. H. (1989). Development and testing of a new measure of health status for clinical trials in heart failure. Journal General Internal Medicine, 4, 101-107.
- Horn, B, & Swain M., (1977). Development of criterion measures of nursing care. In final report submitted to National Center for Health Service Research Vol. I and Vol. II. Springfield, VA: National Technical Information Service.
- Joseph, L. S., (1980). Self-care and the nursing process. Nursing Clinics of North America, 15(1). 131-143.
- Naylor, M., Brooten, D., Jones, R., Lavizzon-Mourey, R., Mezey, M., & Pauly, M. (1994). Comprehensive discharge planning for the hospitalized elderly. American College of Physicians, 120(12), 1001-1006.

Nicklin, W., M. (1986). Postdischarge concerns of cardiac patients as presented via a telephone callback system. Heart & Lung, 15(3), 268-272.

Orem, D., E. (1985). Nursing : Concepts of practice (3rd ed.). New York: McGraw-Hill.

Orem, D., E. (1991). Nursing: Concepts of practice (4th ed.). New York: Mosby-Year Book.

Phillips, C., Y. (1993). Postdischarge follow-up care: Effect on patient outcomes. Journal of Nursing Care Quality, 7(4), 64-72.

Rich, M. W., Beckman, V., Wittenberg, C., Leven, C. H., Freeland, K. E., & Carney, R., M. (1995). A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. The New England Journal of Medicine, 333(18), 1190-1195.

Robinson, D., L. (1991). The effect of nursing follow-up on self-care behaviors of post-myocardial infarction patients. Unpublished doctoral dissertation, University of Texas, Austin.

Shaughnessy, P. W., & Crisler, K. S. (1995). Outcome-based quality improvement: A manual for home care agencies on how to use outcomes (Colorado Center for Health Policy and Services Research). Denver, CO.

Tack, B. B., & Gilliss, C., L. (1990). Nurse-monitored cardiac recovery: A description of the first 8 weeks. Heart & Lung, 19(5), 491-499.

Wu, C. (1995). Assessment of postdischarge concerns of coronary artery bypass graft patients. Journal of Cardiovascular Nursing 10(1), 1-7.