

THE UNIVERSITY OF CALGARY

A Pilot Study to Explore the Feasibility of Developing and Standardizing a  
Cardiac Nurse Support Intervention Program for  
Post-Myocardial Infarction Patients

by

Leslie D. Hamel

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF NURSING

FACULTY OF NURSING

CALGARY, ALBERTA

SEPTEMBER, 1995

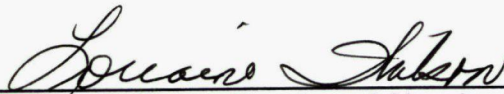
© Leslie D. Hamel 1995

THE UNIVERSITY OF CALGARY  
FACULTY OF GRADUATE STUDIES

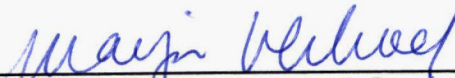
The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "A Pilot Study to Explore the Feasibility of Developing and Standardizing a Cardiac Nurse Support Intervention Program for Post-Myocardial Infarction Patients" submitted by Leslie Hamel in partial fulfilment of the requirements for the degree of Master of Nursing.



Supervisor, Dr. Kathleen Oberle, Faculty of Nursing



Dr. Lorraine Watson, Faculty of Nursing



Dr. Marja Verhoef, Department of Community  
Health Sciences

## ABSTRACT

This study explored the feasibility of developing and standardizing a holistic nurse support program for post-MI patients. The Cardiac Nurse Support Program (CNSIP) was based on the framework of the Supportive Care Model (Oberle & Davies, 1992) and explored the effectiveness of the deliberate use of the strategies *connecting, finding meaning and empowerment* to enhance the patient's level of hope and perceived quality of life.

Results of this study suggest that a holistic program like the CNSIP cannot be standardized; however, it would be possible to generalize the conceptual framework and the interventions identified to future post-MI patients. Implementation of the quasi-experimental design to evaluate the effectiveness of the CNSIP revealed several practice issues. Based on the findings of this study, recommendations for future study are outlined.

## ACKNOWLEDGEMENTS

The completion of this thesis would not have been possible without the interest and commitment of many.

I would like to extend special thanks to my supervisor and mentor, Dr. K. Oberle for her support, insight, never failing patience and sense of humour that was integral to the development and completion of this thesis.

I would like to thank my thesis committee members, Dr. L. Watson and Dr. M. Verhoef, for their invaluable direction and guidance.

I gratefully acknowledge funding support from the Alberta Association of Registered Nurses.

I gratefully acknowledge Calgary District Hospital Group for their organizational support.

Lastly, I wish to thank my family, friends and colleagues who provided me with endless support, encouragement and confidence.

## TABLE OF CONTENTS

Approval Page . . . . .	ii
Abstract . . . . .	iii
Acknowledgements . . . . .	iv
Table of Contents . . . . .	v
List of Tables . . . . .	ix
List of Figures . . . . .	x
 CHAPTER 1: STATEMENT OF THE PROBLEM AND ITS SIGNIFICANCE . .	1
Introduction . . . . .	1
 CHAPTER 2: REVIEW OF THE LITERATURE . . . . .	4
Introduction . . . . .	4
After a Myocardial Infarction . . . . .	5
Cardiac Rehabilitation . . . . .	5
Psychosocial Impact on the Post-Myocardial Patient During Recovery	8
Post-Myocardial Infarction Patient Education . . . . .	10
Empowerment . . . . .	12
Hope . . . . .	13
Quality of Life . . . . .	14
Follow-Up Programs . . . . .	16
Summary . . . . .	20
Purpose of the Study . . . . .	21
Research Questions . . . . .	22
 CHAPTER 3: METHOD . . . . .	23
Design of the Study . . . . .	23
Operational Definitions . . . . .	24
PHASE 1: Development and Implementation of the CNSIP	25
Conceptual Framework . . . . .	25
Cardiac Nurse Support Intervention Program . . . . .	28
Sample . . . . .	30
Implementation of the CNSIP . . . . .	30
PHASE 2: Selection and Administration of Research Tools	31
Research Field and Clinical Notes . . . . .	31
Research Tools . . . . .	32
Administration of Research Tools . . . . .	34
Reliability and Validity of Measurement . . . . .	35
Phase 3: Data Analysis . . . . .	35
Clinical Notes/Patient Diaries . . . . .	35
Field Notes . . . . .	37
Research Tools . . . . .	37
Ethical Considerations . . . . .	38

CHAPTER 4: RESULTS	39
Study Sample	39
Recruitment	39
Feasibility of Developing and Standardizing the CNSIP	40
Clinical Records - Patient Responses	41
Interpreting Signs and Symptoms/Heightened Attention to	
Signs and Symptoms	43
Medication/Treatment Adjustments	43
Change in Role/Activity Related to the Medical	
Regime	44
Need for Information	45
Impact on Others	46
Meaning	47
Other	48
Patient Diaries	49
Diary Contents - Treatment Patients	51
Diary Contents - Comparison Patients	52
Clinical Records - Nursing Interventions	54
Contextualizing	56
Providing Positive Reinforcement	57
Making Referrals	57
Providing Information	58
Monitoring	59
CNSIP Patient Comments	59
Comparison Patients Comments	60
Summary	63
Feasibility of the Experimental Design to Examine	
the Effect of the CNSIP	64
Field Notes	64
Sample Access	64
Study Patient Follow-Up	66
Interdisciplinary Communication	68
Ease of Use of Research Tools	68
Summary	69
Research Tool Scores	71
Herth Hope Index	71
Quality of Life	73
Frequency of Health Care Contacts	75
Summary	78
CHAPTER 5: DISCUSSION, CONCLUSIONS, RECOMMENDATIONS AND	
LIMITATIONS	79
Summary	79
Purpose of the Study	79

Method . . . . .	80
Discussion . . . . .	81
Phase 1: Development and Implementation of the CNSIP	
Program Development . . . . .	81
Recruitment . . . . .	82
Implementation . . . . .	85
Independent Practice . . . . .	86
Learning a New Practice . . . . .	89
Implementing Holistic Interventions . . . . .	91
Documentation . . . . .	94
Phase 2: Selection and Administration of the Research Tools . . .	95
Phase 3: Analysis of Clinical and Field Notes; Results of	
Research Tools . . . . .	96
Results of Research Tools . . . . .	98
Hope . . . . .	99
Quality of Life . . . . .	101
Frequency of Health Care Contacts . . . . .	106
Conclusions . . . . .	106
Recommendations . . . . .	109
Limitations . . . . .	109
Reference List . . . . .	110

APPENDIX A	
Demographic and Clinical Data . . . . .	118
APPENDIX B . . . . .	119
Herth Hope Index . . . . .	120
APPENDIX C . . . . .	122
Quality of Life Index Cardiac Version - III . . . . .	123
APPENDIX D . . . . .	128
Frequency of Health Care Contacts . . . . .	129
APPENDIX E . . . . .	130
Approval of Proposal by Supervisory Committee . . . . .	131
APPENDIX F . . . . .	132
Research Committee Approval for Study . . . . .	133
APPENDIX G . . . . .	134
Research Information Sheet . . . . .	135
APPENDIX H . . . . .	138
Informed Consent . . . . .	139
APPENDIX I . . . . .	141
CDHG Research Committee Approval to Extend Participant Age Requirement . . . . .	142



## List of Tables

Table 1	
Hope Scores . . . . .	72
Table 2	
Quality of Life Scores . . . . .	74
Table 3	
Frequency of Physician Visits . . . . .	76
Table 4	
Comparison of Hope Scores . . . . .	100
Table 5	
Comparison of Quality of Life Scores . . . . .	105

## List of Figures

Figure 1. Frequency of patient themes of clinical recovery . . . . .	42
Figure 2. Nursing Interventions . . . . .	55
Figure 3. Treatment patients' comments about CNSIP . . . . .	62
Figure 4. Comparison patients' comments . . . . .	62

## CHAPTER 1: STATEMENT OF THE PROBLEM AND ITS SIGNIFICANCE

### Introduction

Survivors of myocardial infarction are faced with physiologic and psychological disabilities that may diminish their quality of life. Acute treatment of the patient who experiences a myocardial infarction (MI) is based on medical technology and therapy. The goal in this phase is preservation of myocardial function and maintenance of the patient's overall physiologic stability (Fallen, et. al, 1991). This biomedical approach is based on the belief that disease causation is of single etiology and does not take into account the increasing evidence that disease is multifactorial involving the interaction of genetic, physiologic, psychologic and sociologic components (Allan & Hall, 1988). While appropriate during the early acute stage, a solely biomedical approach to patient management may result in separation of the disease from the person. During the post-MI recovery phase, the narrow scope of the biomedical approach may not meet the broader needs of the patient.

Experiencing a myocardial infarction poses a threat to a person's overall sense of present and future well-being. This study was based on the belief that employing a nursing strategy of empowerment could improve the perceived quality of life of post-MI patients by enabling them to take charge of their health through recognition and promotion of individual strengths, informed choices and personal goals. There is evidence to suggest that

informed choices and personal goals. There is evidence to suggest that patients who are empowered also feel hopeful (Gibson, 1991). Hope is a human response to crises which makes life bearable and meaningful in times of stress or transition (Hickey, 1986; McGee, 1984). It was speculated that implementing hope instilling strategies would help post-MI patients to view a change in their health status as a challenge that they could meet rather than a threat to which to succumb.

In Calgary, Alberta, the usual post myocardial infarction patient follow-up is a visit to the family physician in approximately one week and a visit to the cardiologist in approximately six weeks following discharge from hospital. When post-MI patients have questions or concerns during their recovery, they usually contact their family physician's office, a walk-in clinic or emergency room. At their physician's discretion, post-myocardial infarction patients may be referred to the local Cardiac Rehabilitation Program. At present there is no waiting list for entrance to this program. However, there is some delay from the time of patient's discharge from hospital to the time of entering the Rehabilitation Program due to administrative processing and class schedules. Therefore, the time at which patients begin the program is variable. Patients in the present study were contacted about starting the program around five weeks following discharge from hospital. The Bow Valley Center Cardiac Rehabilitation program begins with two days of core classes followed by an assessment with the

Rehabilitation team. Following this assessment, patients participate in a prescribed, supervised exercise program and also attend content specific classes based on individual need and preference. This program takes a total of 15 weeks to complete.

It was believed that post-MI patients' would require support from the time of discharge from the hospital until they enter the cardiac rehabilitation program. Based on the assumption that the deliberate use of empowerment and hope-instilling strategies and interventions would benefit the recovering post-MI patient, it was decided to evaluate the feasibility of developing and standardizing a Cardiac Nurse Support Intervention Program (CNSIP). The intent of such a holistic program was to address post-MI patients' needs for support from the time of hospital discharge to beginning formal cardiac rehabilitation. Importantly, it was hypothesized that patients' who participated in this program would experience greater perceived quality of life.

In this thesis, the literature will be reviewed, the research method will be described, the study results presented and lastly, there will be a discussion of the study conclusions, recommendations and limitations.

## CHAPTER 2: REVIEW OF THE LITERATURE

### Introduction

The purpose of a literature review is to determine what is already known about the problem of interest and to avoid any duplication of effort (Polit and Hungler, 1991). This literature review began by determining what was currently known about the deliberate use of empowerment and hope inspiring strategies to influence patients' quality of life. As the target population for this study was post-MI patients, it was also necessary to review literature that explored the overall patient experience. A nursing support follow-up program must consider and integrate the physiological, psychological and educational components of the patient's recovery. In an effort to be aware of what interventions or programs had already been developed for the post-MI patient, reports that addressed different types of programs aimed at assisting the post-MI patient during recovery were also evaluated. Throughout the literature review, evidence was gathered that suggested that the components of the proposed CNSIP had sufficient merit to explore in a formal research study. This approach to the literature review is important for developing a broad context into which the research problem will fit as the more one's study is linked with other research the more of a contribution it is likely to make (Polit and Hungler, 1991).

### After a Myocardial Infarction

Before beginning the development of the nursing support follow-up program for post-myocardial infarction patients, it was important to review the current standard of medical management following myocardial infarction. The Canadian Cardiovascular Society suggests that the medical management of the post-myocardial infarction patient should include development of a risk stratification profile, management of early complications and rehabilitation.

The report of the Canadian consensus on the management of the post myocardial infarction patient indicates that patients recovering from myocardial infarction have a first year mortality ranging from 2% to 60% (Fallen et. al, 1991). This wide range of mortality emphasizes the need for risk stratification. "It is just as important to identify very low risk-patients, thus sparing them unnecessary aggressive investigation and therapy, as it is to identify high-risk patients for whom early intervention may be beneficial and indeed, life saving" (Fallen, et. al, 1991, p.1017). Patient prognosis is dependent on the status of left ventricular function, residual myocardial ischemia and dysrhythmias. Once the patient leaves the hospital, he/she will enter the period considered rehabilitation.

### Cardiac Rehabilitation

"Rehabilitation is best defined as the sum of activities required to ensure patients the best possible physical, psychologic and social conditions so that they may, by their own efforts, regain as normal as possible a place

in the community and lead an active productive life" (Fallen et. al, p. 1020, 1991). Standard components of the rehabilitation program should include services to assist with weight control, blood pressure and lipid control, smoking cessation, management of stress and an exercise prescription to help increase exercise tolerance. There is evidence that suggests risk factor modification improves patient outcome and functional capacity (Fallen et. al, 1991; Havranek, 1994). The underlying beliefs of typical cardiac rehabilitation programs imply that the patient has a responsibility to participate in and comply with risk factor and lifestyle modification. Prior to discharge from hospital, post-MI patients are prescribed new medications, informed of the need for risk factor and lifestyle modification and given general guidelines for recovery.

Risk factors that can be modified should be emphasized rather than those which cannot; that is, genetics, age, sex or coexisting illness (Debusk, Lew, Pasternak & Pryor, 1993). Smoking cessation must be emphasized to patients as being of utmost importance as smoking cessation will likely improve the outcome after a myocardial infarction. Importantly, reformed smokers experience a reduction in mortality when compared to those who continue to smoke (Debusk, Lew, Pasternak & Pryor, 1993; Fallen, et. al, 1991). Patients may be encouraged to know that after smoking cessation a smokers' risk of myocardial infarction drops to that of a non smoker in about two years (Havranek, 1994).



Many patients who experience a myocardial infarction have some degree of dyslipidemia (Debusk, Lew, Pasternak & Pryor, 1993; Fallen et. al, 1991). There is evidence that a reduction in the cholesterol level in high risk patients will reduce the incidence of subsequent coronary events (Havranek, 1994). Timing of cholesterol level measurement is very important as cholesterol levels drop sharply within hours of the myocardial infarction. Therefore, fasting lipids should be obtained about six weeks after discharge from hospital and then repeated in two weeks. With this information, a decision regarding treatment may be made. In general, patients should follow a prudent diet comprising no more than 30% of total energy in fats. Medication should be considered after four to six months of dietary control, weight reduction and exercise fail to yield satisfactory reduction in cholesterol levels (Fallen et. al, 1991).

During this period of medical risk stratification and risk factor modification prescription, post-MI patients may experience considerable psychosocial stress related to attempts to adjust to a change in health status. Once at home, outside the confines of hospital, patients are faced with the challenge of integrating medical regimes and restrictions and lifestyle changes into their existing social and familial context. Unfortunately, patients may not possess the necessary skills or resources to easily accomplish this prescription. It is during this early recovery period that the CNSIP may be supportive and helpful to cardiac patients.

## Psychosocial Impact on the Post-Myocardial Patient During Recovery

The transition from hospital to home following a myocardial infarction is a stressful period for the patient (Havik & Maeland, 1990). In particular, the first four weeks following a myocardial infarction are critical for the patient's adjustment and perceived quality of life (Hunt-Raleigh & Odtohan, 1987; Miller et. al, 1989 and Gulanic, 1991). Studies that examine stress in the post-myocardial infarction patient suggest that stressors vary from person to person and perceptions of stressors vary over time. It has been noted that stressors faced by the post-myocardial infarction patient may be perceived differently during different time periods of recovery (Miller, Garrett, Stoltenberg, McMahon & Ringel, 1990; Scherck, 1992). In a study by Scherk (1992), patients early in their recovery stage (in hospital) reported their illness situation as a challenge that could be overcome by thinking positively. Conversely, stressors identified later during the first month of recovery are related to uncertainty (Christman, McConnell, Pfeiffer, Webster, Schmitt & Ries, 1988) and to actual or potential threat of harm or loss (Miller, Garrett, Stoltenberg, McMahon & Ringel 1990; Bennett, 1992).

Stressors in the recovery period related to feelings of uncertainty may be associated with an attempt to understand the meaning of the illness experience and integration of new roles. Mishel (1988) defines uncertainty as the inability to determine the meaning of illness related events. Role uncertainty may be related to lack of understanding of medical regimes.

Hilton (1992) further describes uncertainty as a cognitive state that is created when a situation cannot be adequately defined or categorized due to a lack of information. This feeling of uncertainty will prevail following discharge from hospital when there is a lack of clarity about what to do and not to do. Patients will not feel empowered if they do not possess the necessary information or resources to manage the life-style changes and medical regimes of post-MI recovery.

Gallagher-Liddy & Crowley (1987) and McSweeney (1993) found that during the recovery phase, post myocardial infarction patients were not well informed in certain prescribed cardiac content areas. However, this may have been related to the timing of the educational intervention. The importance of timing of cardiac education is supported by post myocardial infarction participants in Chan's (1990) study. Chan (1990) identified that the recovery period, rather than the time in the hospital, was a more realistic time for them to learn about their illness management. In a review of post-discharge concerns identified by a telephone callback system, McKnight-Nicklin (1986) found that 40% of the total phone calls received were from patients zero to seven days post discharge. This suggests that the first week home from the hospital is a time when patients are attempting to evaluate and interpret the personal meaning of symptoms related to their recovery. It has been identified that the stressors experienced by post-MI patients may be related to a lack of understanding and difficulty in making sense of the

post-MI experience. In an effort to address the needs of the post-myocardial infarction patient, there have been a number and variety of nursing programs developed and reported in the literature.

#### Post-Myocardial Infarction Patient Education

Wingate (1990) explored post-MI patients' perceptions of their learning needs and found that patients' content needs changed over time. For example, the need for medication information scores was higher in Post-Coronary Care Unit (PCU) and at home than in the Coronary Care Unit (CCU). Anatomy and physiology information scores were higher in hospital than at home, yet at home this area was still ranked as third priority of a total of eight. Risk factor information was rated as number one in both the CCU and at home. This combined with anatomy and physiology questions may represent patients' attempts to make sense of the cardiac experience and gain a sense of control. These findings also represent the changing nature of patients' learning needs during different periods of recovery.

Murray (1989) examined rehabilitation information and health beliefs in post-coronary patients to determine if their information needs were being met. This study took place exclusively in the coronary care unit and thus is representative of only one aspect of recovery. However, Murray's (1989) insightful conclusions are applicable in all aspects of cardiac rehabilitation. Murray (1989) recommends that rehabilitation care, advice and information should be based on an assessment of the patients' needs, health beliefs and

perceptions of the MI event. The education program should be individualized and planned in conjunction with the patient.

Unfortunately, in-hospital post-MI teaching programs are often challenged with the constraints of time making primary patient-specific teaching difficult. Structured programs with predetermined content areas are often used to facilitate time management. Fletcher (1987) describes an individualized teaching program for patients following myocardial infarction. In this study patients were interviewed and their depth of knowledge evaluated. A teaching session was then implemented to meet the areas in which the patient had a knowledge deficit. While it is admirable that this program first reviewed the needs of the patient, the needs were evaluated within a prescribed context of what the health care provider deemed appropriate for the patient to know.

From the literature, it appears that health care providers of cardiac education believe in the value of prescribed patient education. Often, studies that examine the patient impact of cardiac education were based on the belief that knowledge is necessary for successful recovery and that this newly acquired knowledge will automatically result in regimen compliance and lifestyle change. It would seem that the goal of patient education is to persuade patients to comply with the prescribed treatment to improve their physical status. A goal of compliance is not the same as the goal of patient education designed to empower patients to take charge of their own health

(Funnell, et.al, 1992). Effective empowering education must be based on a belief that the patient is the central member of the health care team and the nurses must want to enhance the patient's decision-making capabilities (Weaver & Wilson, 1994). Rather than implementing post-myocardial education prescriptions, this study postulated that patients might benefit from nursing empowerment strategies that would assist them to view stressors as a challenge that they can overcome rather than succumbing emotionally to a threat of harm.

### Empowerment

Empowerment can be considered a philosophy, an intervention strategy and a patient outcome. Funnell et. al, (1992, p.55) state that "patients are empowered when they have the knowledge, skills, attitudes and self-awareness necessary to influence their own behavior and that of others in order to improve the quality of their lives". Gibson (1991) describes the intervention of empowering as a process of helping people to assert control of factors which affect their health. Importantly, empowerment is situationally determined (Gibson ,1991). Derenowski-Fleury (1991A) describes the development of empowering potential as a continuous process of individual growth and development that facilitates the emergence of new and positive health patterns. Specific client outcomes of deliberate empowerment are: a positive self-concept, personal satisfaction, self-efficacy, a sense of control, a sense of connectedness, self development, a

feeling of hope and improved quality of life (Derenowski-Fleury, 1991A; Gibson, 1991). It is reasonable to conclude that an educated and empowered patient may be more likely to adhere to an agreed upon regime, recover more quickly and be readmitted to an acute care facility less frequently (Weaver & Wilson, 1994). Montgomery (1993) views empowerment as a manifestation of a nurse's caring behavior. She feels that the most important caring behavior is to empower patients by helping them to mobilize their own resources. Montgomery (1993) emphasizes that the focus is not on the caregiver's actions to fix a problem but rather, to facilitate the patients' own inherent capacities for healing.

### Hope

Hope is recognized in the health literature as a concept relevant to nursing practice and an important component of physical and emotional wellness. Hope has been variously defined as an anticipation, accompanied by desire and expectation of positive possibilities in the future (Stephenson, 1991) and as anticipation of continued good state, an improved state or a release from a perceived entrapment (Miller, 1992). Jevne (1991) suggests that hope is experienced in relationship to someone or something and is drawn from a variety of sources. Hope may lie in a purpose, a goal, a person, a procedure, a theological belief or in our family (Jevne, 1991). It is believed that there is an action orientation which occurs as a consequence of hope and persons who are hopeful report feeling energized by their feelings

and attitudes (Dufault & Martocchio, 1985; Jevne, 1991). This energy may result in the patient enacting positive lifestyle changes such as increasing physical activity, eating well or quitting smoking.

Instilling, maintaining and restoring hope are seen as strategies that may assist clients to respond positively to health related challenge (Herth, 1989). By virtue of their authority, health care professionals are in a powerful position to enhance or diminish hope in their patients (Jevne, 1991). Simple interaction with the patient may be considered a treatment with the potential for inspiring hope (Jevne, 1991). Patients who are involved with a nurse who is interested in helping them sort out their lives and assist them with future directions feel their worth is validated and their hope inspired (Poncar, 1994). Hope is a shared experience; when people share hopes, the illness experience is less lonely (Jevne, 1991). Thus the literature suggests that the deliberate use of hope inspiring strategies may be an important component of providing support to the post-MI patient in the first few weeks following discharge from hospital.

#### Quality of Life

Kaplan (1990) suggests that the only two health outcomes that are of importance are life expectancy and the function or quality of life while the person is alive. Increasingly, health care professionals are interested not only in the morbidity and mortality of certain diagnostic groups but also a person's health status as a measure of positive or negative outcome to



clinical interventions. 'Quality of life' is a term capturing the measure of a person's physical and emotional function (Guyatt, Veldhuyzen Van Zanten, Feeny & Patrick, 1989). However, owing to its complex multifaceted and personal nature, quality of life is difficult explicitly to define and measure (Holmes, 1989; Packa, 1989; Zhan, 1992). Ferrans and Powers (1992) view quality of life as "a person's sense of well being that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her" (p.29). According to Ferrans and Powers (1992), 'satisfaction' suggests a cognitive, judgemental experience that provides a better conceptual fit than the premise that quality of life is determined by a judgement and evaluation of life's conditions. Patient's subjective feeling about the quality of their lives while coping with a chronic illness or disability are important to consider in evaluating clinical interventions (Burckhardt, Woods, Schultz & Ziebarth, 1989). To this end, there have been studies reported that examined quality of life following traditional cardiac rehabilitation (Oldridge et. al, 1991) coronary angioplasty (Bliley & Ferrans, 1993) and in adults with chronic illness (Burckhardt, Woods, Schultz & Ziebarth, 1989). It seems reasonable that patients who are hopeful and feel empowered to manage their post-MI recovery will experience a positive impact on their perceived quality of life. Therefore, as this study examined the impact of a holistic support program, the quality of life of post-MI patients was deemed an appropriate outcome measure.

### Follow-Up Programs

A number of nursing follow-up programs have been described in the literature. These general or cardiac programs were aimed at impacting some aspect of patients' outcome once they left hospital. The follow-up programs encompassed a variety of implementation strategies such as mailed out printed materials, telephone follow-ups, home or clinic visits.

In Australia, patient's quality of life was examined in a low level intervention program aimed at secondary prevention (Heller, Knapp, Valenti & Dobson, 1993). Patients were randomized to either a usual follow-up or intervention group. The intervention group, in addition to usual follow-up, received a mail out program aimed at reducing dietary fat, obtaining regular exercise and quitting smoking. The mail out program was supplemented with telephone contact and a phone number that a patient could call. The researchers found an overall self reported reduction in fat intake in the intervention group but no change in other risk factors between the two groups. However, mean scores for the quality of life questionnaire were significantly higher in the intervention group. The authors concluded that if this was a true effect, the hospital should consider a simple discharge program to provide support and encouragement to their patients (Heller, Knapp, Valenti & Dobson, 1993).

Phillips (1993) explored postdischarge follow-up care on surgical patients' satisfaction and quality of life. Patients in the experimental group

were contacted by telephone by a primary nurse 48-72 hours following discharge. Patients were assessed using a Postdischarge Follow-up Assessment. Based on this assessment, additional teaching, counselling or referral was provided. One week later, an additional phone call was made by the nurse to see if recovery was progressing smoothly. Patients were also encouraged to contact the primary nurse with concerns or questions. This study found patients in the experimental group expressed higher levels of satisfaction than the control group (Phillips, 1993). Of note, there were no significant differences in the quality of life variable. The researcher speculated that this may have been a function of the young and healthy patient sample. Phillips (1993) concluded her study with the recommendation that telephone follow-up by hospital nurses may prove to be a cost effective and high quality intervention for patients.

A planned telephone follow-up program was implemented to provide information and support for post-MI patients in the eight week period at home following discharge (Garding, Kerr & Bay, 1988). It was postulated that patients' participating in this program would increase their knowledge in six cardiac content areas. The results of this study indicated that patients who received telephone follow-up calls acquired greater knowledge than the control patients. While this study supports the use of telephone follow-up as an effective means of providing information it could be considered more holistic if the information was in response to the patients' needs rather than

prescribed content.

The use of telephone follow-up is supported in another learning needs study (Bostrom, Crawford-Swent, Lazar & Helmer, 1994). When the learning needs of hospitalized and recently discharged patients were compared, it was identified that the two weeks following discharge from hospital is a unique transition period when patients are adjusting to their illness and hospital experience. Recently discharged patients place more emphasis on information learned in hospital once they are at home. Therefore, it was recommended that it is important to develop teaching strategies such as telephone follow-up, to address patient learning needs in the immediate post-discharge period.

A nurse rehabilitator's impact on patients with myocardial infarction was examined and found to be effective in a number of patient outcome areas (Pozen, Stechmiller, Harris, Smith, Fried & Voigt, 1977). In addition to routine physician/nursing coronary care, the nurse rehabilitator met with study patients individually every day while in hospital. These sessions were to provide reassurance, reduce anxiety and provide explanations of their care. Once in the convalescent area, the nurse rehabilitator met with study patients individually and in a group on alternate days. The content of these sessions included plans for discharge, diet, medication, activity, risk factors and signs and symptoms of heart attack. Following discharge, the nurse rehabilitator remained in contact with the study patients by telephone or in

person. This study found that the study group patients reported that they were functioning at higher levels than the controls. Among the high risk group, significantly more of the study patients returned to work than did the controls; in the low risk group, the study patients returned to work an average of two months earlier. More of the study patients stopped or reduced smoking. Interestingly, there was no evidence that the nurse educator had any effect on reducing anxiety. Pozen et. al (1977) suggest that this could be related to a number of personal and environmental factors. They also recognize that the intensive counselling may have created anxiety with the detailed discussion of heart disease.

Carney (1994) describes a nursing specialty program as part of the Visiting Nurse Association (VNA) of Central Massachusetts. The cardiovascular clinical specialist (CCS) provides comprehensive assessments and develops standards of care for patients with complex cardiac diagnoses. This has enabled the VNA to meet the challenge of handling complex patients who previously would have remained in the hospital. In this agency the CCS does not carry a primary patient caseload but rather works in conjunction with other clinical staff to offer cardiac expertise and to coordinate resources. Further, the CCS acts as a liaison to and networks with the physician group.

In an evaluation of patient perceptions of a visiting coronary nursing specialist, patients reported they found the nursing service helpful and the

amount of information received to be very detailed (Duddy & Parahoo, 1992). Interestingly, 69.6% of the patients identified that the service offered support and advice whereas only 31.3 % recognized the health education role of the nurse.

The effectiveness of the nurse practitioner role in a chronic congestive heart failure clinic was demonstrated in another study (Cintron, Bigas, Linares, Aranda & Hernandez, 1983). Patients in the nurse practitioner clinic had a significantly statistical reduction in hospitalized patient days. Patient satisfaction with the nurse practitioner clinic was also evaluated. When patients were asked if they would like to continue in the nurse practitioner clinic or return to the medical staff clinic, all patients chose to stay. Reasons for wanting to stay with the nurse practitioners were "better care", "rapport", "less wait". The nurse practitioners were very available to patients; for example, if a patient's condition changed between clinic visits there was "walk-in" availability rather the patient having to go to the emergency room.

### Summary

Nursing practice has much to offer the recovering post-MI patient . A number of implementation strategies have been demonstrated to have had a positive impact upon impacting patients once they leave hospital. While there is evidence to suggest that the use of empowerment and hope inspiring strategies would be useful in a home follow-up program, the literature failed

to reveal such an approach or program. In fact, much of the current research reviewed did not consider the patient's perspective, beliefs and values. It was apparent that all too often, approaches to cardiac education and rehabilitation were reductionistic and prescriptive; the program content and implementation based upon what health care professionals deemed to be relevant and important. Many of the post-MI programs are based on the belief that return to work, resumption of previous levels of sexual function and measurement of the patient's emotional state are the defining characteristics for psychological adjustment post myocardial infarction (Malan, 1992). It would be presumptuous to conclude that this is the gold standard which all patients must fit. With this obvious gap in available holistic support programs for the post-myocardial infarction patients, it was decided to determine the feasibility of developing and standardizing a Cardiac Nurse Support Intervention Program (CNSIP).

#### Purpose of the Study

The purpose of this pilot study was to explore the feasibility of developing and standardizing a CNSIP that provided ongoing support to post-MI patients in the first six weeks following discharge from the hospital. The CNSIP was based on the holistic framework of the Supportive Care Model (Oberle & Davies, 1992) and explored the effectiveness of a deliberate use of the strategies *empowerment, connecting and finding meaning* to enhance the patient's level of hope and perceived quality of life.

### Research Questions

1. Can the CNSIP, based on the Supportive Care Model, be developed and standardized?
2. Is there evidence that a larger scale study using an experimental design to examine the effect of the CNSIP on post myocardial infarction patients' level of hope, quality of life and frequency of health care contacts is feasible and warranted?



## CHAPTER 3: METHOD

It was found that this research study co-evolved as the implementation and evaluation of the program occurred simultaneously. It was therefore difficult to exclusively separate aspects of method and results. Consequently, the method chapter will describe the overall research plan and the actual program implementation will be described in the results chapter.

### Design of the Study

Before a large scale study could be considered to examine the effectiveness of the CNSIP it was necessary to determine if it was possible to develop and standardize the CNSIP. Further, it was necessary to establish if there was any evidence to suggest that the implementation of the CNSIP had a positive effect on post-MI patients' level of hope, quality of life and frequency of health care contacts. This field study involved several phases and incorporated both qualitative and quantitative data collection and analysis. Phase one was the development and implementation of the CNSIP. Phase two was the selection and administration of the research tools. Phase three was the analysis of clinical and field notes and findings of the research tools.

To evaluate the feasibility of using an experimental design of the evaluation outcomes of the CNSIP, patients who agreed to participate in the study were randomized to either a treatment or comparison group. Patients randomized to the treatment group received standard post-MI patient follow-

up and participated in the CNSIP for the first six weeks following discharge from hospital; those randomized to the comparison group received standard post-MI patient follow-up. During the study all patients completed weekly diaries. At the conclusion of the six week study period, all patients completed the Herth Hope Index, Quality of Life Index and Frequency of Health Care Contacts.

### Operational Definitions

Cardiac Nurse Support Intervention Program (CNSIP) - a follow-up program comprised of home visits and telephone calls based on the Supportive Care Model. The interventions for the feasibility study will be carried out by the nurse researcher.

Empowerment - a nursing strategy based on the philosophy of shared expertise and goal setting which results in the patient identifying and enacting new and positive health patterns.

Hope - an anticipation and expectation of anything which is significant to that person. A person's level of hope will be measured by the Herth Hope Index (HHI) (Herth, 1992).

Health Care Contact - a telephone call or in person visit to a physician's office, walk-in clinic, hospital or emergency room. This will be measured by the Frequency of Health Care Contacts tool.

Myocardial Infarction - injury to the myocardium that results from occlusion of one or more of the coronary arteries, usually related to coronary atherosclerosis (Dolter, 1991). This must be diagnosed and documented on the hospital record by a cardiologist.

Post-Myocardial Infarction Patient - a patient who has sustained a first time myocardial infarction, diagnosed by a cardiologist. This term applies from hospital admission until six weeks post hospital discharge.

Quality of Life- a person's sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her. Quality of Life will be measured by the Ferran's and Power's Quality of Life Index (Ferrans & Powers, 1992).

Standard Post-Myocardial Infarction Patient Follow-Up - following discharge from the hospital, patients visit their family physician in approximately one week and their cardiologist in approximately six weeks. Referral to the local cardiac rehabilitation program may be initiated by either physician's discretion.

### PHASE 1: Development and Implementation of the CNSIP

#### Conceptual Framework

Prior to the development of the CNSIP, it was necessary to find a holistic framework to provide a foundation for and guide the activities of the CNSIP. The Davies and Oberle Supportive Care Model (Davies & Oberle, 1990; Oberle & Davies, 1992) is a clinical practise model that has been used as a framework for nursing practise in a variety of clinical settings. As such, it offers a means of linking the diverse concepts of empowerment and hope to the CNSIP. This holistic model promotes the recognition of each person as an individual. The model is composed of six interwoven dimensions: *preserving integrity, valuing, connecting, empowering, doing for and finding meaning*.

*Preserving integrity* of both the patient and nurse is the core concept of the model. The model acknowledges that nurses must maintain their own wholeness in order to provide support to others. Assisting the patient to maintain/attain integrity is the goal of nursing care. In turn, it is reasonable to suppose that preservation of patients' integrity is integral to their perceived quality of life.

*Valuing* is considered a contextual dimension as it provides the

context within which support can occur. A patient outcome of valuing is feeling validated, listened to and heard. Oberle and Davies (1992) suggest that the other four action dimensions of the model do not need to occur in any particular order.

Oberle and Davies (1992) describe *connecting* as forming a bond with the patient. Haase, Britt, Coward, Kline-Leidy and Penn (1992) further expand the concept of *connectedness* as being a shared and meaningful relationship with another person, a spiritual being, nature or one's inner self. *Connecting* is necessary for patient empowerment and enhancement of hope. *Connecting* is supported by Herth (1990) who found that interpersonal connectedness emerged as a hope fostering strategy.

The Supportive Care Model (Oberle & Davies, 1992) describe the dimension of *empowering* as the nurse helping patients to find or build strengths within themselves. To establish and enact personal goals, the nurse encourages the patient to discover and enhance his/her own internal reinforcement for behavior change (Funnell, et. al, 1992). This nursing strategy is supported by Montgomery (1993) who believes that the most important behavioral manifestation of a caregiver's caring is to empower patients by helping them mobilize their own resources. This will enable patients to gain a sense of control, an important component of the post-MI patients' recovery. Johnson and Morse (1990) found that common coping strategies used by post-MI patients were directed at gaining control of their

situation. Derenowski-Fleury (1991B) found that the patient's belief in individual control over health outcomes correlated highest with wellness motivation. This correlation supports the emphasis on shared (patient and nurse) control of health locus and interaction rather than prescription of health behavior. The empowerment model suggests that to help patients become experts in their disease process the nurse acts as a resource facilitator (Gibson, 1991; Malin & Teasdale, 1991).

*Finding meaning* is helping patients make sense of what has happened to them. Montgomery (1993) believes that for patients, finding meaning is what organizes the illness experience and what begins to mobilize the healing process. Montgomery (1993) further suggests that caregivers with a hopeful orientation will assist the patient to find meaning and possibilities in difficult situations. The importance of exploring the meaning of health behavior and health outcomes is supported by Derenowski-Fleury (1991B) who suggests that patient's health beliefs, attitudes and behaviors may be situation specific and that patients will be more motivated to adhere to cardiovascular health behaviors if they value the outcomes of the behaviors. Further, Derenowski-Fleury (1991B) found positive correlations between wellness motivation and a value for activities which result in external recognition. This finding underscores the patient's need for acknowledgement and encouragement in risk factor modification.

The last component of the model is *Doing for*, the provision of

physical care, technologic interventions and coordination of activities. This component is an important part of expert nursing practice. However, to be supportive, these activities must be interwoven with the elements of *connecting, finding meaning and empowering* in the interests of preserving the patient's integrity.

#### Cardiac Nurse Support Intervention Program

The Cardiac Nurse Support Intervention Program was based on the conceptual framework of the Supportive Care Model (Oberle & Davies, 1992). The CNSIP was a follow-up program that involved the nurse researcher visiting or telephoning the patients in the treatment group at least once per week for six weeks. The guiding philosophy of the CNSIP was a focus on the whole person, his/her beliefs and values and the mutual (nurse/patient) setting of shared or negotiated goals. Nursing interventions of the CNSIP were to be implemented in response to the specific and individual needs of each individual patient. It was believed that the nursing strategies of *making the connection, finding meaning and empowerment* would enhance the patients' feelings of hope and improve their perceived quality of life. The interventions included the assessment and detection of early recovery complications, assisting with the integration of lifestyle and activity modifications, providing emotional support and heart health education. The overall plan for the CNSIP was as follows.

To make the nurse-patient *connection*, interventions would consist of

talking and listening. The role of the nurse researcher as well as her credentials and professional experience would be described. Rapport was to be established by a genuine interest in the patients and their illness experience.

*Finding meaning* was to be facilitated by encouraging patients to discuss what their illness experience had been like and what it had meant to them. This process was anticipated to contribute to feelings of empowerment by assisting patients to begin to understand and cope with their personal feelings. Patients' perceived meanings of the prescribed medical regimens were to be explored and expert information offered as requested.

The intervention of *empowerment* would be carried out through conversation, active listening and a genuine interest in the patient's perspective. A specific empowerment strategy was to provide information specific to the patients' requests (in contrast to providing information prescribed by a program protocol). Patients were to be encouraged to explore and identify their personal strengths rather than deficits. Efforts were made to assist patients to view perceived failures as problems to be solved rather than personal deficits which could not be overcome. When patients were faced with perceived problems they were to be encouraged to look for personally meaningful answers. Patient generated solutions were expected to be more meaningful because they were within the context of the patient's

values and beliefs, life-style and support systems (Funnell, et. al, 1992).

Once the CNSIP was developed, the target population was identified and the process for recruitment and randomization determined. Patients agreeing to participate in the study were randomized by choosing a sealed envelope with a chit inside reading either "treatment" or "comparison".

### Sample

Inclusion criteria for potential study participants were as follows:

1. patients must be hospitalized at the Holy Cross or Rockyview Hospital
2. patients must have experienced a cardiologist documented first time myocardial infarction
3. patients must be under 70 years of age
4. patients must live in the Calgary, Alberta area
5. patients must be able to speak and read English
6. patients' cardiologist must grant permission for participation

This study aimed for a convenience sample of twenty participants, ten in the treatment group and ten in the comparison group.

### Implementation of the CNSIP

The researcher met with all study patients prior to their discharge from hospital. Comparison patients were given information about the data collection process that would occur in six weeks from discharge. The researcher made specific arrangements with the treatment patients to visit them in their homes at a convenient time during the first week home from hospital. Each week after the first home visit, it was mutually decided (researcher and patient) if the researcher would visit or telephone the patient.



Once the study patient was discharged, the researcher contacted the patient's cardiologist and informed him of the patient's participation in the study. Specific direction and guidance about the management of the patient was elicited. In particular, the cardiologist was asked which signs and symptoms the patient was to report to him. This information was then communicated to the study patient by the researcher.

## PHASE 2: Selection and Administration of Research Tools

### Research Field and Clinical Notes

Demographic and clinical data was collected on each study participant (Appendix A). This clinical data was used by the researcher to guide clinical assessments and interventions.

Field notes were recorded which reflected the research activities of accessing the sample, developing and operationalizing the CNSIP, administering the research tools and data analysis.

Separate clinical records specific to the CNSIP were recorded after each patient contact. These notes reflected the amount of time spent per patient, each patient's recovery progress and each patient's questions and concerns during the six week program. The clinical records were also used to track the type of interventions used in response to individual patient's needs. In particular, implementation of specific empowering and hope instilling nursing strategies and the patient response were noted. The outcomes of all interventions and pertinent patient comments were documented.

All study participants were asked to keep a weekly diary. Patients were asked to spend about 20-30 minutes once a week writing down any concerns, questions or worries they experienced related to their recovery. In addition, patients were asked to note anything they had found to be helpful in dealing with their concerns. Patient diaries were notebooks provided to the study participants by the researcher. Inside the front cover of all the diaries were the name and phone number of the researcher and the following instructions: "once a week (or more often if you like), in this book, please write down":

any questions or concerns you have about your heart attack recovery  
anything that has been useful in helping you deal with those concerns  
or questions  
(please put the date at the beginning of each note)

### Research Tools

To examine levels of hope in the two groups, the Herth Hope Index (HHI) was used (Appendix B). This tool is an adaptation of the parent tool, the Herth Hope Scale (HHS) (Herth, 1992). The HHI is constructed of twelve items in a Likert format divided over the following three subscales: cognitive-temporal (the perception that a positive, desired outcome is realistically probable in the near or distant future); affective behavioral (a feeling of confidence with initiation of plans to affect the desired outcome); affiliative-contextual (the recognition of the interdependence and interconnectedness between self and others and between self and spirit). The tool has been subjected to psychometric evaluation (Herth, 1992) with a heterogeneous

population of 172 ill adults. Alpha co-efficient was 0.97 with a 2 week test-retest reliability of 0.91 (Herth, 1992). Criterion related validity was established by correlating the HHI with the parent scale HHS ( $r = 0.92$ ), the Existential Well-Being Scale ( $r = 0.84$ ) and the Nowotny Hope Scale ( $r = 0.81$ ) (Herth, 1992). This tool was chosen for its demonstrated psychometric properties and reported ease of administration and scoring.

Quality of life was measured by the Ferrans and Powers Quality of Life Index Cardiac Version - III (1984) (Appendix C). The QLI is a 72 item scale that consists of two parts: Part I measures satisfaction with various aspects of life and Part II measures the importance of those aspects to the participant (Bliley & Ferrans, 1993). Part I ratings range from very satisfied to very dissatisfied. Part II ratings range from very important to very unimportant. Satisfactory psychometric assessment has been reported (Ferrans & Powers, 1992). Convergent validity is demonstrated by a strong correlation ( $r = .77$ ) between scores from the QLI and an assessment of life satisfaction (Ferrans & Powers, 1992). There are four subscales in the cardiac version: health and functioning, socioeconomic, psychological/spiritual and family. Construct validity was supported by the contrasted groups approach and factor analysis. High levels of internal consistency are reported for the entire QLI ( $\alpha = .93$ ) (Ferrans & Powers, 1992). The subscale alphas are as follows: health and functioning = .87, socioeconomic = .82, psychological/spiritual = .90 and family = .77

(Ferrans & Powers, 1992). This tool was also chosen for its demonstrated psychometric properties and the availability of a cardiac version of the tool. This tool seemed appropriate because it considers the relative importance to the patient of each of the domains related to one's quality of life. Using a tool that did not consider the patient's perspective did not fit with the underlying philosophy of the CNSIP. It seemed prescriptive to assign a score to a post-MI patient's quality of life on areas that may not be personally significant to the patient.

Frequency of health care contacts was measured by the tool:

Frequency of Health Care Contacts (FHCC) developed by the researcher for this study (Appendix D). As this tool was an immature instrument, content validity was established by a panel of experts (a group of expert cardiac nurses) using Lynn's (1986) stages of content validity determination criteria.

#### Administration of Research Tools

During the sixth week following discharge from the hospital, all study participants were contacted by a research assistant to arrange a suitable time to complete the research tools. The research assistant administered the research tools in the patients' homes at a convenient time. Patient diaries were collected at that time. The research assistant was unaware of the randomization of the study participants at the time of tool administration. Following the research tool administration, all study participants were contacted by the researcher to close off the research process.

### Reliability and Validity of Measurement

Constant errors such as social desirability and acquiescent response set may be a source of measurement unreliability. Random error may result from other factors such as personal or physiological (fatigue, pain, anxiety) the participant may experience while completing the research tools.

Transient factors were controlled for by ensuring privacy, anonymity and an environment they are comfortable in to complete the research tools. Data collection was performed by having an independent nurse research assistant administer the research tools in the patient's home and coding the tools to ensure anonymity.

### Phase 3: Data Analysis

#### Clinical Notes/Patient Diaries

During the clinical contacts (telephone or home visit), the researcher recorded clinical progress records. These clinical records reflected the patient's clinical progress, any questions or concerns arising related to their recovery and any pertinent responses to interventions or referrals. Specific interventions employed during the course of the visits or telephone calls were also noted. Patient visits or telephone calls were not tape-recorded nor recorded verbatim. Rather, the pertinent aspects of the patients' recovery and individual experiences were recorded. Recovery data encompassed relevant physiologic assessment findings and/or those symptoms experienced by the patient.

Data about what the recovery experience was like for the patient was often gained by the patients telling stories about themselves. Sandelowski (1991) recognizes telling stories as a legitimate narrative approach to qualitative research. She suggests that this approach aids the researcher in an understanding of persons' lives in a way that is less artificial than a formal, structured research process. Narrative forms assist researchers to determine the meaning of patients' experiences by revealing ways that patients explain their situations and how they construct past and future events. An important feature of this type of data collection is that narratives are understood as stories clearly within the temporal and cultural context relevant to the storyteller. In this feasibility study the researcher did not set out to collect "story" data. It was in the course of patient contacts, in particular home visits, that the story-telling about family pictures and major life events provided a rich source of data about what the current illness and recovery experience meant to the patient.

It is recognized that some qualitative research as yet has no name (Morse, 1989). Data for this study was analyzed using the method outlined by Tesch (1987). This method begins with an immersion in the data as a whole; that is, reading and reviewing all the clinical records. Text details were highlighted. Descriptors that seemed to address the nature of the experience or seemed to be at the center of the experience for the patient were identified. After completing this process with the individual clinical

records, themes from each clinical record were compared with each other to determine if there were common or shared themes. Tesch (1987) describes this activity of finding common themes as clustering or ordering of themes according to categories. It also must be recognized that unique themes may be present; this reinforces the range of unique individuality present in shared experiences (Tesch, 1987). So while the search for common themes is important to establish patterns, there will not always be a perfect match (Tesch, 1987).

Patient diaries were also analyzed using thematic content analysis to determine if there was any evidence between the two groups that patients' having access to the CNSIP was perceived to be beneficial in addressing their identified concerns.

### Field Notes

The researcher's field notes were analyzed to examine the research process and determine whether a larger scale study was feasible. Feasibility of a larger scale study was based on the research components of: accessing the sample, randomization or follow-up of the study participants as well as any issues related to interdisciplinary communication and the ease of use of the research tools.

### Research Tools

The research tools were scored according to their instructions. Score means and standard deviations were calculated and differences in outcome

scores between the treatment and comparison group were determined by t-tests.

### Ethical Considerations

Approval for the study was obtained from the University of Calgary (Appendix E) and the Calgary District Hospital Group (Appendix F) research committee. All patients approached for potential participation were given an information sheet to read (Appendix G). Patients approached for potential participation in the study were assured that refusal to participate would in no way affect their current or future health care. Patients who agreed to participate in the study signed a consent form (Appendix H). Patients were made aware that they were free to withdraw from the study at any time they desired with no risk of penalty. The researcher emphasized that the CNSIP was intended to augment and not replace the standard post myocardial infarction medical follow-up. Confidentiality was assured to all participants. Data collected were coded to prevent identification of the study participants. All study data were stored in a locked cabinet and will be destroyed at the end of three years. Participants were assured that they will not be identified in any reports of the research unless they wish to be acknowledged.



## CHAPTER 4: RESULTS

The researcher's role in the evolution and implementation of the CNSIP required tremendous personal investment. Consequently, in hopes of capturing the immediacy of this involvement and to fully portray the richness and quality of data results to the reader, I have chosen to present the study results in the first person. The results chapter will begin by presenting a description of the study sample and the recruitment process. This aspect of the study design is considered part of the question of feasibility not standardization. However, in an effort to establish clarity for the reader, the sample will be discussed first. This will be followed by a discussion of the thematic analysis of the clinical records and patient diaries to determine the feasibility of standardizing the CNSIP. The relevant contents of the field notes will be described as they relate to the question of larger scale feasibility. Lastly, the scores of the research tools will be presented.

### Study Sample

#### Recruitment

Originally, the age criteria for study inclusion was 65 years. It was found however, that this age limit was adversely limiting the recruitment process. Therefore, upon approval from the research review committee (Appendix I), the age for study inclusion was raised to 70 years. The other study inclusion criteria did not pose any limitations.

Overall recruitment of eligible patients to the study was 56%. Those

patients who did not participate often were unable to offer a substantive explanation of why they did not wish to participate. Verbalized reasons for not wanting to participate included: "just not being interested", "just want to go home and get on with my life", "I think I'll be fine once I get home" and "I will be out of town for the intervention period". A more detailed discussion of the process of sample access will be offered in the discussion of the field notes.

The final sample consisted of a convenience sample of 13. There were six men and one women in the treatment group; five men and one woman in the comparison group. The age range in the treatment group was from 42-67 years and from 50-69 years in the comparison group. Two out of seven (29%) treatment patients and two out of the six (33%) comparison patients were retired at the time of their MI.

#### Feasibility of Developing and Standardizing the CNSIP

Treatment patients were either visited at home or telephoned at least once per week during the six week study period. The range of total visits per patient was from one to six. The range of total telephone calls per patient was from one to seven. The combination of numbers of visits and telephone calls varied from patient to patient. The range of total contacts (visits and telephone calls) per patient during the study was six to ten. Due to the sample size, mean numbers of visits and telephone calls were not calculated.

### Clinical Records - Patient Responses

The patients' clinical progress records and responses to the nursing interventions were analyzed for the presence of similar themes using the method described in the methods section. Initial reviewing of and immersion in the clinical records did not reveal any commonality or consistency in themes between patients. The small sample size may have been a factor. However, following a content analysis as outlined in the methods section, several broad themes did emerge (Figure 1). The broad themes identified in terms of patients clinical recovery were: 1) interpreting signs and symptoms or heightened attention to bodily sensations; 2) medication/treatment adjustments; 3) change in role/activity related to the medical regime; 4) need for information; 5) impact on others; 6) what does this mean?; 7) other.

The specific patient experiences or concerns related to the broad themes varied considerably. There was no noted temporal consistency in emergence of any of the themes. From the clinical records, the following discussion will provide examples in each of the theme areas. In addition, several patient's clinical record reflected a unique theme that could be labelled as 'other' as it did not fit into any of the broad themes. These 'other' themes emphasized the individual and context specific nature of the post-MI recovery.

Figure 1. Frequency of patient themes of clinical recovery

1. Interpreting signs and symptoms/heightened attention to bodily sensations (86%) (n = 6)
2. Medication/treatment adjustments (86%) (n = 6)
3. Change in role or activity level related to the medical regime (100% (n = 7)
4. Need for information (86%) (n = 6)
5. Impact on others (57%) (n = 4)
6. What does this mean? (43%) (n = 3)
7. Other (57%) (n = 4)

### Interpreting Signs and Symptoms/Heightened Attention to Signs and Symptoms

Treatment patients experienced components of this theme in a variety of ways. Six of the seven (86%) patients commented on how they now attend to any physical symptom felt. It was identified that every sign or symptom should be acted upon. One patient described how he used to worry about getting cancer; his health concerns have now shifted from cancer to cardiac. One patient specifically requested routine examination of his vital signs as evidence of satisfactory recovery.

Patients who experienced angina after their heart attack raised many questions about what that meant and potential treatment options. Patients who did experience chest discomfort found it difficult to differentiate among angina and other potential causes. Of interest, the one patient who had a history of angina prior to his heart attack did not have this difficulty. Some patients interpreted bodily symptoms as being reflective of their recovery progress. For example, one patient said he felt so good he thought that was a sign that he could stretch his activity restriction. Conversely, another patient commented on how much longer it was taking him to regain his strength as he tired easily.

### Medication/Treatment Adjustments

Six of the seven (86%) required a medication or treatment adjustment during their post-MI recovery period. Specifically, three of the seven (43%) treatment patients required either cardiologist reevaluation and/or medication

adjustments due to ongoing symptoms. One required a medication change due to a medication reaction.

In terms of medical treatments, one patient went to the emergency room to be evaluated for palpitations. His electrocardiogram was unchanged and he was released. Another patient was re-evaluated for chest pain in the cardiologist's office and prescribed an anti-inflammatory. He was subsequently readmitted to the Rockyview Hospital for ongoing chest pain and required a follow-up coronary angiogram. This was normal; he was prescribed medications for his hiatal hernia. This was effective for the chest discomfort he was experiencing. Lastly, one patient required evaluation by the cardiologist for continued chest pain. This was after an anti-anginal medication was prescribed for him following discharge.

#### Change in Role/Activity Related to the Medical Regime

All patients (100%) in the treatment group expressed the necessity of making personal changes related to the prescribed medical regime. These changes took the form either of risk factor modification or the imposed activity limitations related to the heart attack recovery. In terms of the activity restriction, many patients found it difficult to sit around and felt bored. Patients wished they could do more than the recommended activity level during the recovery period. Several said they felt guilty not doing things that they would ordinarily have gone ahead and done. One said that he felt anxious to do more but was afraid to overdo it. One patient's wife said she

felt like a policeman enforcing the activity restrictions; these activity restrictions had created disagreements between patient and wife about what was really allowed.

For some patients, the imposed recovery restrictions raised questions about long term restrictions. One patient said he felt that he had regained his independence when he began driving again. Another said he just takes one day at a time. This man appeared to have less difficulty with the imposed activity restriction; he said this was because he had a previous major back and leg injury and had already made major life and activity restrictions as a result of this.

Lifestyle changes such as quitting smoking posed a major challenge for some and not others. Diet changes demanded new attention to food choices, shopping and eating out. Most identified feeling some struggle mastering a new way of eating. For one it was passing up sweets at a social outing and for another it was food selection while grocery shopping.

#### Need for Information

Six of the seven (86%) treatment patients verbalized questions about specific aspects of their recovery. Those who did raise questions tended to be quite specific to their individual situation. Again, there appeared to be no association between recovery questions and where the patient was in the recovery phase.

Common questions related to dietary changes were about specific

products, portion sizes, allowable grams of fat. The other area that generated questions or required clarification was related to the prescribed recovery activity restriction. Patients would ask for very concrete guidelines about the restrictions. There were other isolated personal questions such as "what is the safe temperature of a hot tub?", "will I have to take these medications for life?" and unanswered questions about future employment. These questions were often raised during the clinical visits and we would discuss them. One patient identified that information was very important for her to gain control and on her own she contacted the Heart Foundation and began learning about heart attacks and life-style changes.

For two patients, communication within the health care system was an issue. One patient and his wife expressed concerns about their perceived lack of communication between their family doctor and the cardiologist. Their concern was raised when the family doctor was not able to address questions they had about his medication regime because it was the cardiologist who had prescribed the drugs. Another patient felt that while he was in the hospital information about his condition was either withheld from him or was not available.

#### Impact on Others

Four of the seven (57%) treatment patients spoke of how having their heart attack had affected others in their lives. Several mentioned that friends and family members had quit smoking when they learned of the patient's



heart attack. Other family members started a fitness program. For one patient, having a heart attack made other family members nervous and anxious to do everything right. Another family member described the shock and fear everyone felt and how she (the spouse) experienced an outbreak of shingles with the stress of the patient's heart attack. She needed reassurance that her stress and concern were legitimate even though she was not the "patient".

### Meaning

Three of the seven (43%) of the treatment patients verbalized thoughts or feelings that could be interpreted in terms of what the experience had meant to their lives. One patient felt his recovery had gone better than he had expected yet concluded that he would slow down this year and not travel until next year. Another patient said how hard it was for him to believe that he had a heart attack as what he experienced was not what his perceptions of a heart attack were. One patient was very pleased when his cardiologist told him that, although he had had a severe heart attack, he had bounced back well. This patient also expressed feeling depressed when he had to return to the Emergency Room when he experienced some palpitations.

A common theme expressed was that of uncertainty for the future. In some ways this meant that these patients were not able to attach a meaning to this heart attack experience because they were really unsure what the

future would hold. The uncertainty verbalized by patients was related to future limitations, return to work, and treatment options. One patient questioned the relationship between job stress and his heart attack. Another patient wondered how his life would change in the future.

### Other

The last theme is a mixed compilation of concerns or issues raised by four of the seven (57%) treatment patients. It is these themes that underscore the uniqueness of each patient even though all were experiencing heart attack recovery. One patient spoke of some ongoing family issues and indicated that he is seeking assistance from a psychiatrist for these problems. Another described his home as being in a period of upheaval as his daughter had just moved in with them and some construction and modifications were necessary in the house. One patient commented on how it was really important to him to have a positive attitude; he said he wants to retire with health. Two patients experienced disruption in their previous sleeping patterns and had difficulty sleeping.

One patient remarked that he preferred to talk to his cardiologist rather than his family doctor about concerns he had but found access to the cardiologist difficult. He described past experiences of poor follow-through when dealing with his cardiologist's office. He emphasized that he is not pretending, saying he does not wish to be sick. In general, he felt frustrated with the health care system. This patient also described feeling quite

stressed with his work situation as he was employed as a consultant and therefore, did not have any sick benefits. For him, if he did not work he did not get paid. This led him to have considerable worry for his family.

### Patient Diaries

Contents of the patient diaries in both groups were reviewed to identify patients' worries or concerns and how patients resolved these concerns. In particular, each diary contents were reviewed to determine if there was any evidence that participating in the CNSIP was beneficial in addressing patients' concerns. Further, the diaries were examined for the presence of any similarities in the kinds of concerns patients had. Formal thematic analysis was not employed with the diaries as they lacked any consistency in the depth, length and content of the entries. Therefore, each diary was reviewed individually for content about the patients' experiences and concerns

There was great variety in how patients carried out the request to record their worries and concerns. Four patients in the study did not record anything in their diaries (two in the treatment group and two in the control group). The remaining patients, five in the treatment group and four in the comparison group, did make some notations in their diaries. Treatment patients' diaries varied in their degree of completion and content. In one instance, the patient used his diary as a daily chest pain log and made entries until he no longer experienced chest pain. Another patient's common-

law wife made the diary entry as a continuous two page narrative. Another diary had one or two line entries recorded every few days for the first four weeks. One patient made six entries of a few lines each at four to twelve days intervals. Lastly, another made regular entries just over a week apart.

Comparison patients' diaries were as variable in degree of completion and content. One patient made long narrative daily entries, another wrote about a paragraph in length each week. Another patient made only one entry. Lastly, one patient made several line entries daily for the first five days, then made entries every few days then became about weekly for the last two weeks of the study.

Like the patient responses noted from the clinical records there were some similarities in the types of questions asked, the heightened attention to bodily sensations, difficulty adjusting to activity restrictions and difficulty sleeping. Again, there appeared to be no consistency in the timing of questions or concerns. The patient specific concerns noted in the diaries served to underscore the individual nature of each patient's life and thus, its impact on the heart attack recovery.

The content of the diaries ranged from an activity log, a chest pain log, a record of the various sensations experienced, a record of physician visits and medication adjustments, an activity log of hospital events, an unanswered questions log and like the clinical records, most had reflections that were quite specific to that patient's experience. The following

discussion highlights some of the specific issues noted in patients' diaries.

#### Diary Contents - Treatment Patients

One patient's diary reflected a number of frustrations experienced. For example, when trying to deal with his physicians, the patient noted that doctors were busy and he felt there was poor communication between his physicians. Another source of frustration was when the questions the patient asked of the dietician were referred back to the physician and in turn, the physician said to ask the dietician. Other entries in the diary were questions about activity, medications and cardiac rehabilitation.

One patient's diary reflected her difficulty with adjusting to having had an MI at a young age. She wondered why it happened to her and was afraid to sleep. She expressed feelings of guilt at not being able to do what she could before and feared every twinge in her chest. Her way of trying to cope with the life-style changes and accepting what had happened to her was to learn as much about heart attacks as possible. She indicated that the Heart and Stroke Foundation was very helpful in providing information. However, this patient expressed frustration about the lack of information for women. She found her physician did not see women's issues as important and had to "shop" for another doctor. She wrote "time to shop for a new doctor and have one that will take the time to deal with women". Further, she found that the Cardiac Rehabilitation program did not adequately address the issues of younger women.

Another patient's diary had questions recorded about medications and diet. Changes in medications were noted. He recorded bodily sensations and their possible meaning. This patient found the recovery period boring and would have found it helpful to go to a place to meet with other recovering cardiac patients. He wrote "I have a few aches and pains but overall don't feel too bad, I hope my rehab starts soon the boredom is getting to me". He also made a note that he couldn't get medical answers or anyone to commit to his recovery.

#### Diary Contents - Comparison Patients

One patient identified sleeping problems and difficulty adjusting to being home from the hospital. This patient also experienced a flare-up of previous back and leg pain related to her cardiac recovery. She wrote "during the first two weeks recurring back and leg pain making rest a little bit difficult".

Another patient suffered from another chronic disorder that made it difficult for him to differentiate between pains experienced from fibromyalgia and chest pain. This patient wrote "let me explain that the pains are related from fibromyalgia syndrome and are hard to differentiate from heart problems". He recorded his physical symptoms and recorded that he felt "twitches" in the heart area. This patient recorded a lot about his activity level, feeling tired, having difficulty sleeping and experiencing a panic attack in the night (he did not offer a reason why he thought this might have

occurred). He questioned how his heart attack happened. Appointments with physicians and changes in medications were recorded. During his recovery, he experienced one episode of chest pain and had it checked at his doctor's office.

Another patient recorded doctors visits, medication adjustments and his activities at home. He had one episode of chest pain not relieved with nitroglycerin and then went to the Emergency Room. When I spoke with him at the end of the study he also told me he had difficulty sleeping during his recovery period.

One patient's diary reflected a number of issues around the heart attack recovery. He described: "I felt slightly apprehensive about being discharged and leaving the security blanket behind". Since being at home he was taking on more business responsibilities and had found it hard not to jump right back in to work. As he tired easily during the day, he set up a home office so he could rest periodically throughout the day. He had difficulty watching others do things that were formerly his responsibility. He had not slept well during the recovery and wrote that he was very aware of any small pains in his chest. During his recovery, he experienced ongoing chest pain requiring medication adjustments. His family physician was reportedly good about talking with him which was helpful. He noted that he felt independent when he could drive again.

It is apparent that patients are individuals and each recovery is a

unique experience. However, like the patient themes of clinical recovery, similar patient issues were identified from the diary records. While the diary as a source of information about the patient's recovery was not necessarily complete in all cases, it would seem that the patients in the comparison group could have benefited from the support of the CNSIP.

### Clinical Records - Nursing Interventions

Content analysis of my clinical records with respect to specific nursing interventions revealed several recurring strategies used. I have categorized these strategies as follows: making referrals, contextualizing, monitoring, providing positive reinforcement and providing information (Figure 2). All interventions identified could be considered sub-themes related to the previously described strategies of *making the connection*, *empowerment* and *finding meaning*. Further, the specific strategies appeared not to be mutually exclusive. For example, some interventions could be considered connecting as well as helping to find meaning, or interventions could be connecting and empowering. The combination of effects seemed to be related to the context of the situation in which it was being used. While there was noted to be consistency in the themes and philosophy of the strategies or interventions, the exact nature of implementation and patient response was patient and situation specific.



Figure 2. Nursing Interventions

<p>GLOBAL</p> <p><i>Making the Connection</i></p> <p><i>Empowerment</i></p> <p><i>Finding Meaning</i></p>
<p>SPECIFIC</p> <ol style="list-style-type: none"><li>1. Making referrals</li><li>2. Contextualizing</li><li>3. Monitoring</li><li>4. Providing positive reinforcement</li><li>5. Providing information</li></ol>

### Contextualizing

In an effort to initiate the nurse-patient connection and begin to explore the meaning of the illness for the patient, I spent considerable time with the patients contextualizing. Trying to understand the patient's context and personal history was often begun by my expression of interest or questions about either personal items I saw in the home or photographs displayed. This interest provided an opening or starting point for patients to talk about matters of personal relevance not related to the illness experience. At first it felt like this type of interaction was purely of a social nature. However, I soon realized that the content of the conversations provided me a wealth of knowledge about the patients and what was important to them. This in turn assisted me to put the post-MI recovery experience into the patients' personal context.

Specific examples of contextualizing were looking at family pictures and talking about family trees, personal roots and religious beliefs. Conversations often included talk about the kind of work the patient did or was still doing. Active listening and a genuine interest in all aspects of the patient, not just the illness, helped me to gain an understanding and appreciation for what their current experience was like.

In two instances contextualizing took an active form. One patient's visit was spent in the farmyard "meeting the horses"; another's was spent walking in the park and feeding the ducks. For these two patients, sharing

these activities with me strengthened our connection.

### Providing Positive Reinforcement

Throughout the clinical contacts I attended to positive thoughts and actions of the patients, reinforcing and encouraging the positive aspects of patients taking an active role in their recovery. For example, I encouraged them when they sought information about heart attacks and their recovery and identified and praised positive changes in health behavior such as quitting smoking and making dietary changes. I acknowledged that life-style changes were not easy to undertake and helped patients recognize their own hard work. I complimented patients when they made effective decisions about their activity level or management of symptoms they experienced such as fatigue or chest pain. When patients expressed positive attitudes about aspects of their recovery or life in general, I gave a positive response.

### Making Referrals

In response to either patients' questions or symptoms present, I referred study patients to the appropriate individual or agency. For additional heart attack information, I suggested patients contact the Albert Heart and Stroke Foundation. I directed ongoing dietary questions to the dietician who responded by either telephone or in-person consultation. For two patients who appeared to be experiencing ongoing stress related to their heart attack recovery, I advised them of the availability of a cardiac social worker to assist them. For one patient, I followed up with home care to determine if

his referral had been received. In cases of cardiac rehabilitation referrals, I ensured that study patients had been referred and if not, completed the referral forms.

Three of the seven study patients had ongoing chest pain requiring medical referral. I would usually speak to their cardiologist and discuss the patient with him. The cardiologist would then give me direction in terms of how he felt the patient should be managed. In some cases it was a medication adjustment that was prescribed over the phone. In other cases, the patient was re-evaluated in the cardiologist's office. Following the medication adjustment or re-assessment I would speak to the cardiologist again to get any further direction about future patient management and specific signs and symptoms the cardiologist would like to know about.

#### Providing Information

The nursing intervention of providing information was quite straightforward. I provided the patients concrete guidelines and direction about what to do if certain symptoms were to occur. I communicated any pertinent directions I had received from their cardiologist. In addition, as necessary, I gave patients guidance as to which questions were more appropriately addressed by their cardiologist, and which should be directed to their family physician.

As requested or indicated I provided patients printed materials on medications, activity and heart attacks and gave specific information in

response to individual questions. The questions tended to be patient specific with no consistency across patients. Questions about activity restrictions and ways to modify activity were perhaps the most frequent questions but these were not of concern to all study participants.

### Monitoring

The intervention of monitoring consisted of assessing and monitoring ongoing symptoms that the patients identified and described. Monitoring also included evaluating responses to any changes made to the patients' medical therapy and regime. I measured patients' vital signs and did physical assessments as warranted by each individual situation. Lastly, I monitored patients' activity level and activity tolerance relative to their phase of recovery.

### CNSIP Patient Comments

The following is a compilation of patient feedback about the CNSIP (Figure 3). These comments were extracted from the clinical records, patient diaries and those made to the research assistant during the completion of the research tools. These comments represent five of the seven (71%) treatment patients.

One patient commented that the research nurse's help was very beneficial, eased anxiety, acted as a "picker-upper" with the many lifestyle changes. Another felt the follow-up program was helpful, the visits were something to look forward to each week, his recovery was better than

expected and wrote "thank you for walking with me in the park". One patient and his wife said the research nurse "made a significant difference in their recovery process". In some instances, the research nurse provided a sounding board for the wives of the patients. Other comments were "I really enjoyed the visits with you". One patient thought that the research nurse was "very personal and involved". Unfortunately, one patient thought the six week follow-up was not long enough as he lived alone.

Comparison Patients Comments to the Research Assistant and Researcher  
During Follow-Up Calls

The following comments represent four of the six comparison patients (66%). The research assistant was not aware of the randomization of patients when she went to their homes to complete the research tools. However, she reported to me that she could identify which patients had been in which group. In general, she found the comparison group anxious with many questions related to their recovery. These patients were unclear of how much activity they were permitted and they were afraid of doing too much. Similar comments were also made to me when I contacted patients to thank them for their study participation. Comments made were that "nobody was interested in me as a whole" and concerns were raised about the coordination of health care and frustration about nobody answering their questions.

Of particular note, one patient indicated to the research assistant that she would have called someone about physical concerns but not

psychosocial areas of concern. She was unsure of what to expect in recovery and expressed feelings of uncertainty and a need for information. This was communicated to me by the research assistant; when I contacted the patient by telephone to close off I asked if she had any concerns with which I could help her. Interestingly, her only question was about the pros and cons of chelation therapy. I directed her to a source of that information.

Figure 3. Treatment patients' comments about CNSIP  
(n = 5) (71%)

Research nurse' s help very beneficial...eased anxiety, acted as a picker-upper with lifestyle changes  
The research nurse was very personal and involved with the patient  
The research nurse made a significant difference in our recovery  
The research nurse's visits were something to look forward to each week  
My recovery was better than expected  
Really enjoyed visits with the research nurse  
Thank you for walking with me in the park

Figure 4. Comparison patients' comments  
(N = 4)(66%)

Nobody is interested in me as a whole  
Concerns about the coordination of health care  
Frustration with nobody answering their questions  
Feelings of uncertainty  
Uncomfortable to ask questions of psychosocial nature  
Unclear of how much activity to do  
Afraid of doing too much



### Summary

The clinical records were evaluated using a content thematic analysis. This analysis revealed several common themes of how patients experienced the post-MI recovery. However, the manner in which patients experienced similar themes was often quite variable. There was no consistency noted in the timing of the emergence of certain themes. The breadth of "other" theme data served to emphasize how unique each post-MI patient's recovery was. The clinical diaries completed by the patients were inconsistent in terms of content and depth. However, a review of the diary contents revealed patient experiences similar to those identified in the clinical records and experiences unique to that individual. A content analysis of the clinical records revealed a range of nursing interventions employed in response to the patients' needs or requests. The patient comments indicated that treatment patients were very satisfied with the CNSIP program. Conversely, comparison patients experienced feelings of uncertainty and anxiety.

In conclusion, the conceptual framework used for this study provides general guidelines for nursing practice. With the conceptual framework as a guiding philosophy, several nursing interventions have been developed and could be implemented by an advanced practice nurse. Given the unique and varied experiences of post-MI recovery, it would not be possible to standardize nor replicate this program. However, it would be possible to generalize the conceptual framework and the identified interventions to

future post-MI patients. In keeping with the holistic approach of the CNSIP, it must be recognized that each patient's recovery is unique and will achieve greatest benefit from a nursing intervention suited to the situation. In practice, this will require an advanced practice nurse to recognize the needs of the patient and choose an appropriate intervention based on the CNSIP.

#### Feasibility of the Experimental Design to Examine the Effect of the CNSIP

##### Field Notes

Throughout the research process I kept field notes which reflected my activities related to the study. This section of data results describes the research process and the experimental design. As previously described in the methods section, the question of whether a larger scale study was feasible was evaluated on the following aspects: sample access, study patient follow-up, interdisciplinary communication and the ease of use of the research tools.

##### Sample Access

I visited the nursing units at the Holy Cross and Rockyview Hospitals and identified patients who met the study criteria. Once a potential participant was identified, I contacted the patient's cardiologist and asked permission to approach the patient to participate in the study. In all cases, the cardiologist indicated that I could approach his eligible patients without contacting him each time. Prior to visiting each potential participant I reviewed the hospital record to gain a sense of what the patient's hospital

course had been like. I then made a judgement about whether to approach the patient at that time. As many patients were waiting for invasive diagnostic testing I often decided to see that patient after he had the test and a medical plan in place. Staff nurses on the unit were another source of information to assist me in determining an appropriate time to visit the patient.

During my initial visit with the patient, I introduced myself as a graduate student from the University and an experienced cardiac nurse from the Holy Cross Hospital Cardiac Program. In this first meeting I spent some time in social conversation and inquired of patients how they felt their hospitalization was progressing. Patients were asked if they would read an information sheet (Appendix G) about a nursing follow-up program I had developed. Arrangements were then made for myself to return either later that day or the following day to talk with them further. This aspect of recruitment often necessitated several visits because patients were away from the nursing unit for diagnostic tests or they were still undecided about participation. On some return visits, patients would say they had not had time to review the information sheet or had not yet decided. I would ask if they had specific questions or concerns that they had and explore those at the time. On average, I visited prospective study patients two or three times before the patient decided whether or not to participate. The total time per study patient for recruitment was approximately one hour broken down into

several visits.

### Study Patient Follow-Up

All but one of the treatment patients opted for weekly home visits. The other patient seemed to prefer a weekly "check-in" phone call. As previously reported, the range of total home visits and telephone per patient ranged from one to six with each patient having between six and nine contacts with myself during the study period. Home visits on average lasted about one hour. For purposes of conducting this research, I was very flexible in booking times to visit patients. Some were during the day time; others were in the evening when the spouse was home from work and could be available. In terms of my workload, home visits comprised about two hours when travel and documentation was included with the one hour of actual visit time. I encountered very few scheduling difficulties with the home visits. Patients who had changes in their plans contacted me by telephone to re-schedule. I generally contacted the patient the day of or day before to confirm our upcoming visit.

In terms of the actual practice of the CNSIP, I found this type of practice very solitary. In an independent program like this, I did not have an "office" or "home unit" to return to and discuss challenging patient issues or concern with my colleagues. Community-based cardiology practice was new to me as were many of the concepts integral to the CNSIP. As a result, I spent a great deal of time in personal reflection thinking about treatment

patients and their individual recoveries. Accustomed to practicing in a tertiary care setting that is well supported, at times I felt alone in the community. Much of my in-hospital previous practice was based on *doing for* activities that are easily observable and often measurable. Conversely, enacting the *connecting, finding meaning and empowerment* strategies often felt quite abstract and nebulous. I often questioned myself as to whether I was really implementing the model as the strategies are as much a philosophy as an actual intervention. Some of these feelings dissipated as time went on and I saw positive outcomes in the patients. Over time I also gained a feeling of increased comfort as I became more connected to the patients. As a result, rather than trying to anticipate what I should be doing, I instead responded individually to what they were telling me.

Initially I found some issues around the aspects of documentation of the home visits. At first I was reluctant to take notes during the visit so as not to take away from my attention and connection with the patient. However, I found I was concerned that I might not recall all aspects of the visit. I then began to just record briefly in a notebook the pertinent topics of discussion. As well, I recorded any physical assessment data and any questions I needed to follow-up on for the next visit. I then transcribed and/or added to these notes on a lap-top computer either in the car or when I returned home. The use of the lap-top greatly facilitated documentation, which in itself was somewhat of a problem.

### Interdisciplinary Communication

Interdisciplinary communication was part of the implementation process of the study. This aspect of the study was integral to the design and the CNSIP. Communication with the multidisciplinary team was greatly facilitated as I am well acquainted with members of the cardiac team and understand the current hospital system. Making referrals or assisting patients to make their own referrals was made easier by my knowing whom to call.

Communication with physicians was facilitated by a previously established professional relationship with the cardiology group of physicians. Again, understanding and being a part of the system was very helpful. For example, when I needed to speak to one of the cardiologists about a study patient, I could check his hospital schedule and arrange time to speak with him in person. While this afforded me the opportunity for direct communication, it meant a lot of time waiting for the physician in diagnostic testing areas. I would sometimes wait up to thirty minutes for what would be a five minute conversation.

### Ease of Use of Research Tools

In general, the research assistant reported that the research tools posed no problems in terms of administration. Two areas were identified as causing some concern. On the quality of life tool, some patients failed to answer certain questions. For example, the question "How satisfied are you with your sex life?" was not completed on one patient's questionnaire. As

well, the question "How satisfied are you with your job or not having a job" was confusing to those participants who are retired. Two patients did not complete the question about how satisfied they were with their relationship with spouse or significant other; one of the patients noted that this was not applicable to him. In addition, two patients did not answer the question "how satisfied are you with your education?". Lastly, there was one omission to the question "how satisfied are you with the emotional support you get from others?". It is unclear as to whether these omissions were accidental, if the patient was not comfortable to respond or if the patient felt a particular item was not applicable to their personal situation. A future study might explore this question following the administration of the tools if there are omissions.

With regards to the Herth Hope Index, the research assistant reported that some patients required clarification of the item "I can see a light in a tunnel". When this issue arose she would redirect this back to them asking "what do you think it means?" to encourage patients to explore their own meaning.

### Summary

The field notes were analyzed with respect to the various aspects of the study: sample access, study patient follow-up, interdisciplinary communication and ease of use of research tools. Sample access and recruitment was a lengthy process that had a 56% success rate.

Randomization was easily achieved using a sealed envelope for group assignment. A review of study patient follow-up revealed several issues around the implementation of the CNSIP. It was found that this type of nursing practice is very solitary and was maintained without benefit of collegial support. The types of nursing interventions employed in the course of the program were often abstract and difficult to measure or evaluate on an immediate or single home visit. This led the researcher to spend much time reflecting upon the effectiveness of the interventions used.

Documentation of clinical visits posed the challenge of capturing the nature of the visit without compromising the quality of the connection with the patient. Interdisciplinary communication was enhanced because of the researcher's established relationship with members of the cardiac team as well as the physician group. Ongoing communication with the physicians was found to be time consuming as the researcher accommodated their hospital schedules. The research tools were found to be easy to administer with no major difficulties identified. In a future study, omissions of research items should be clarified with the participant.

In conclusion, several operational issues around the study design were identified. However, with some modifications in the implementation of the follow-up program, the experimental design used in this study would be feasible to use for a larger scale study. Suggested modifications to the implementation of the CNSIP will be described in the discussion section.



### Research Tool Scores

The following are the scores of the research tools administered to all study patients. Means and standard deviations were calculated manually. Differences in group scores were evaluated by t-tests which were also calculated manually. The level of significance was set at 0.05. With 11 degrees of freedom, statistical significance was reached when t- values were 2.201 or greater.

#### Herth Hope Index

The total possible points on the scale is 48 points with the higher scores indicating higher levels of hope (Herth, 1992) (Table 1).

Table 1

## Hope Scores

Treatment Group Mean $\pm$ SD N = 7	40.28 $\pm$ 45.23
Comparison Group Mean $\pm$ SD N = 6	40.33 $\pm$ 13.06
T Value (probability)	-0.02 (> .05)

### Quality of Life

The possible range of the overall quality of life score and the four subscales is 0-30 (Table 2). None of the differences between the two groups were statistically significant.

Table 2

## Quality of Life Scores

SCALES	Overall	Health	Family	Socio-Economic	Psych/spiritual
Treatment Group Mean $\pm$ SD (N = 7)	21.76 $\pm$ 8.51	21.32 $\pm$ 24.44	24.82 $\pm$ 26.54	21.90 $\pm$ 31.30	20.99 $\pm$ 16.30
Comp. Group Mean $\pm$ SD (N = 6)	22.54 $\pm$ 8.91	20.31 $\pm$ 12.92	26.41 $\pm$ 9.53	24.32 $\pm$ 10.81	23.60 $\pm$ 11.39
T VALUE (probability)	- 0.39 (> .05)	0.42 (> .05)	- 0.67 (> .05)	- 0.94 (> .05)	-1.27 (> .05)

### Frequency of Health Care Contacts

Frequency of physician visits is presented in Table 3. Treatment patients visited their physicians for routine check-ups, for chest pain assessment, medication adjustments and one follow-up appointment for a procedure complication. Comparison patients visited their physicians for routine check-ups, for chest pain assessment and medication adjustments. One comparison patient visited his family physician once a week to have his blood pressure checked. On average, the comparison group made almost twice as many visits to the physician. This difference was nearing significance.

Table 3

## Frequency of Physician Visits

TREATMENT GROUP Mean $\pm$ SD N = 7	2.57 $\pm$ 3.61
COMPARISON GROUP Mean $\pm$ SD N = 6	4.8 $\pm$ 7.37
T VALUE (probability)	- 1.76 (> .05)

Frequencies of telephone calls made by patients to a physician were similar between the two groups. One treatment patient called his physician on the advice of a nurse at a clinic and another called because he was having problems with a medication. One comparison patient called his doctor to enquire about why he did not get a specific prescription on discharge from hospital, another called when he experienced chest pain and lastly, one patient called her doctor when she experienced back pain unrelieved by medication.

With regard to telephone calls to health care professionals, treatment patients made more calls than did comparison patients. Four treatment patients made a total of twelve calls, whereas only one comparison patient made one call. Treatment patients called a public health nurse for ongoing follow-up, the dietician for dietary advice, the Heart and Stroke Foundation, Weight Watchers and a Doctor's nurse for questions (did not indicate the nature of the questions). The researcher received a total of five telephone calls from treatment patients and one telephone call from a comparison patient.

Visits to the emergency room or a walk-in clinic were infrequent in both groups. One treatment patient was directed by his family doctor to the emergency room to have his chest pain evaluated; he was seen there and then released. A second treatment patient was admitted to hospital from emergency with chest pain and subsequently, had a repeat angiogram. The

two comparison patients who visited the Emergency Room also experienced chest pain. Both were evaluated, had an electrocardiogram and were released.

### Summary

As expected, none of the observed differences between the treatment and comparison groups in any of the scores were statistically significant. The variability noted in the scores mirrors the qualitative data suggesting that the post-MI recovery experience is intertwined within the complexity of the patients' lives and is therefore different for each. The small sample size allows the deviant or outlying scores to exert strong influence over the overall mean scores. These findings underscore the need for a larger sample size to establish greater statistical power.



## CHAPTER 5: DISCUSSION, CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter presents the study summary, a discussion of the findings, conclusions, and study limitations. Recommendations for a future larger scale study will be outlined.

### Summary

#### Purpose of the Study

Patients who survive a myocardial infarction are faced with the challenge of integrating a medical regime and life-style changes into their existing lives. The enormity of these changes becomes apparent to patients after leaving the hospital. Once at home, patients attempt to make sense of what has happened and implement the prescribed changes and treatments. When patients have questions or concerns during the first six weeks at home, they are usually directed to their family doctor or cardiologist, a walk-in clinic or the emergency room. A review of the literature revealed that approaches to cardiac education and rehabilitation were often reductionistic and prescriptive. Programs were often based upon what the health care professional deemed to be important and did not consider the patient's perspective, beliefs and values. It was therefore decided to explore the feasibility of developing and standardizing a Cardiac Nurse Support Intervention Program that provided ongoing support to post-MI patients in the first six weeks following discharge from the hospital. The CNSIP was based on the holistic framework of the Supportive Care Model (Oberle &

Davies, 1992) and explored the effectiveness of a deliberate use of the strategies *connecting, finding meaning and empowerment* to enhance the patient's level of hope and perceived quality of life.

The following research questions were addressed in this study:

1. Can the CNSIP, based on the Supportive Care Model, be developed and standardized?
2. Is there evidence that a larger scale study using a quasi-experimental design to examine the effect of the CNSIP on post myocardial infarction patients' level of hope, quality of life and frequency of health care contacts is feasible and warranted?

### Method

Patients who agreed to participate in the study were randomized to either a treatment or comparison group. Patients randomized to the treatment group (n = 7) received standard post-MI patient follow-up and participated in the CNSIP for the first six weeks following discharge from hospital; those randomized to the comparison group (n = 6) received standard post-MI patient follow-up. During the study all patients completed weekly diaries. At the conclusion of the six week study period, all patients completed the Herth Hope Index, Quality of Life Index and Frequency of Health Care Contacts.

This field study involved several phases and incorporated both qualitative and quantitative data collection and analysis. Phase one was the development and implementation of the CNSIP. Phase two was the selection and administration of the research tools. Phase three was the analysis of

clinical and field notes and results of the research tools.

As previously identified, the research phases of this study did not occur in a linear fashion. Rather, aspects of the implementation, data collection and evaluation occurred simultaneously. Consequently, it is not possible to discuss each step of the research process separately. Therefore, discussion of the study findings will be presented by each study phase and will incorporate method and findings.

## Discussion

### Phase 1: Development and Implementation of the CNSIP Program Development

Based on the Supportive Care Model (Oberle & Davies, 1992), the philosophical foundation of the CNSIP was a holistic focus on the patient, a recognition of the individual's beliefs and values and a sharing of health related goals. Nursing interventions were based on the strategies of *making the connection, finding meaning and empowerment* and incorporated relevant nursing and biomedical literature relating to cardiac rehabilitation. A review of the clinical records revealed that the following interventions were used during the program implementation: making referrals, contextualizing, monitoring, providing positive reinforcement and providing information. Fundamental to the philosophy of the CNSIP was that each selected intervention was implemented only in response to the specific needs of each individual patient. This necessarily means that the CNSIP cannot be standardized but the conceptual framework and nursing interventions could

be generalized to another group of post-MI patients.

### Recruitment

Successful recruitment of patients to this study was time consuming as each potential participant was visited two or three times before the patient had reached a decision. The initial age restriction of 65 years was limiting of eligible study participants. Increasing the age limit to 70 years allowed for greater numbers of eligible patients to be approached. However, the overall successful recruitment rate was only 56%. Reasons patients gave for not wishing to participate in the study have been previously cited. The researcher speculates that there are two underlying issues that impacted the recruitment rate.

Patients approached for participation in this study had just experienced their first myocardial infarction and therefore could not anticipate what their post discharge recovery might be like. It is conceivable that patients believed that they would not require any assistance or support once home from the hospital. This is supported by Scherck (1992) who found that patients initially viewed the illness situation as a challenge; recovery was possible and anticipated. Unfortunately, this perception of the illness situation changes once the patient leaves the hospital. Havik and Maeland (1990) identified that emotional reactions in the post-myocardial infarction patient change over time. In their study, the average level of anxiety was stable during the in-hospital period, increased markedly during

the first one to two weeks after discharge and then remained stable. At all post-hospital assessments, the average level of anxiety was significantly higher than that observed at the in-hospital assessments. In another study, at one month home from hospital, stressors identified were related to harm/loss and threat rather than a challenge. (Miller, Garrett, Stoltenberg, McMahon & Ringel, 1990). Given that the potential participants in the current study had no means of anticipating the stress and anxiety that would manifest itself once at home, it is not surprising that patients believed they would manage adequately on their own.

In addition to not foreseeing the need for assistance in the early recovery period, patients may not have viewed a nurse as someone who could provide a service to them. It is thought by the researcher that patients approached for this study did not recognize what services or support a specialized cardiac nurse could offer. How patients perceive the role of nursing may be based on the traditional views of appropriate nursing care either within an institution or carrying out clearly defined activities in the community. Canadian nurses in private practice are few in number and not yet a recognized alternative to the traditional model of the health care system. Indeed, there is no provision for the billing of nursing services through the current health care funding structure. Interestingly, fee for service based nursing care in the United States has helped the public and the profession realize the true worth of nursing service (Hazelton, Boyum &

Frost, 1993). As this is currently not the case in Canada, nurses have not "advertised" nor "articulated" what services they have to offer.

The holistic nursing practice of the advanced specialty nurse is not easy to describe. Whereas a "generalist" home care nurse might describe tasks such as changing a dressing changes or performing foot care, nursing activities within a CNSIP are harder to pinpoint. Post-MI patients approached for this study did not have obvious nursing care task requirements. Therefore, it is the researcher's conclusion that, in addition to not perceiving the need for support before leaving the hospital, the potential participants did not recognize what the advanced practice nurse could provide to them.

As a means of addressing the current professional issues around independent practice, The Alberta Association of Registered Nurses (AARN, 1993) has announced its position on direct access for Albertans for the services of registered nurses. By AARN definition, direct access means that "Albertans will have the opportunity to first contact registered nurses for their services at the point or place at which an individual, family or community and the health care system meet or interact (point of entry)" (AARN, 1993, p.13). It is thought that increasing direct access to services provided by registered nurses is an opportunity for Albertans to have their health needs met in a way that is affordable and cost effective. While this is true, at present, Canadians who patronize the health care system do not pay at all, and are unlikely to pay someone they do not recognize as providing a

useful service to them.

It is the AARN's (1993) position that health care provided by registered nurses is valued by the public because nurses place priority on client education and encourage self care strategies. The AARN position also suggests that when given the choice of health professional, individuals will choose a registered nurse (AARN, 1993). Responses from patients approached for this study would suggest that even when there was an offer of direct nursing service at no cost, many would not choose a nurse. This calls into question the validity of the AARN position.

Interestingly, the CNSIP patient's comments about receiving nursing support indicated high levels of satisfaction with the research nurse's activities and involvement with their recovery. It would appear that the stumbling block for nurses in independent practice is not enacting nursing activities but rather, articulating and advertising what they do have to offer. The merit of nursing practice in this study stood on its own, once the nurse was allowed to enter into relationship with the patient. This study suggests that a difficulty for independent nursing practice is gaining the public's recognition of the valuable service it has to offer.

### Implementation

Implementation of the advanced practice nursing role of the CNSIP raised several practice issues for the researcher. These issues were the solitary nature of independent practice, experiencing a personal learning

curve of a new type of practice, uncertainty about the effectiveness of the holistic interventions and lastly, documentation of the clinical visits. It is thought that each of these issues impacted the current study and has implications for a future larger scale study.

### Independent Practice

The researcher found the independent nature of the CNSIP a very solitary type of nursing practice. Compared with working in an in-patient hospital environment, this type of practice felt isolated and at times lacking in support. By virtue of the study design, the researcher was not directly linked or connected to a particular agency or clinic and found there was no one with whom to talk over patient concerns or "brainstorm" for ideas. It is recognized that private practice entails working alone and without the benefit of workplace support and companionship (Davis, 1994). Nurses working in private practice describe enjoying the autonomy however, in one study each vividly described "the stress of working alone in a crisis situation and experiencing uncertainty regarding the appropriate immediate interventions" (Davis, 1994, p.44). These sentiments clearly echo the researcher's feelings of concern and uncertainty regarding certain patient management issues.

In an examination of private practice, several authors have identified specific skills necessary for the practitioner to possess. Examples of the personal traits thought to be necessary for success in the private practice



role are strong clinical and communication skills, the ability to deal with clients of all ages, the ability to work independently and problem solve, and a strong understanding of the differences between nursing and medical care. (Davis, 1994; Walton, Jakobowski & Barnsteiner, 1993). The advanced nurse practitioner must be able to recognize her limitations of practice and if appropriate, refer the patient to another resource (Rew, 1988). Importantly, it is also believed that the advanced practice nurse have a commitment to advancing specialty practice through research (Walton, Jakobowski & Barnsteiner, 1993). This study supports those findings.

It is the researcher's belief the issues identified could be adequately addressed by a collaborative practice model rather than the independent practice model used in this study. Collaborative practice models are well described in the literature as an effective means of health care delivery. Collaboration of a physician and an advanced practice nurse is a well suited partnership for excellent patient care (King & Norsen, 1994; Norsen, Opladen & Quinn, 1995). An advanced practice nurse working in collaboration with a private physician practice will impact the quality of patients' care as the advance practice nurse is experienced in holistic assessment and intervention (Davis, 1994). The conceptualization of partnership in the delivery of cardiovascular care was examined as part of a task force (Dracup, DeBusk, DeMots, Gaile, Norton & Rudy, 1994). According to those authors, there has been little research looking specifically at the delivery of cardiovascular

health care by non-physicians, however, they suggested that increasing partnerships between physicians and non physicians can enhance access to and quality of health care for cardiovascular patients. Several of the task force recommendations included enhancing collaborative and team practices in organizations, encouraging research that evaluates the effectiveness of different models for the delivery of care and encouraging graduate education programs in the health professions to develop interdisciplinary teaching, practice and research programs for the prevention and care of cardiovascular disease.

In an effort to prepare advanced practice nurses as "cardiac nurse interventionists" (CNI), Engler and Engler (1994) propose a specialized graduate program in cardiovascular disease prevention. They believe the emergence of this role would have significant impact in hospitals, clinics, industry, homes or cardiac rehabilitation. Further, a CNI could function collaboratively in practice with physicians. Of note, unlike the researcher's experience in Canada, the authors base their proposal of this type of role on survey data indicating that the American public regards nursing as being highly qualified to make a difference in improving their health and to decrease costs. The current study demonstrated the effectiveness of the role of the advanced cardiac nurse in practice. Further, this study provided preliminary evidence to suggest that an advanced practice nurse in collaboration with a cardiology physician group would enhance the

comprehensiveness and quality of patient care.

### Learning a New Practice

Compounding the feelings of isolation and uncertainty were the researcher's feeling that she lacked practical experience in certain aspects of this type of practice. Considered an expert practitioner in tertiary level cardiovascular nursing, implementing the CNSIP required new and different types of skills for patients at a different stage of recovery than that with which the researcher was familiar. Benner (1984) conceptualizes the acquisition of clinical knowledge over time as moving from practicing as novice to an expert stage. Novice refers not only to beginning or student practitioner but also to the expert in one clinical specialty who moves to another, as was the case with the researcher.

The novice nurse approaches situations in terms of objective attributes and context free rules. Rules are used to guide practice as novices have no experience of the situation. However, this rule bound practice is necessarily limited and inflexible. The next stage according to Benner (1984) is the advanced beginner. These are nurses who have dealt with enough real situations to identify recurring meaningful situational components termed "aspects of the situation". Aspects differ from the measurable context-free attributes or procedure lists in that they include overall global characteristics that can be identified through prior experience. The nurse in the "competent" stage differs from the advanced beginner in performing actions based on

long range plans or goals. The researcher implementing the CNSIP would classify herself as an advanced beginner. Having prior knowledge and experience with this patient population provided some knowledge upon which to draw. What the researcher was lacking was the experience gained from seeing a larger caseload of patients from the time of hospital discharge to the six week recovery period. As this knowledge base developed, affording the researcher greater experience, it is speculated that interactions with patients were positively impacted. For example, the researcher noted by the end of the study she felt she had a much broader understanding of what the post-MI recovery experience was like. Although this experience was based on small numbers it was evident that there were patterns in the overall recoveries and this knowledge could be used when working with the next patient. This process of learning is recognized by Benner (1984) who describes how the proficient and expert nurse develop clusters of paradigm cases around patient care issues so they approach a patient using these past experiences. Being an expert in another area, the researcher in this study was very aware of not having a large number of these paradigm cases to draw upon. The researcher was therefore very attentive to the novice cues of objective evidence and overall global meanings.

In practice, it is the researcher's belief that being in the beginner stage of independent practice had an effect on the study patients. As the researcher gains experience and moves toward expert practice she could

offer patients greater certainty in terms of normalizing their experience. In the current study this was difficult for the researcher as she had not yet developed a repertoire of paradigm cases to guide practice.

This raises the question of whether the expert compared to the novice practitioner would have greater impact on patients' perceived levels of uncertainty about their recoveries. Based on these conclusions, the stage of development of the nurse researcher implementing the CNSIP in a future study should not be overlooked. In fact, it must be emphasized that successful implementation of the CNSIP is dependant on the skills of the advanced practice nurse. A holistic program like the CNSIP could not be carried out by a novice or generalist nurse. The nurse maintaining this type of program must possess a solid cardiovascular knowledge base, the ability to work independently and have creative thinking and problem solving skills. Possessing these skills will provide the foundation on which any new knowledge could develop. Further, the effect of time and greater experience gained throughout the study implementation phase should be recognized as having the potential to affect patient outcomes.

#### Implementing Holistic Interventions

The researcher was a highly skilled practitioner, yet experienced some difficulty in the new practice of the CNSIP. Contributing to the researcher's feelings of being in an advanced beginner phase was the anxiety over implementing the somewhat abstract strategies of *connecting, finding*

*meaning and empowerment*. The idea of consciously implementing these interventions was new to the researcher and again, not a part of a previously developed caseload of paradigms. The guiding philosophy of this study dictated a move away from technological and "doing for" interventions with which the researcher was most familiar. In the tertiary care setting, it is the "doing for" activities and technological competence that are most rewarded (Oberle & Davies, 1994). As well, outcomes of those activities are much easier to measure because results are often immediate. Although the researcher valued the holistic, patient driven approach of the CNSIP it raised anxiety in terms of whether the interventions employed were of the most benefit and value to the patient as results were not immediately observable. The researcher's tension was aptly articulated by Johnson (1994) who stated "nursing art involves the ability of the nurse to practice morally. The nurse is obligated to practice in such a way that seeks to avoid harm and benefit the patient. The term moral refers to that which is good, or desirable for human beings" (p10). Throughout the implementation phase of the study, the researcher constantly questioned herself as to whether her practice was "good" for the patients. This worry was no doubt increased because the researcher lacked a strong foundation of clinical knowledge of the usual post-MI recovery period. If the researcher had this knowledge, she may have found it easier to evaluate the effectiveness of the current interventions on an ongoing basis. To address these types of practice concerns and ensure

uniformity of implementing the holistic interventions, a future large scale study must have a formal feedback mechanism. It is important for the nurse providing the interventions to have a formalized ongoing dialogue with the principle investigator to ensure continued congruence of the interventions with the conceptual framework.

Principle oriented ethics are based on a reliance on rules and principles to guide moral action and justification (Cooper, 1991). Conversely, the ethic of care is concerned with needs and corresponding responsibility within a relationship with interdependence valued as an ideal moral position (Cooper, 1991). Like the philosophy of the CNSIP, moral practice occurs when nursing care is in concert with the patient's wishes and desires. Thus, principles of ethical practice such as autonomy or beneficence are morally right when carried out based on what the patient context requires. Cooper (1991) suggests that an ethic of care framework is that "moral predictability and certitude cannot be goals, moral response is individualised and is guided by the private norms of friendship, love and care rather than by abstract rights and principles" (p23). It was perhaps the uncertainty that caused the researcher the most uneasiness. Accustomed to measuring good nursing practice by "doing for", the uncertain and more subtle outcomes of *connecting, finding meaning and empowerment* necessitated a shift in thinking. The moral struggle experienced by the researcher raises the issue of how the nurse in this type of practice preserves her own integrity, beliefs

and values.

Preserving integrity is a central component to the Supportive Care Model (Oberle & Davies, 1992). This concept is both nurse and patient centred. In this study, the researcher began to consider what supports would be necessary to maintain the integrity of the nurse implementing the CNSIP. If a nurse cannot preserve her own integrity, she will be unable to meet the needs of the patient in a holistic way. As previously discussed, the researcher believes it is necessary to have a support network of colleagues with whom to discuss patient care issues. In this study, support from the physician group in terms of information and management guidelines was found to be empowering to the researcher. Oberle and Davies (1994) further suggest that through *connecting, finding meaning and empowerment* there will be a mutual exchange of energy that is essential to the maintenance of the nurse's personal integrity. This was not the researcher's experience in this study. However, it is thought that as the researcher gained more experience and moved toward the expert practice realm, there would be greater energy exchange.

### Documentation

The last practice issue related to implementing the CNSIP was documentation. Documentation was perceived by the researcher to be a challenge requiring ongoing evaluation. At the outset of the program documentation of clinical visits was specific to the strategies of connecting,



finding meaning and empowering and the patients' responses to those interventions. However, this structured format did not always seem to capture the full experience of the patient. Format of charting was then changed to narrative notes expressing patient responses and experiences and nursing interventions. As previously described, point form notes were taken during the visit and later transcribed. The researcher questions whether this method fully captures the richness of patient experience.

### Phase 2: Selection and Administration of the Research Tools

Rationale for the selection of research tools has been previously discussed. In terms of feasibility, the research tools were demonstrated to be easy to administer. This section will therefore focus on the use of the patient diary as a means of data collection.

Recording a health diary is one way of monitoring health status after a new diagnosis or treatment (Burman, 1995). Further, it is thought that patients who document their health experience will have an enhanced understanding of their disease which could also facilitate active participation in their recovery (Burman, 1995). In this study, completion of the patient diaries were inconsistent. Four patients did not use their diary at all and the completed diaries were variable in length and content. Evidence from the diary data suggested that although each patient's recovery was unique there were several consistent patient themes. Further, the diary data did answer the question of whether the comparison group's questions and concerns

could have been addressed with the CNSIP.

Reasons for the lack of completed diaries are unclear. It could be the instructions were not clear to the patients. Completion of the diaries may have been thought to be an option. To enhance successful use of diaries as a data collection tool, Burman (1995) offered a number of recommendations. She suggested pilot testing the diary to ensure the phenomenon of interest can be captured, providing very clear instructions including the types of events to be reported and how to contact the investigator and using a telephone follow-up procedure to enhance completion rates. Completion rates may have been improved in this study if the researcher had contacted the patients by telephone to check on their progress. This activity however may have affected patient outcomes, as the researcher would then have ongoing contact with the comparison patients.

### Phase 3: Analysis of Clinical and Field Notes; Results of Research Tools

Thematic analysis of the clinical records and patient diaries revealed several common themes of patient experience superimposed on the unique aspects of each individual. The clinical records adequately served to collect data regarding patient needs, nursing interventions and responses. Patient data in the clinical records were supported by the diary data. The researcher's field notes provided a record of the research process and revealed aspects of the research design that require modification for a larger scale study.

In the present study, the researcher was very familiar with the study participants' experience and this relationship may have impacted the interpretation of the data. To enhance validity and minimize principal investigator bias, a future larger scale study should incorporate an external second researcher to analyze the qualitative data.

Perhaps the most enlightening and significant aspect of the data collected was the comparison of patient comments. It is evident that patients in the treatment group were highly satisfied with working with the researcher. Conversely, patients' comments in the comparison group suggest a lack of satisfaction with their recovery. Comments relating to patients' perceptions of the lack of a holistic approach during their recovery provide strong evidence for the post-MI patients' need for nursing support.

It was obvious that there were differences in the patients' perceptions of their recovery experience. Although the research tools suggested no differences between the two groups, one cannot base conclusions due to the small sample size. Moreover, a reductionistic approach to evaluating the impact of the CNSIP may be insufficiently sensitive to capture the intervention effect. This underscores the importance of using qualitative data to evaluate any nursing outcomes. In this study, the qualitative data suggested that the CNSIP was clearly helpful. Sharing patients' stories or narratives of their experiences and thoughts is a way of gaining an understanding of the patient's experience. "Embedded within every story is

the context within which meanings and understandings evolve. Just as our stories tell a story, so too our stories tell about our lives" (Baker & Diekelmann, 1994,p.68). At the time of the completing the research tools, patients made incidental comments to the research assistant about their recovery experience. This was not a formalized part of the data collection, yet seemed to reflect much about their recovery time. Retrospectively, it would be interesting to have asked patients to tell their "story" of recovery. This would have afforded the researcher a much better understanding of what the recovery had been like and how the CNSIP did or could have impacted their recovery.

#### Results of Research Tools

The researcher is unable to reach a firm conclusion with regard to interpretation of the research tool results. As expected with such a small sample size, none of the research tool scores reached statistical significance. The research scores raise the question of whether there was no intervention effect or whether there was an intervention effect that was missed because of the lack of statistical power, or whether the research tools used simply failed to capture the intervention effect. The qualitative data collected suggests that there was a beneficial intervention effect and thus, underscores the importance of a larger scale study to establish greater statistical power. To establish potential intervention effect, a larger scale study should incorporate a repeated measures design. Based on this study, it

is the researcher's recommendation that the Herth Hope Index and the Quality of Life Index be administered to patients at time of discharge, at six weeks and three months. This would provide data about any potential differences between the treatment and comparison groups as well as changes in the same patients over time.

### Hope

The variance in reported scores and small sample size is evidenced by the large standard deviations. As part of the psychometric evaluation of the Herth Hope Index, Herth (1992) reported scores for acute, chronic and terminal illness (Table 4). Overall, hope scores for this study population were higher than those reported by Herth (1992).

Table 4

## Comparison of Hope Scores

Variable	Study T*	Study C <sup>+</sup>	Acute Illness**	Chronic Illness**	Terminal Illness**
Sample Size	7	6	70	71	31
HHI Mean	40.28	40.33	36.87	34.38	32.19
HHI Range	28-47	36-45	20-48	18-48	12-48
HHI SD	45.23	13.06	9.96	8.84	10.03

\* Present Study, Treatment Group

+ Present Study Comparison Group

\*\* Herth (1992)

Following an examination of the impact of selected variables on hope scores, Herth (1992) identified a number of variables that were significantly related to the level of hope. Subjects who were married had a significantly higher hope score. Those diagnosed with AIDS had significantly lower mean hope score than subjects with cardiovascular, gastrointestinal, musculoskeletal, neurological, haematological and respiratory diagnoses. As well, lower mean scores were related to an illness duration of more than 12 months, low income and fatigue.

Patients in the current study had short illness duration and at six weeks post-MI may not have experienced significant levels of fatigue. Sixty-one percent of the study patients were married. Adequacy of income was not established with the study participants, therefore it is unclear as to whether that positively impacted the overall hope scores. In a future larger scale study, it would be important to collect these data for regression analyses.

#### Quality of Life

Ferrans and Powers (1992) suggest that the usefulness of the Quality of Life Index is its ability to measure quality of life in four domains as well as overall quality of life. They further suggest that this would allow health care professionals to identify aspects of life that are of greatest concern to the patients and therefore, plan and evaluate individualized interventions based on this information.

The Ferrans and Powers (1992) Quality of Life Index has been used in a number of other studies. Overall, quality of life and the health subscale scores of other studies compared favourably with this study (Table 5). Bliley and Ferrans (1993) used the Quality of Life Index to evaluate quality of life before and after coronary angioplasty (PTCA). Pretest data were collected the evening before the procedure and post-test data four weeks after the coronary angioplasty for subjects who did not have a myocardial infarction and six weeks after for patients who did have a myocardial infarction. Sample size was 40 with 83% men. In that study, 45% of the participants had no prior history of heart disease compared with 92% in the current study.

A second study examined the effects of cardiac rehabilitation on psychosocial functioning and life satisfaction of coronary artery disease clients (Daumer & Miller, 1992). Patients participated in either outpatient rehabilitation or home rehabilitation. Outpatient rehabilitation referred to a formal program with weekly sessions of supervised exercise, health education and counselling. Home rehabilitation referred to a physician directed plan that included infrequent visits to physicians for general instructions. There were 21 patients in the outpatient program and 26 in the home rehabilitation program. At six to eight weeks following discharge from hospital, patients were visited at home to complete the research tools. There were no significant differences found between the groups in life satisfaction.



In this study, overall quality of life and its subsales scores reflected the variability of each person's life within the two groups. In all but the health subsale, mean scores for the comparison group were higher than the treatment group. This suggests that there are likely a number of factors influencing a patient's overall quality of life. This again emphasizes that the post-MI recovery experience is woven within all aspects of a person's life. A program such as the CNSIP is holistic in that it considers the patient's personal context, beliefs and values. However, interventions are directed at the patient's health recovery and therefore, not as likely to have a direct impact on other previously present aspects of the patient's life. Quality of Life scores viewed alone may therefore not reflect the actual impact of the CNSIP. Scores are best understood when situated in the context of the patient's life story. The researcher had intimate knowledge of the treatment patient's lives and could provide a plausible explanation for lower scores in certain subsales. This raises the question of whether or not quality of life alone is an appropriate outcome measure for a program such as the CNSIP. Unless accompanied by narrative, it might give a distorted picture of the impact of the program.

Limitations of quality of life research strategies are important to consider (Kinney,1995). As is the case in this study, the challenge is to overcome the effect of confounding patient characteristics that influence treatment outcomes. "There is almost no research area more potentially

sensitive to confounding variables than quality of life" (Kinney, 1995, p.27).

The additional absence of good baseline measures makes it difficult to assess the effects of interventions on outcomes for individual patients.

Table 5

## Comparison of Quality of Life Scores

SCALES	Study T*	Study C**	Pre- PTCA <sup>+</sup>	Post- PTCA <sup>++</sup>	Home Rehab <sup>■</sup>	Outpat. Rehab <sup>□</sup>
Overall	21.76 ± 8.51	22.54 ± 8.91	20.32 ± 3.36	22.87 ± 4.69	23.24 ± 3.56	22.81 ± 3.28
Health	21.32 ± 24.44	20.31 ± 12.92	17.23 ± 5.15	22.80 ± 4.95	21.49 ± 4.95	21.29 ± 3.96
Family	24.82 ± 26.54	26.41 ± 9.53	25.23 ± 4.88	25.82 ± 5.14	26.62 ± 3.40	25.51 ± 3.87
Socio/ Econo	21.90 ± 31.30	24.32 ± 10.81	21.94 ± 3.12	21.91 ± 4.69	23.52 ± 3.75	23.25 ± 3.42
Psych/ Spiritual	20.99 ± 16.30	23.60 ± 11.39	22.27 ± 5.26	22.90 ± 5.81	24.42 ± 3.55	23.66 ± 3.63

- \* Present Study, Treatment Group
- \*\* Present Study, Comparison Group
- + Bliley and Ferrans (1993)
- + + Bliley and Ferrans (1993)
- Daumer and Miller (1992)
- Daumer and Miller (1992)

### Frequency of Health Care Contacts

The frequency of health care contacts scores demonstrated equal numbers of telephone calls and visits to the Emergency Room in both the treatment and comparison groups. Interestingly, phone calls to other health care professionals were much higher in the treatment group than the comparison group. Patients in the treatment group may have been empowered by their participation in the program to call the research nurse or other agencies for resources. Further, it may be that patients in the treatment group were informed by the researcher of whom to call, whereas patients in the comparison group simply did not know who might act as a suitable resource. This point is supported by the fact that the one patient who did call another health professional called the researcher.

Of particular note was that the differences in scores between the two groups in physician visits neared statistical significance, even with such a small sample, suggesting a large effect size. This finding shows that a CNSIP has potential for economic savings. However, these data were dependant patient recall and may therefore be subject to error. A more reliable method of collecting this type of data might be a reformatted log that patients could be complete weekly rather than relying on a six week recall.

### Conclusions

The independent practice experience of the CNSIP raised several clinical practice issues integral to the study design and implementation. It is

the researcher's belief that a collaborative practice model would be an excellent means of providing comprehensive and holistic care to the post-MI patient. Collaboration with the cardiology physician group could adequately address the researcher's issue of isolated practice. The availability of interdisciplinary clinic staff and relative access to the physicians for patient consultations would provide added support and empowerment to the nurse in practice. A direct benefit of being part of a collaborative practice would be the advertisement and endorsement of the advanced practice nurse role and thus is likely to enhance patient recruitment.

The research scores reported for this study did not support the hypothesis that post-MI patients participating in the CNSIP would report higher levels of hope and score higher on the quality of life index. The narrative data supports the belief that the CNSIP did result in a positive effect. The question of the sensitivity of the research instruments in demonstrating the intervention effect has been raised. The issue of capturing nursing effect has been identified by Broton and Naylor (1995) who also question whether certain patient outcome indicators are in fact "nurse sensitive patient outcomes" (p.97) and whether they are sensitive enough to capture the effects of just nursing actions. These authors however caution that the "current search for nurse-sensitive patient outcomes should be tempered with the reality that nurses do not care for patients in isolation and patients do not exist in isolation. While some outcomes may be more

influenced in a given context or environment by nursing practice, in other settings, these same nurse sensitive outcomes might be influenced more by other disciplines or by family situations" (Brooten & Naylor, 1995, p.98). Working closely with the treatment patients and their families afforded the researcher a broad perspective of the many co-evolving events that are integral to patients lives. It is the researcher's conclusion that it is not possible to separate the MI recovery from the patient context and consequently, it is not possible to implement an intervention in isolation of the context in which it is occurring. Unfortunately, nurses may implement a beneficial intervention yet be unable to capture that effect on an outcome measure.

"Encounters of care do not lend themselves to outcome measures" (Cooper, 1991, p.27). Fundamental to the results of this study are the patient narratives suggesting either satisfaction with their recovery or concerns and uncertainty with their recovery progress. In addition to global measures such as quality of life and hope, patient satisfaction might be a patient outcome measure that reflects a potential beneficial effect of the CNSIP. Patients in the treatment group had fewer visits to their physicians and accessed greater numbers of health care professional than did the comparison patients. This suggests that there is the potential for economic impact of implementing a program like the CNSIP.

### Recommendations

The researcher recommends the following in consideration of a larger scale study:

1. Test a collaborative practice model using the philosophy and interventions developed in the CNSIP.
2. Use patient narratives as a data collection tool to evaluate the impact of a collaborative practice model on post-MI patient recovery.
3. Use a repeated measures design measuring level of hope and quality of life at time of hospital discharge, at six weeks and three months.
4. Use a preformatted patient diary log to record weekly physician visits, telephone calls to physicians or other health care professionals.

### Limitations

The goal of this study was to address the question of the feasibility of the quasi-experimental design. As such, there has been no attempt made to generalize the findings or draw conclusions other than those discussed relevant to the issue of feasibility. The small sample size necessitates the researcher to evaluate the research tool scores with caution. Issues raised in the current study have been addressed as recommendations for future study.

## Reference List

Alberta Association of Registered Nurses (1993). Position of AARN on Increased Direct Access to Services Provided by Registered Nurses. Edmonton, AB: Author.

Allan, J. & Hall, B. (1988). Challenging the focus on technology: a critique of the medical model in a changing health care system. Advances in Nursing Science; 10(3): 22-34.

Baker, C. & Diekelmann, N. (1994). Connecting conversations of caring: Recalling the narrative to clinical practice. Nursing Outlook; 42(2): 65-70.

Benner, P. (1984). From Novice to Expert - Excellence and Power in Clinical Nursing Practice. Menlo Park, California: Addison-Wesley Publishing Company.

Bennett, S. (1992). Perceived threats of individuals recovering from myocardial infarction. Heart and Lung; 21(4): 322-326.

Bliley, A. & Ferrans, C. (1993). Quality of life after coronary angioplasty. Heart and Lung; 22(3): 193-199.

Bostrom, J., Crawford-Swent, C., Lazar, N., Helmer, D. (1994). Learning needs of hospitalized and recently discharged patients. Patient Education and Counselling; 23: 83-89.

Brooten, D. & Naylor, M. (1995). Nurses' effect on changing patient outcomes. IMAGE: Journal of Nursing Scholarship; 27(2): 95-99.

Burckhardt, C., Woods, Schultz, A. & Ziebarth, D. (1989). Quality of life of adults with chronic illness: a psychometric study. Research in Nursing and Health; 12: 347-354.

Burman, M.E. (1995). Health diaries in nursing research and practice. IMAGE: Journal of Nursing Scholarship; 27(2): 147-152.

Carney, K.L. (1994). Heart-smart home care with cardiac clinical specialists. Caring; 32-35.

Chan, V. (1990). Content areas for cardiac teaching: patients' perceptions of the importance of teaching content after myocardial infarction. Journal of Advanced Nursing; 15: 1139-1145.



Christman, N., McConnell, E., Pfeiffer, C., Webster K., Schmitt, M. & Ries, J. (1988). Uncertainty, coping, and distress following myocardial infarction: transition from hospital to home. Research in Nursing and Health; 11: 71-82.

Cintron, G., Bigas, C., Linares, E., Aranda, J. & Hernandez, E. (1983). Nurse practitioner role in a chronic congestive heart failure clinic: in-hospital time, costs and patient satisfaction. Heart and Lung; 12(3): 237-240.

Cooper, M.C. (1991). Principle-oriented ethics and the ethic of care: A creative tension. Advances in Nursing Science; 14(2): 22-31.

Daumer, R. & Miller, P. (1992). Effects of cardiac rehabilitation on psychosocial functioning and life satisfaction of coronary artery disease clients. Rehabilitation Nursing; 17(2): 69-74.

Davies, B. & Oberle, K. (1990). Dimensions of the Supportive Role of the Nurse in Palliative Care. Oncology Nursing Forum; 17(1): 87-94.

Davis, E.A. (1994). Factors influencing the implementation of the CNS role in a private practice. Clinical Nurse Specialist; 8(1): 42-47.

Debusk, R.F., Lew, A.S., Pasternak, R.C. & Pryor, R.E. (1993). Postdischarge decisions in acute MI. Patient Care; 27(17): 25-51.

Derenowski-Fleury, J. (1991A). Empowering potential: a theory of wellness motivation. Nursing Research; 40(5): 286-291.

Derenowski-Fleury, J. (1991B). Wellness motivation in cardiac rehabilitation. Heart and Lung; 20(1): 3-8.

Dolter, K. (1991). Myocardial infarction. In Cardiopulmonary Emergencies (pp.88-136). Springhouse, Pa.: Springhouse Corporation.

Dracup, K., DeBusk, R.F., DeMots, H., Gaile, E.H., Norton, J.B. & Rudy, E.B. (1994). Task force 3: Partnerships in the delivery of cardiovascular care. Journal of the American College of Cardiology; 24(2): 296-304.

Duddy, I., Parahoo, K. (1992). The evaluation of a community coronary specialist nursing service in Northern Ireland. Journal of Advanced Nursing; 17:288-293.

Dufault, K. & Martocchio, B. (1985). Hope: its spheres and dimensions. Nursing Clinics of North America; 20(2): 379-391.

Engler, M.B. & Engler, M.M. (1994). Cardiovascular nurse interventionist: an emerging new role. Nursing and Health Care; 15(4): 198-202.

Fallen, E., Armstrong, P., Cairns, J., Dafoe, W., Frasure-Smith, N., Langer, A., Massel, D., Oldridge, N., Peretz, D., Tremblay, G. & Williams, W. (1991). Report of the Canadian Cardiovascular Society's consensus conference on the management of the post-myocardial infarction patient. Canadian Medical Association Journal; 144(8) 1015-1025.

Ferrans, C. & Powers, M. (1992). Psychometric assessment of the quality of life index. Research in Nursing and Health; 15:29-38.

Fletcher, V. (1987). An individualized teaching programme following primary uncomplicated myocardial infarction. Journal of Advanced Nursing; 12: 195-200.

Frenn, M., Borgeson, D., Lee, H. & Simandl, G. (1989). Life-style changes in a cardiac rehabilitation program: the client perspective. Journal of Cardiovascular Nursing; 3(2): 43-55.

Funnell, M., Anderson, R., Arnold, M., Barr, P., Donnelly, M., Johnson, P., Taylor-Moon, D. & White, N. (1992). Empowerment: an idea whose time has come in diabetes education. Beta Release; 16(2): 54-58.

Gallagher-Liddy, K & Crowley, C. (1987) Do MI patients have the information they need for the recovery phase at home? Home HealthCare Nurse; 5(3):19-25.

Garding, B., Kerr, J & Bay, K. (1988). Effectiveness of a program of information and support for myocardial infarction patients recovering at home. Heart and Lung; 17(4): 355-362.

Gibson, C. (1991). A concept analysis of empowerment. Journal of Advanced Nursing; 16: 354-361.

Guyatt, G., Veldhuyzen Van Zanten, S., Feeny, D. & Patrick, D. (1989). Measuring quality of life in clinical trials: a taxonomy and review. Canadian Medical Association Journal; 140: 1441-1448.

Haase, J., Britt, T., Coward, D., Kline-Leidy, N & Penn, P. (1992). Simultaneous concept analysis of spiritual perspective, hope acceptance and self-transcendence. Image: Journal of Nursing Scholarship; 24(2): 141-147.

Havik, O. & Maeland, J. (1990). Patterns of emotional reactions after a myocardial infarction. Journal of Psychosomatic Research; 34(3): 271-285.

Havranek, E.P. (1994). Managing patients with myocardial infarction after hospital discharge. American Family Physician; 49(5): 1109-1119.

Hazelton, J.H., Boyum, C.M. & Frost, M.H. (1993). Clinical nurse specialist subroles: Foundations for entrepreneurship. Clinical Nurse Specialist; 7(1): 40-45.

Heller, R.F., Knapp, J.C., Valenti, L.A. & Dobson, A.J. (1993). Secondary Prevention after myocardial infarction. The American Journal of Cardiology; 72: 759-762.

Hentinen, M. (1986). Teaching and adaptation of patients with myocardial infarction. International Journal of Nursing Studies; 23(2): 125-138.

Herth, K. (1989). The relationship between level of hope and level of coping response and other variables in patients with cancer. Oncology Nursing Forum; 16(1): 67-72.

Herth, K. (1990). Fostering hope in terminally-ill people. Journal of Advanced Nursing; 15: 1250-1259.

Herth, K. (1992). Abbreviated instrument to measure hope: development and psychometric evaluation. Journal of Advanced Nursing; 17: 1251-1259.

Hickey, S. (1986). Enabling hope. Cancer Nursing; 9(3): 133-137.

Hilton, B. A. (1992). Perceptions of uncertainty: its relevance to life-threatening and chronic illness. Critical Care Nurse; 12(2): 70-73.

Holmes, C. (1989). Health care and the quality of life: a review. Journal of Advanced Nursing; 14: 833-839.

Hunt-Raleigh, E. & Catapang Odtohan, B. (1987). The effect of a cardiac teaching program on patient rehabilitation. Heart and Lung; 16(3): 311-317.

Jevne, R.F. (1991). It All Begins With Hope. San Diego: LuraMedia.

Johnson, J. & Morse, J. (1990). Regaining control: the process of adjustment after myocardial infarction. Heart and Lung; 19(2): 125-135.

Johnson, J.L. (1994). A dialectical examination of nursing art. Advances in Nursing Science; 17(1): 1-14.

Kaplan, R. (1990). Behavior as the central outcome in health care. American Psychologist; 45(11): 1211-1220.

King, K.B. & Norsen, L.H. (1994). The care/cure, nurse/physician dichotomy doesn't do it anymore. Image; 26(2): 89.

Kinney, M.R. (1995). Quality of life research: rigor and rigor mortis. Cardiovascular Nursing; 31(4): 25-28.

Lynn, M. (1986). Determination and quantification of content validity. Nursing Research; 35(6): 382-385.

McGee, R. (1984). Hope: a factor influencing crisis resolution. Advances in Nursing Science; 6: 34-44.

McKnight-Nicklin, W. (1986). Post discharge concerns of cardiac patients as presented via a telephone callback system. Heart and Lung; 15(3): 268-272.

McSweeney, J. (1993). Making behavior changes after a myocardial infarction. Western Journal of Nursing Research; 15(4): 441-455.

Malan, S. (1992). Psychosocial adjustment following MI: Current views and nursing implications. Journal of Cardiovascular Nursing; 6(4): 57-70.

Malin, N. & Teasdale, K. (1991). Caring versus empowerment: considerations for nursing practice. Journal of Advanced Nursing; 16: 657-662.

Miller, J. (1992). Coping with Chronic Illness: Overcoming Powerlessness, 2nd Edition. Philadelphia: F.A. Davis Co.

Miller, P., Garrett, M., Stoltenberg, M., McMahon, M. & Ringel, K. (1990). Stressors and stress management 1 month after myocardial infarction. Rehabilitation Nursing; 15(6): 306-310.

Mishel, M.H. (1988). Uncertainty in illness. Image: Journal of Nursing Scholarship; 20(4): 225-232.

Montgomery, C.L. (1993). Healing through communication. Newbury Park: Sage Publications.

Morse, J.M. (1989). Qualitative nursing research: A free for all? In Qualitative research: A Contemporary Dialogue (pp. 3-10). Rockville, Maryland: An Aspen Publishers, Inc.

Murray, P.J. (1989). Rehabilitation information and health beliefs in the post-coronary patient: do we meet their information needs? Journal of Advanced Nursing; 14: 686-693.

Norsen, L., Opladen, J., Quinn, J. (1995). Practice model - collaborative practice. Critical Care Nursing Clinics of North America; 7(1): 43-52.

Oberle, K. & Davies, B. (1992). Support and Caring: Exploring the Concepts. Oncology Nursing Forum; 19(5); 763-767.

Oberle, K. & Davies, B. (1994). An exploration of nursing disillusionment. The Canadian Journal of Nursing Research; 25(1): 67-76.

Oldridge, N., Guyatt, G., Jones, N., Crowe, J., Singer, J., Feeny, D., McKelvie, R., Runions, J., Streiner, D. & Torrance, G. (1991). Effects in quality of life with comprehensive rehabilitation after acute myocardial infarction. American Journal of Cardiology; 67: 1084-1089.

Packa, D. (1989). Quality of life of cardiac patients: a review. Journal of Cardiovascular Nursing; 3(2): 1-11.

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

Polit, D.F. and Hungler, B.P. (1991). Nursing Research: Principles and Methods (4th ed.). Philadelphia: J.B. Lippincott Company.

Poncar, P.J. (1994). Inspiring hope in the oncology patient. Journal of Psychosocial Nursing; 32(1): 33-38.

Pozen, M.W., Stechmiller, J.A., Harris, W., Smith, S., Fried, D.D., Voigt, G.C. (1977). A nurse rehabilitator's impact on patients with myocardial infarction. Medical Care; 15(10): 830-837.

Publication Manual of the American Psychological Association (4th ed.). (1994). Washington,DC: American Psychological Association.

Rew, L. (1988). AFFIRM the role of clinical specialist in private practice. Clinical Nurse Specialist; 2(1): 39-43.

Sandelowski, M. (1991). Telling Stories: Narrative approaches in qualitative research. Image: Journal of Nursing Scholarship; 23(3): 161-166.

Scherck, K. (1992). Coping with acute myocardial infarction. Heart and Lung; 21(4): 327-334.

Stephenson, C. (1991). The concept of hope revisited for nursing. Journal of Advanced Nursing; 16: 1456-1461.

Tesch, R. (1987). Emerging themes: How researchers discover them. Paper presented at the Sixth International Human Research Conference. Ottawa, Canada.

Walton, M.K., Jakobowski, D.S., Barnsteiner, J.H. (1993). A collaborative practice model for the clinical nurse specialist. Journal of Nursing Administration; 23(2): 55-59.

Weaver, S.K. & Wilson, J.F. (1994). Moving toward patient empowerment. Nursing & Health Care; 15(9): 480-483.

Wingate, S. (1990). Post-MI patients' perception of their learning needs. Dimensions of Critical Care Nursing; 9(2): 112-118.

Zhan,L. (1992). Quality of life: conceptual and measurement issues. Journal of Advanced Nursing; 17: 795-800.

## APPENDIX A

Demographic and Clinical Data

DEMOGRAPHIC DATA

ID CODE  
MALE/FEMALE  
AGE  
MARITAL STATUS  
OCCUPATION

CARDIAC RISK FACTORS  
HYPERTENSION  
SMOKING  
HYPERLIPIDEMIA  
ACTIVITY LEVEL

ECG CHANGES  
TOTAL CK PEAK  
%MB  
THROMBOLYTIC ADMINISTERED

DIAGNOSTIC TESTS  
ETT  
THALLIUM  
ECHOCARDIOGRAM  
CORONARY ANGIOGRAM

MI RELATED COMPLICATIONS IN HOSPITAL  
ARRHYTHMIA  
HEART FAILURE  
OTHER ORGAN FAILURE  
ANGINA

MEDICATIONS AT DISCHARGE



## APPENDIX B

Herth Hope Index



ACADEMIC EXCELLENCE  
**GEORGIA  
 SOUTHERN  
 UNIVERSITY**

**COLLEGE OF HEALTH & PROFESSIONAL STUDIES**

GEORGIA SOUTHERN UNIVERSITY  
 LANDRUM BOX 8158  
 STATESBORO, GEORGIA 30460-8158  
 TELEPHONE (912) 681-5242  
 FAX (912) 681-0536

DEPARTMENT OF NURSING

October 13, 1994

Leslie Hamel  
 824 Riverbend Dr.  
 S.E. Calgary  
 Alberta, Canada T2C 3N6

Dear Ms. Hamel:

I am excited to learn of your research interest in hope and quality of life in post MI patients. I appreciate your interest in my hope scales. Psychometrics on the Herth Hope Scale were published in a 1991 issue of Scholarly Inquiry for Nursing Practice, 5(1). I have enclosed a copy of the scale along with scoring instructions. The instrument is currently being used in research studies by a number of investigators, however I have not compiled any further psychometrics. I have also enclosed similar material that you requested on the abbreviated version of the scale entitled "Herth Hope Index". Psychometrics on the Index is published in the October 1992 issue of the Journal of Advanced Nursing, pgs. 1251-1259. I have also included a reference list which includes citations for my two most recently completed studies; one that examines hope in the family caregiver of the terminally ill individual and the other study that examines hope in the community and institutionalized older adults.

You have my permission to use the Herth Hope Scale or the Herth Hope Index in your research project. If you decide to use either of my scales I would like to request that you send me an abstract of any completed research project and any psychometrics pertaining to my scale. There are no charges connected with either scale.

Thank you for your interest in my hope instruments. If I can be of any further assistance, please do not hesitate to contact me. I wish you well on your graduate work and the completion of your important research.

Sincerely,

Kaye Ann Herth, Ph.D., R.N., F.A.A.N.  
 Chair and Professor

Enclosures

Study No. \_\_\_\_\_

## HERTH HOPE INDEX

Listed below are a number of statements. Read each statement and place a [X] in the box that describes how much you agree with that statement right now.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I have a positive outlook toward life.				
2. I have short, intermediate, and/or long range goals.				
3. I feel all alone.				
4. I can see a light in a tunnel.				
5. I have a faith that gives me comfort.				
6. I feel scared about my future.				
7. I can recall happy/joyful times.				
8. I have deep inner strength.				
9. I am able to give and receive caring/love.				
10. I have a sense of direction.				
11. I believe that each day has potential.				
12. I feel my life has value and worth.				

## APPENDIX C

Quality of Life Index Cardiac Version - III

**UIC** The University of Illinois  
at Chicago

Department of Medical-Surgical Nursing (M/C 802)  
College of Nursing  
845 South Damen Avenue, 7th Floor  
Chicago, Illinois 60612-7350  
(312) 996-7900

November 17, 1994

Ms. Leslie Hamel  
University of Calgary  
824 Riverbend Drive SE  
Calgary, Alberta T2C 3N6  
Canada

Dear Ms. Hamel:

Thank you for your interest in the Ferrans and Powers Quality of Life Index (QLI). I have enclosed the cardiac version of the QLI and the computer program for calculating scores. I also have included a list of the weighted items that are used for each of four subscales: health and functioning, social and economic, psychological/spiritual, and family, as well as the computer commands used to calculate the subscale scores. The same steps are used to calculate subscale scores and overall scores.

There is no charge for use of the QLI. You have my permission to use the QLI for your study. In return, I ask that you send me any publications of your findings using the QLI. Such reports are extremely important to me.

If I can be of further assistance, please do not hesitate to contact me. I wish you much success with your research.

Sincerely,



Carol Estwing Ferrans, PhD, RN, FAAN  
Assistant Professor

**Ferrans and Powers  
QUALITY OF LIFE INDEX  
CARDIAC VERSION - III**

**Part I.** For each of the following, please choose the answer that best describes how satisfied you are with that area of your life. Please mark your answer by circling the number. There are no right or wrong answers.

<b>HOW SATISFIED ARE YOU WITH:</b>	<b>Very Dissatisfied</b>	<b>Moderately Dissatisfied</b>	<b>Slightly Dissatisfied</b>	<b>Slightly Satisfied</b>	<b>Moderately Satisfied</b>	<b>Very Satisfied</b>
1. Your health?	1	2	3	4	5	6
2. The health care you are receiving?	1	2	3	4	5	6
3. The amount of chest pain (angina) that you have?	1	2	3	4	5	6
4. Your ability to breathe without shortness of breath?	1	2	3	4	5	6
5. The amount of energy you have for everyday activities?	1	2	3	4	5	6
6. Your physical independence?	1	2	3	4	5	6
7. The amount of control you have over your life?	1	2	3	4	5	6
8. Your potential to live a long time?	1	2	3	4	5	6
9. Your family's health?	1	2	3	4	5	6
10. Your children?	1	2	3	4	5	6
11. Your family's happiness?	1	2	3	4	5	6
12. Your relationship with your spouse/significant other?	1	2	3	4	5	6
13. Your sex life?	1	2	3	4	5	6
14. Your friends?	1	2	3	4	5	6
15. The emotional support you get from others?	1	2	3	4	5	6
16. Your ability to meet family responsibilities?	1	2	3	4	5	6
17. Your usefulness to others?	1	2	3	4	5	6

(Please Go To Next Page)

HOW SATISFIED ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
18. The amount of stress or worries in your life?	1	2	3	4	5	6
19. Your home?	1	2	3	4	5	6
20. Your neighborhood?	1	2	3	4	5	6
21. Your standard of living?	1	2	3	4	5	6
22. Your job? (If employed)	1	2	3	4	5	6
23. Not having a job? (If unemployed)	1	2	3	4	5	6
24. Your education?	1	2	3	4	5	6
25. Your financial independence?	1	2	3	4	5	6
26. Your leisure time activities?	1	2	3	4	5	6
27. Your ability to travel on vacations?	1	2	3	4	5	6
28. Your potential for a happy old age/retirement?	1	2	3	4	5	6
29. Your peace of mind?	1	2	3	4	5	6
30. Your personal faith in God?	1	2	3	4	5	6
31. Your achievement of personal goals?	1	2	3	4	5	6
32. Your happiness in general?	1	2	3	4	5	6
33. Your life in general?	1	2	3	4	5	6
34. Your personal appearance?	1	2	3	4	5	6
35. Yourself in general?	1	2	3	4	5	6
36. The changes in your life that you have had to make because of your heart problem (for example, changes in diet, physical activity and/or smoking?)	1	2	3	4	5	6

(Please Go To Next Page)

**Part II.** For each of the following, please choose the answer that best describes how important that area of life is to you. Please mark your answer by circling the number. There are no right or wrong answers.

HOW IMPORTANT TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
1. Your health?	1	2	3	4	5	6
2. Health care?	1	2	3	4	5	6
3. Being completely free of chest pain (angina)?	1	2	3	4	5	6
4. Being able to breathe without shortness of breath?	1	2	3	4	5	6
5. Having enough energy for everyday activities?	1	2	3	4	5	6
6. Your physical independence?	1	2	3	4	5	6
7. Having control over your life?	1	2	3	4	5	6
8. Living a long time?	1	2	3	4	5	6
9. Your family's health?	1	2	3	4	5	6
10. Your children?	1	2	3	4	5	6
11. Your family's happiness?	1	2	3	4	5	6
12. Your relationship with your spouse/significant other?	1	2	3	4	5	6
13. Your sex life?	1	2	3	4	5	6
14. Your friends?	1	2	3	4	5	6
15. The emotional support you get from others?	1	2	3	4	5	6
16. Meeting family responsibilities?	1	2	3	4	5	6
17. Being useful to others?	1	2	3	4	5	6
18. Having a reasonable amount of stress or worries?	1	2	3	4	5	6
19. Your home?	1	2	3	4	5	6

(Please Go To Next Page)



HOW IMPORTANT TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
20. Your neighborhood?	1	2	3	4	5	6
21. A good standard of living?	1	2	3	4	5	6
22. Your job? (If employed)	1	2	3	4	5	6
23. To have a job? (If unemployed)	1	2	3	4	5	6
24. Your education?	1	2	3	4	5	6
25. Your financial independence?	1	2	3	4	5	6
26. Leisure time activities?	1	2	3	4	5	6
27. The ability to travel on vacations?	1	2	3	4	5	6
28. Having a happy old age/retirement?	1	2	3	4	5	6
29. Peace of mind?	1	2	3	4	5	6
30. Your personal faith in God?	1	2	3	4	5	6
31. Achieving your personal goals?	1	2	3	4	5	6
32. Your happiness in general?	1	2	3	4	5	6
33. Being satisfied with life?	1	2	3	4	5	6
34. Your personal appearance?	1	2	3	4	5	6
35. Yourself?	1	2	3	4	5	6
36. The changes in your life that you have had to make because of your heart problem (for example, changes in diet, physical activity and/or smoking?)	1	2	3	4	5	6

## APPENDIX D

Frequency of Health Care Contacts

FREQUENCY OF HEALTH CARE CONTACTS

Since leaving the hospital when you had your heart attack, have you:

VISITED A DOCTOR?                      Yes \_\_\_\_\_                      No \_\_\_\_\_  
Number of Times \_\_\_\_\_

What was the reason?

TELEPHONED A DOCTOR?                      Yes \_\_\_\_\_                      No \_\_\_\_\_  
Number of Times \_\_\_\_\_

What was the reason?

TELEPHONED ANY OTHER HEALTH CARE PROFESSIONALS?  
Yes \_\_\_\_\_                      No \_\_\_\_\_  
Number of Times \_\_\_\_\_

What was the reason?

VISITED THE EMERGENCY ROOM OR A WALK-IN CLINIC?  
Yes \_\_\_\_\_                      No \_\_\_\_\_  
Number of Times \_\_\_\_\_

What was the reason?

APPENDIX E

Approval of Proposal by Supervisory Committee

FACULTY OF NURSING  
GRADUATE PROGRAM

## APPROVAL OF PROPOSAL BY SUPERVISORY COMMITTEE

TO: Associate Dean (Graduate Program)  
Faculty of Nursing

FROM: Dr. K. Oberle  
Supervisor/Chair

DATE: January 11, 1995.

Re: Name of Student: Leslie Hamel

Program: Masters in Nursing (Thesis based)

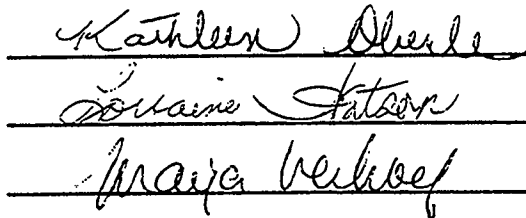
Title of Thesis: A Pilot Study to Explore the Feasibility of  
Developing and Testing a Cardiac Nurse Support Intervention Program  
for Post Myocardial Infarction Patients

We the undersigned have approved the attached proposal. We believe that it is ready for formal ethical review at this stage. We acknowledge that if alterations to this proposal are made on the basis of any further review or development, we will submit another approval form.

Dr. Kathleen Oberle

Dr. Lorraine Watson

Dr. M. Verhoef



Encl.

052/pj  
1995-01-11

APPENDIX F

Calgary District Hospital Group  
Research Committee Approval for Study

# RESEARCH COMMITTEE

CALGARY DISTRICT HOSPITAL GROUP



Holy Cross Hospital  
2210 2nd Street, SW  
Calgary, Alberta T2S 1S6  
(403) 541-2523  
FAX: (403) 541-2683

Dr. R. Anderson  
(Ex-officio)

Ms. R. Burness  
(Nursing  
Representative)

Dr. H. Cohen  
(MSA Representative)

Dr. P. Eaton  
(Chairman)

Dr. C. Lam  
(Physician at Large)

Mr. S. Long  
(Pharmacy  
Representative)

Dr. W. McElheran  
(Psychology  
Representative)

Dr. J. Stone  
(Physician at Large)

Dr. T.M. Van Olm  
(Clinical Chief's  
Representative)

Dr. J. Wootliff  
(Administration  
Representative)

6 March, 1995

Ms. Leslie Hamel  
Graduate Student  
Faculty of Nursing  
University of Calgary  
2500 University Drive, NW  
Calgary, Alberta T2N 1N4

Dear Ms. Hamel;

RE: Cardiac Nurse Support Intervention Program for Post-MI Patients

I am in receipt of the revised consent form associated with your study.

The changes you have made to the consent form are satisfactory. On behalf of the CDHG Research Committee, I hereby grant you permission to proceed.

Good luck and please advise if I can be of any further assistance.

Sincerely,

Philip Eaton, PhD  
Chair - CDHG Research Committee

/tw  
cc. File

## APPENDIX G

Research Information Sheet  
Heart Attack Patient Participation



## RESEARCH INFORMATION SHEET

## Heart Attack Patient Participation

My name is Leslie Hamel and I am an experienced cardiac nurse. Presently I am completing a Master of Nursing Degree at the University of Calgary. The following is an information sheet about a nursing research project you may be interested in being a part of. If you would like to talk to me about this project, please tell the Nursing Unit Director on your nursing unit and she will contact me.

Title of Research: A Pilot Study to Explore the Feasibility of Developing and Standardizing a Cardiac Nurse Support Intervention Program for Post Myocardial Infarction Patients.

Researcher:

Leslie Hamel  
Master of Nursing Student  
Faculty of Nursing  
University of Calgary

Advisor:

Dr. Kathleen Oberle  
Associate Professor  
Faculty of Nursing  
University of Calgary

Phone: 220 6268 (BUS)  
233 0812 (RES)

Phone: 220 6268

Purpose of the Study:

The purpose of this study is to examine the impact of a six week Cardiac Nurse Support Intervention Program on heart attack patient's quality of life, their level of hope and the frequency of health care contacts.

Procedure:

Patients who agree to participate in the study will be randomly assigned to either a treatment or comparison group. To do this, you will choose a sealed envelope that will have a card inside that will read either: comparison or treatment.

If you are assigned to the **comparison** group:

I will visit you before you leave the hospital to arrange a follow-up contact. Once you leave the hospital you will receive the standard medical care. I will ask that once a week you spend about 20 or 30 minutes writing down any concerns, questions or worries you have about your recovery and

anything you have found to be helpful in dealing with these concerns. Approximately 6 weeks after being home from the hospital you will be contacted to fill out the research questionnaires. These forms will take approximately 30 minutes to complete.

If you are assigned to the **treatment** group:

I will visit you before you leave the hospital to arrange a follow-up contact for the study program. The study program consists of myself either: 1) visiting you at home or 2) telephoning you at least once per week for the first six weeks you are at home from the hospital. The purpose of this follow-up program is to assist you with any questions or concerns you may have about your heart attack recovery. The combination of home visits or telephone calls will be up to you. I will ask you to write down any concerns, questions or worries you have about your recovery and anything you have found to be helpful in dealing with those concerns. When we talk or meet during the week, we can discuss the concerns or questions that you have written down. Approximately 6 weeks after being home from the hospital you will be contacted to fill out the research questionnaires. These forms will take approximately 30 minutes to complete.

Risks:

Your cardiologist has agreed that you may participate in this study. This study has been approved by the Institutional Review Board of this hospital. I do not anticipate any risks to you as a result of being a part of this study. The nurse support intervention program is intended to be in addition to the standard medical treatment and follow-up after a heart attack. **THIS PROGRAM WILL NOT REPLACE THE USUAL MEDICAL TREATMENT.** Your medical follow-up care will consist of visiting your family doctor in about one week, your cardiologist in about six weeks, as well as any other scheduled appointments. Your medical care will remain unchanged throughout this nursing study. You are free to telephone your doctor about any questions or concerns.

Patients in the comparison group may not benefit directly from being a part of this study. However, information learned from this research may contribute to future nursing research and help other heart attack patients. Patients in the treatment group may benefit by being able to talk over their personal concerns with myself, an experienced cardiac nurse.

Voluntary Participation and Confidentiality:

Any information that is collected about you will be kept confidential. The questionnaires will be coded to prevent you from being identified. I will store all the data collected in a locked cabinet and the data will be destroyed at the end of the study. You will not be identified in any reports unless you wish to be acknowledged.

If you do not wish to participate in this study, please be assured that your refusal will not affect your current or future health care. If you do choose to participate in the study, you are free to withdraw at any time with no penalty or negative consequence. Withdrawal from the study will not affect your current or future health care.

If you have any questions or concerns about the research, you may call myself, Leslie Hamel or my advisor, Dr. Kathleen Oberle. Thank you for time in considering this study.

APPENDIX H  
Informed Consent

## INFORMED CONSENT

Title of Research: A Pilot Study to Explore the Feasibility of Developing and Standardizing a Cardiac Nurse Support Intervention Program for Post Myocardial Infarction Patients.

I understand that the purpose of this study is to examine the impact of a six week Cardiac Nurse Support Intervention Program on heart attack patient's quality of life, their level of hope and their frequency of health care contacts. If I agree to participate in this research study, I understand that I will be randomly assigned to one of the following two groups:

1. comparison group - when I leave the hospital I will receive the standard medical follow-up care. My medical follow-up care will consist of visiting my family doctor in about one week, my cardiologist in about six weeks, as well as any other scheduled appointments. My medical care will remain unchanged throughout this nursing study. I am free to telephone my doctor about any questions or concerns.

I will be asked to spend about 20 or 30 minutes a week keeping a diary of questions, concerns or worries that I have about my heart attack recovery and anything I have found helpful in dealing with my concerns.

Approximately 6 weeks after being home from the hospital I will be contacted by the study nurse to arrange a time to complete the research questionnaires. These forms will take approximately 30 minutes to complete.

*or*

2. treatment group - when I leave the hospital I will receive the standard medical follow-up care. My medical follow-up care will consist of visiting my family doctor in about one week, my cardiologist in about six weeks, as well as any other scheduled appointments. My medical care will remain unchanged throughout this nursing study. I am free to telephone my doctor about any questions or concerns.

In addition, the study nurse will either visit me in my home or telephone me at least once per week for 6 weeks. I will be asked to spend about 20 or 30 minutes a week keeping a diary of questions, concerns or worries that I have about my heart attack recovery and anything I have found helpful in dealing with my concerns. I can then discuss these concerns with the study nurse during our scheduled visit or I may contact her by telephone during working hours. If I experience physical, psychological or emotional difficulties that are outside the limits of this study program, the study nurse will refer me to an appropriate health care agency.

Approximately 6 weeks after being home from the hospital, the study nurse will contact me to arrange a time to complete the research

questionnaires. These forms will take approximately 30 minutes to complete.

I understand that the study nurse has contacted my cardiologist and he has agreed to my participation in this research study. To ensure an individualized approach to my follow-up care, the study nurse will discuss my condition and anticipated recovery process with my cardiologist prior to my discharge from the hospital. Based on information received from the cardiologist, the study nurse will tell me of the specific signs or symptoms I should report to my cardiologist and will tell me the kinds of concerns that I could discuss with her. In addition, the research nurse will reinforce teaching or instructions given to me by my cardiologist.

I understand that the duration of my participation is 6 weeks from the time I leave the hospital.

I understand that there are no anticipated risks to myself as a result of being in this study.

I understand that the potential benefits of participating in this study are:

1. the information learned from this research may contribute to future nursing research and help other heart attack patients.

2. if I am in the treatment group, I may benefit by being able to talk over my personal concerns with the study nurse.

I understand that my participation in this study is voluntary and I may withdraw from the study at any time with no risk of penalty or negative consequence.

I understand that any data collected about me will be kept confidential and will be coded to assure anonymity.

I understand that I will not be identified in any reports unless I wish to be acknowledged.

I understand that this study has been approved by the Institutional Review Board of this hospital.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Patient

\_\_\_\_\_  
Researcher

## APPENDIX I

CDHG Research Committee Approval to Extend Participant Age Requirement

# RESEARCH COMMITTEE

CALGARY DISTRICT HOSPITAL GROUP



Holy Cross Hospital  
2210 2nd Street, SW  
Calgary, Alberta T2S 1S6  
(403) 541-2523  
FAX: (403) 541-2683

Dr. R. Anderson  
(Ex-officio)

Ms. R. Burness  
(Nursing  
Representative)

Dr. H. Cohen  
(MSA Representative)

Dr. P. Eaton  
(Chairman)

Dr. C. Lam  
(Physician at Large)

Mr. S. Long  
(Pharmacy  
Representative)

Dr. W. McElheran  
(Psychology  
Representative)

Dr. J. Stone  
(Physician at Large)

Dr. T.M. Van Olm  
(Clinical Chief's  
Representative)

Dr. J. Wootliff  
(Administration  
Representative)

20 March, 1995

Ms. Leslie Hamel  
Graduate Student  
Faculty of Nursing  
University of Calgary  
2500 University Drive, NW  
Calgary, Alberta T2N 1N4

Dear Ms. Hamel;

RE: Cardiac Nurse Support Intervention Program for Post-MI Patients

I am in receipt of your request to extend the age requirement for the above study from 65 to 70 years of age to provide a broader range of potential study participants.

On behalf of the CDHG Research Committee, I hereby give you permission to make this change with the understanding that it will not affect or change any other component of the study protocol.

Sincerely,

Philip Eaton, PhD  
Chair - CDHG Research Committee

/tw  
cc. File  
CV Services