

THE RELATIONSHIP OF DEPENDENCY  
TO WORK RESUMPTION  
OF  
PATIENTS WITH MYOCARDIAL INFARCTION

by

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## ABSTRACT

This study involves an investigation of the relationship between dependency and work resumption of patients with myocardial infarction. In the process of studying this problem, information concerning the different levels of dependency during the convalescence through employment continuum was gathered. The purposes of the study are to add to the body of knowledge concerning the concept of dependency and to make nurses and other members of the health team aware of the implications of dependency behaviour in the process of resuming normal function of patients with myocardial infarction. Its long range purpose is to increase the sense of well-being and achieving of the patient with myocardial infarction by helping him resume his productive role, both through the help of members of the health team and members of his family. The study was planned to test the following hypotheses:

1. The employed patients with myocardial infarction will show lower dependency ratings than the unemployed patients in the Navran Dy Scale.
2. The employed patients with myocardial infarction will show progressive decrease in the D-I Scale dependency ratings along the convalescence to employment period continuum, while the unemployed patients with myocardial infarction will maintain a constant level of dependency ratings in the D-I Scale along the convalescence to employment period continuum.
3. Low trait dependents with myocardial infarction will show progressive decrease in the D-I Scale dependency ratings along the convalescence to employment period continuum, while high trait dependent patients with myocardial infarction will continue to show steady dependency ratings in the D-I Scale along the convalescence to employment period continuum.

Two structured questionnaires were constructed following a review of the literature to obtain information regarding the research problem. The Navran Dy and the dependency portion of the D-I Scale were also administered. The study population consisted of 21 men. The study population was restricted to men who were confined in the hospital for their first myocardial infarction, who were 64 years of age or younger, who could read and write English, and who had been employed for the 6 months immediately prior to the confinement. Analysis of the data included Frequency tables, T test and the Two-Factor Analysis of Variance.

The findings of the study showed that patients with myocardial infarction showed different degrees of dependency, both trait and state. The findings failed to support the three hypotheses even though during the data analysis of the individual hypothesis, the group means showed leaning towards the direction of the hypothesis.

The study suggests that steps should be taken to make nurses and family more aware of the varying degrees of dependency in patients.

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## CHAPTER I

### INTRODUCTION TO THE STUDY

#### I. INTRODUCTION

In the past, the main focus of the nurse has been on the care and comfort of patients, and fostering their recovery.<sup>1</sup> These objectives have broadened in scope to include greater attention to the emotional factors of the illness, and to the needs of patients and of their families for teaching and for counselling.<sup>2,3</sup> The new roles of the nurse as "nurse specialist," "nurse practitioner," and as one with an "expanded role," require that nurses not only be thoroughly knowledgeable in human behaviour but also be well qualified to meet the physical and emotional needs of the patient both in hospital and in varying community placements. In meeting this responsibility, nurses act independently in the assessment of nursing problems, in the decision making relative to intervening on these problems, and in the evaluation of the effectiveness of the care given.

In our society, heart disease has become a leading cause of death and disability.<sup>4</sup> For the nurse, prevention of heart disease and the care and rehabilitation of cardiac patients present a challenge. Today's cardiac nurse is expected to be knowledgeable about many aspects of the disease. The following areas are of particular importance: the physiology of the illness; the significance of laboratory findings;

and the indications, uses, and effects of special drugs, machinery, and other forms of treatment. Equally important is knowledge of such aspects as: the prevention of the illness; the detection of early signs of developing pathology; the administration of care during the acute phase of the illness; the supervision and participation in rehabilitative activities of convalescing patients and the health teaching of individuals and their family. It is therefore important that a nurse utilize knowledge obtained from social sciences, physical sciences and the humanities in order to meet these numerous roles added to her responsibilities.

The symbolic importance of the heart as the "vital organ" to the individual's sense of physical integrity has been recognized throughout recorded history.<sup>5</sup> Myocardial infarction is the most serious form of heart disease that affects a large group of cardiac patients. Not only does it debilitate its victims physically, but also psychologically.<sup>6,7,8</sup> The illness requires the patient to be hospitalized. During the acute phase of myocardial infarction, the patient does very little for himself and is dependent on those who are taking care of him. Almost all of his basic needs are met by the nurses and other hospital personnel. The critical condition of the patient after a myocardial infarction, and the immediate hospitalization with its accompanying restricted activities and special care, lead the patient to accept his enforced dependency as a new kind of normal behaviour.

Nursing and medical literature have made available, to both nurses and physicians, information about the pathogenesis of the illness and various factors common among this group of patients such as anxiety, denial, depression, and aggressive behaviour.<sup>9,10,11,12</sup> There has been less attention, both in literature and in practice, to understanding the implications of the patient's dependency throughout the illness and convalescence period. Although the threat to life posed by myocardial infarction is widely recognized, the impact of the condition on the previously pursued activities and the dependency of the patients who survive the attack is less understood.

It has been the writer's observation when working as a Coronary Care nurse that while some patients with myocardial infarction have no problem making the transition from their enforced dependent role once they are started on their rehabilitation stage, others tend to hang on to this dependency even when the crisis is over. The writer has also observed that several of the patients with second or third myocardial infarction are retired even though they are in their fifties or early sixties and are able to continue working. The review of literature failed to come up with a study showing the relationship of dependency to unemployment of patients with myocardial infarction. Literature, however, indicates that some patients who have suffered from myocardial infarction fail to resume normal functioning (i.e. return to work) in spite of medical clearance to do so.<sup>13,14</sup> A persistence of their

dependent behaviour was common among those who did not return to work.

The following questions, therefore, arise:

1. Is there a relationship between dependency and work resumption of patients with myocardial infarction?
2. What is the degree of patient dependency at the different stages of the illness?

## II. STATEMENT OF THE PROBLEM

This study is an attempt to find out the relationship between dependency behaviour and work resumption of patients with myocardial infarction. In the process of answering this question, data concerning the degree of dependency of patients at different stages of myocardial infarction will also be gathered.

## III. PURPOSES OF THE STUDY

This study has both immediate and long range purposes.

Immediate purposes:

1. To add to the body of knowledge concerning the concept of dependency.
2. To make nurses and other members of the health team more aware of the implications of dependency behaviour on the process of resuming normal function of patients with myocardial infarction.

Long range purpose:

To increase the sense of well-being and achieving of

the patient with myocardial infarction by helping him resume his productive role, both through the help of members of the health team and members of his family.

#### IV. HYPOTHESES

The following are the hypotheses of the study:

1. The employed patients with myocardial infarction will show lower dependency ratings than the unemployed patients in the Navran Dy Scale.
2. The employed patients with myocardial infarction will show progressive decrease in the D-I Scale dependency ratings along the convalescence to employment period continuum, while the unemployed patients with myocardial infarction will maintain a constant level of dependency ratings in the D-I Scale along the convalescence to employment period continuum.
3. Low trait dependents with myocardial infarction will show progressive decrease in the D-I Scale dependency ratings along the convalescence to employment period continuum, while high trait dependent patients with myocardial infarction will continue to show steady dependency ratings in the D-I Scale along the convalescence to employment period continuum.

#### V. SIGNIFICANCE OF THE STUDY

Many studies indicate that myocardial infarction is a very significant cause of hospitalization and death not only in Canada but in other countries as well. In 1971, 75,851 Canadians were afflicted with myocardial infarction, 30,958 of whom died.<sup>15,16</sup> In 1972, 77,089 suffered from the illness, 31,344 of whom died.<sup>17,18</sup> If we deduct the number of deaths, we have 44,893 surviving persons with myocardial infarction

in 1971, and 54,745 in 1972. Among the American population under the age of 50, myocardial infarction is the most serious form of heart disease. At the age of 50, approximately 1 man in 100 develops coronary artery disease during the course of the year. Statistics suggest that an average American has a 1 in 5 chance of developing coronary artery disease before the age of 60.<sup>19</sup>

Wishnie et al. report that out of 24 patients who had myocardial infarction, 11 did not return to work, and of these, 9 failed to return because of psychological reasons.<sup>20</sup> Cay et al. found that out of 154 who were working at the time of admission, only 94 (69%) returned to work after four months.<sup>21</sup> Nagle and his colleagues reported that approximately 50% of their 115 patients had returned to work after 4 months.<sup>22</sup> The remaining percentage of patients who do not go back to work represents a great loss to the institutions and organizations which have expended time and money to educate these workers. Society also suffers the loss of these experienced workers whose skills and knowledge would contribute to the growth of the society. The family is deprived of a member who is ordinarily a significant contributor, both financially and emotionally to the family life, and most important of all, the individual is deprived of the satisfaction derived from being self-sufficient and productive.

There is increasing evidence that the complex problem of dependency is seen by some authorities as the primary threat



to the achievement capacity of an individual.<sup>23,24,25</sup> It is important that a person return to his former level of dependency i.e. normal social and work life. In this regard, it would be significant to study the relationship between dependency and work resumption of patients with myocardial infarction. Data about the patients' dependency during various stages of the illness will also be collected during the study. This will provide information for nurses concerning the significance of dependency as a psychological reaction to illness.

The nurses who are members of the health team in close contact with the patient should be able to recognize and handle the patient's dependency in a manner that will be beneficial to the patient. If the relationship of failure to return to work and dependency is established, the patient's dependency at each stage of his recovery becomes very important. Study of the patient's dependency during illness is of value to nurses in that it provides necessary data upon which they may base their assessment and intervention with a greater degree of understanding of these integral parts of human behaviour. Equipped with this knowledge, the nurse will be more aware of what the patient is going through at the different stages of his illness and that progression from dependence should be made during rehabilitation. The nurse will be able to understand better the patient's problems especially if he has trouble relinquishing his dependent role. She will also be able to help him deal successfully with the problems, or

be able to change her goals if the patient has already reached his former level of dependency but has problems resuming his former working capacity. The information, if made available, will help the concerned nurse to broaden her care to include the important aspect of dealing with the whole person and not just the disease.

This information is important as well to the members of the family with whom the patient lives during his convalescence. The patient's family can help him more by knowing that encouraging the patient to perform appropriate tasks will aid his rehabilitation. The nurse should make a particular effort to work with families and significant others to help them understand this information.

Lastly, society will benefit from the input of these individuals if they are successfully rehabilitated to their maximum functioning capacity with their sense of achieving and well-being restored.

## VI. DEFINITION OF TERMS USED

For the purpose of this study, the following terms are defined.

### Patient with Myocardial Infarction

A patient who suffered necrosis of an area of his heart muscle as a result of a decrease in blood supply due to occlusion of the coronary arteries.

### Employed before Admission

A patient with myocardial infarction who has been employed full time for the past six months prior to his present admission.

### Unemployment

Failure to return to work three months after discharge of a patient with myocardial infarction who has been employed before admission.

### Employment

Return to work three months after discharge of a patient with myocardial infarction.

#### A) Full time Employment

Resumption of work with the same amount of time.

#### B) Part time Employment

Resumption of work, but spending less amount of time than before admission.

### Post Coronary Unit

Any unit in the hospital to which a patient with myocardial infarction is transferred to from the Coronary Care Unit.

### Coronary Care Unit

Hospital acute care unit where a patient with myocardial infarction is first admitted during the critical stage of the illness.

### Convalescence to Employment Period Continuum.

Period extending from the time the first set of questionnaires is answered which is approximately the sixth to tenth day in the Post Coronary Unit to the time the last set of questionnaires is answered which is approximately three months after discharge.

### Trait Dependency

A more enduring kind of dependency measured by the Navran Dy Scale.

#### A) High Trait Dependent Subjects

Subjects with Navran Dy scores which are above 16.

#### B) Low Trait Dependent Subjects

Subjects with Navran Dy scores which are 16 or under.

### State Dependency

A transient kind of dependency caused by emotional disturbances and measured by the D-I Scale.

### First Testing Occasion

On the sixth to tenth day at the Post Coronary Unit when the questionnaires are answered by the subjects for the first time.

### Second Testing Occasion

On the week of discharge at the Post Coronary Unit when the questionnaires are answered by the subjects for the second time.

### Third Testing Occasion

On the third month after discharge when the questionnaires are answered by the subjects for the third time.

## VII. LIMITATIONS OF THE STUDY

The following are recognized limitations of the study:

- (1) The small sample of the population resident in the greater Vancouver area selected from two hospitals restricted the findings of the study to the sample only. The result can not be generalized to other populations.
- (2) The restriction of sample to those who are 64 years old or younger, who could read and write English, who were employed six months prior to admission, and who had no other major illnesses limits the findings of the study to the sample only. The result is not representative of other populations with different characteristics.
- (3) The data-collection was done once after discharge only. Therefore, the result is not representative of the changes that might have happened after the questionnaires were answered three months after discharge.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### INTRODUCTION

Although few references had been made on the concept of dependence, it was not until the 1950's that the concept aroused sufficient interest to warrant the undertaking of several studies. The studies done on this area were mostly on preschool and school aged children.<sup>26,27,28</sup> It was not until the last few years that dependence has been related to illness and rehabilitation.<sup>29,30</sup>

On the other hand, unemployment of myocardial infarction is moderately studied. It had been linked to physical conditioning, socio-economic and personality factors. There are, however, no studies available concerning the relationship of dependence to work resumption of patients with myocardial infarction.

The literature reviewed has been summarized into three main headings:

1. Concept of Dependence
2. Studies Done on Dependence
3. Studies Done on Unemployment of Patients with Myocardial Infarction

## I. CONCEPT OF DEPENDENCE

My concept of dependence on which this study is theoretically based, is drawn from many disciplines such as sociology, developmental psychology, and psychoanalysis.

Like Beller, I believe that dependence is a conditional drive to seek physical contact, proximity, attention, help, recognition, and approval.<sup>31</sup>

I view dependence as originating from the beginning of life.<sup>32,33</sup> The sudden change from foetal to human existence by the cut of the umbilical cord is only real in the sense of the separation of the two bodies. The infant remains part of the mother being fed, carried and taken care of in every way. The development of dependence is influenced by environmental factors. Inappropriate dependence develops from prolonged failure to gratify the needs of a child, both physical and psychological, in his early years of life. When such love and attention are denied, the frustration produces a vacuum which the individual tries to fill by independent behaviour. On the other hand, overgratification of demands during development period can heighten dependent strivings in a child.<sup>34</sup> During adolescence, a major bid for freedom is made. During the process, an adolescent obtains need satisfaction from his peer group. Conflict arises when his family fails to relinquish its dominant role in his life.<sup>35</sup> As a person passes through the developmental stages in his life, environmental factors

continue to influence his dependent behaviour.

Dependence is both a personality trait and a transient state.<sup>36</sup> Dependence as a trait occurs in a person's enduring pattern of behaviour and is exhibited in many situations. The dependent state is a transient behaviour a person exhibits when he encounters an irregular life change or a number of life changes. Often cited by authorities as life changes which can cause dependence are illness, physical injury, hospitalization, and surgery.<sup>37,38</sup> Dependence which is an integral part of human behaviour, is more prominent in special circumstances such as infancy, and childhood; in illness; and, sometimes, in old age.<sup>39</sup>

Regression into dependency is concomitant with the illness state.<sup>40</sup> In sickness, there is a tendency to be passive. This may be due to the sick person's ambivalence towards dependency-independency which is prominent in illness. Like a child, the patient during illness exhibits gratefulness, "love" and admiration to the benefactors, but at the same time resents them because of his weak and inferior relation to them.<sup>41</sup> The degree of the individual's dependence or non-dependence upon other persons is a factor which influences his response to a situation of physical stress. Adapting a "patient role" influences the dependence level of a person because the inability to function normally is partially legitimized in a sick role.<sup>42</sup> Increased dependency is a dominant trend in the process of recovery from illness or trauma. In order to return



to an optimum level of achievement, dependence, which is the primary threat to the achievement capacity of a convalescent person, must be overcome. Because dependency of different persons varies, each patient should be helped individually to reach his former level of dependence in order to resume his former capacity. The persons working with the patient should not expect him to reach a dependency level which is beyond his former level before his illness.

Recovery is a job to be done by the patient in cooperation with his family and with those qualified to help him. The capacity of the individual to execute the behaviour expected of him and to perform tasks to which he has been socialized, must be reinstated. Rehabilitation involves helping the individual return to his previous roles, including returning to work.<sup>43</sup>

Nurses, as well as other members of the health team, must recognize dependency of the client and handle the situation based on thorough knowledge of the concept. In her assessment and intervention, she must be aware of the patient's need for dependency. Nurses should be able to assist patients toward behaviour which promotes health and toward increasing performance of their socialized tasks. They should provide opportunity for the patients to relearn old or to learn new behaviours which contribute to their normal functioning.

The nurse recognizes the client's dependent period of illness, assesses and diagnoses his need for dependency from

the beginning of illness and hospitalization. She intervenes in such a way that enables the client to relinquish dependency gradually so that the client is more likely to resume his optimal level of functioning when he is discharged from the hospital and during his convalescence at home.

## II. STUDIES DONE ON DEPENDENCY

In the few studies that had been done on dependency, the scope has been limited. As mentioned earlier, most of the studies had been done on children. The literature review here discusses studies done on dependency during illness and rehabilitation.

Mikulic<sup>44</sup> reported a study of the result of positive and negative reinforcements of nursing personnel to dependent and independent patient behaviours. The result showed that nursing personnel more consistently provided positive reinforcement for dependent patient behaviours than for independent patient behaviours. From the Operant Approach point of view, these reinforcement practices tend to increase the patient's dependent behaviours at the expense of independent behaviours.

Gruenfield and Weissenburg<sup>45</sup> related dependence to job satisfaction and job dissatisfaction and found that field dependents chose the intrinsic and extrinsic factors as satisfiers and dissatisfiers while field independent persons chose job factors as satisfiers or dissatisfiers.

Green's<sup>46</sup> study of the blind distinguished between instrumental and emotional dependency. Studying 56 permanently and totally blind and 14 sighted males, he found that instrumental dependence (dependence to meet physical needs) increased with time in the blind group indicating that the blind probably learned that the most expeditious way of achieving goals was to depend on others for help. Emotional dependence (dependence to meet emotional needs) decreased with time suggesting that the blind develop a coping mechanism.

Mendelson et al.<sup>47</sup> found that "essential alcoholics" evidenced no observable expression of aggressive or hostile impulses; they are submissive and compliant. They are those who are unable to cope adequately with environmental stress coupled with their oral needs, regress, through the ingestion of alcohol, to a level at which their needs are met and feelings of childlike omnipotence are achieved. Mendelson and colleagues think that it is a vicious circle because the more frustration is felt toward the world for not satisfying oral needs, the more the alcoholic turns to alcohol for satisfaction. Alcohol produces feelings of guilt, dependency and need for punishment which in turn drives the alcoholic back to the bottle for the never ending search for oral satisfaction.

Robinson and Meinhardt,<sup>48</sup> in a study of a single case, observed that intense emotion arising from ungratified dependency needs was primarily responsible for the occurrence of a complete heart block. Rehabilitation counselling with the cardiac patient is particularly difficult because his concern

with his limitations has some basis in reality. Moreover, the cardiac patient poses a difficult problem with respect to his own dependency conflict because of the invisibility of his handicap. The cardiac patient appears no different from one with a normal cardiovascular system. Thus he feels that others cannot go about justifying his dependent behaviour and develops conflict between his need to show independent behaviour and his own dependent strivings. In some instances, it is necessary for the counselor to help his client accept his feelings of dependency rather than to compensate for them.

Nichols and Bogdonoff<sup>49</sup> pointed out in their study that for the chronically ill patient and his family, the patient's "sick role" characterized by dependency, passivity, reduced protectiveness and reduced demands by others, may become an "entrenched way of life." The patient may consciously or unconsciously resist the physician's effort to return the patient to a healthy role. To modify this resistance, the authors suggest that the sick role must not be challenged. Before working through with the patient's fears and anxieties, every attempt should be made to help him achieve a feeling of physical well-being.

Rothberg's<sup>50</sup> study on the relationship of dependence, anxiety, and physical recovery following surgical repair of hernia among men showed that there is no relationship between the three factors. Although, in the study, dependence and

anxiety were not found to be related, Rothberg recommends that a study should be done on specific factors in the hospitalization situation which results in non-dependent subjects reacting dependently during the post-operative period.

Derdiarian and Clough studied dependence and independence during prehospitalization, presurgery, postsurgery, pre-discharge and postdischarge of 26 patients who had total hip or total knee replacement procedures. Dependence and independence levels were found to change along the prehospital to postdischarge continuum.<sup>51</sup>

### III. STUDIES DONE ON WORK RESUMPTION OF PATIENTS WITH MYOCARDIAL INFARCTION

Many people never go back to work after a myocardial infarction. How far this is explained by cardiac disability and how far by psychological problems and socio-economic factors, has been the object of studies by several researchers. The work resumption after myocardial infarction and the socio-economic factors influencing it was investigated by Vuopola<sup>52</sup> in Northern Ireland. Results showed that more urban men and women, more skilled workers and more members of higher social classes returned to work than rural residents, unskilled workers and members of the lower social classes.

Kellerman<sup>53</sup> studied conditioning in patients after myocardial infarction and reached these two conclusions regarding rehabilitation and return to work: a) after 4 months of

rehabilitation, about 85% or more of patients in a population which had not returned to work because of anginal pain, medical misguidance, fear and other psychological reasons, could be returned to work; and b) physical conditioning reduces drug dependency, increases emotional stability, and makes the patient's life more productive and happier.

Nagle et al.<sup>54</sup> assessed the influence of cardiac disability and psychological problems of 115 patients approximately 4 months after the heart attack. Thirty out of the 58 who were off work, had complete absence of clinical signs of heart damage. Of the 41 patients with angina, 50% were at work. The patients reported that anxiety and depression were the most common non-cardiac reasons for persistent invalidism: 55% of patients still at home were suffering from these problems while only 11% of those who returned to work reported these problems.

In a study by Cay et al.,<sup>55</sup> of the 154 patients who were working at the time of admission, 60% returned to work within 4 months and 77% were working after a year. Physical diagnosis of the acute attack (myocardial infarction or ischemia) made little difference to the outcome. Within 4 months after the attack, angina and breathlessness were related to activity of those who returned to work: after a year, angina did not make any difference but restlessness became more important. There was considerable emotional disturbance in the group;

about half of the patients had clinical evidence of anxiety and depression. Emotional upset, measured by SSI, especially if severe, contributed to failure to return to work within 4 months. Cay concludes:

"The patient's own opinion of his handicap was coloured by his emotional state; patients who were depressed or anxious following their heart attack were likely to regard themselves as severely physically handicapped."<sup>56</sup>

Fisher,<sup>57</sup> in a questionnaire survey of 111 organizations and individuals whose major interest was heart disease, found that respondents, based on their clinical experience, think that 68% of the patients return to their former activities. An average of 16% of the cardiacs seen by the respondents do not return to work because of psychological factors. The psychological problems of cardiacs most frequently recognized by the respondents were "anxiety, fear of sudden death, and loss of motivation in their ability to return to previous activities." Fisher suggests the need for more exhaustive psychological studies in areas related to cardiac rehabilitation.

## SUMMARY OF LITERATURE REVIEW

The review of literature was presented in three parts. The first part showed the writer's concept of dependence developed as a result of several theories from the literature reviewed. Dependence is viewed as a conditional drive to seek physical contact such as proximity, attention, help, recognition, praise, and approval. The presentation of the concept also included development of dependence. Dependence, as a trait and as a state, was also discussed.

The second section reviewed the literature which dealt with the different studies done on dependency during illness and rehabilitation. Studies show the increasing significance of dependency during these periods of human life.

Finally, the literature reviewed in the third part examined studies done on unemployment of patients with myocardial infarction.

The absence of research on the area of dependency and unemployment of patients with myocardial infarction pointed to the usefulness of a study that will investigate the relationship of the two.



### CHAPTER III

#### RESEARCH DESIGN AND DEVELOPMENT OF THE STUDY

This study was conducted in two municipalities adjacent to Vancouver, British Columbia. Information pertinent to the study was gathered by means of questionnaires. Patient records of subjects while in the hospital were reviewed for medical history, health teaching involved, and physiotherapy activities. The records also provided relevant demographic data.

- Twenty-one patients answered the questionnaires:
- 14 subjects answered three times, twice while in the Post Coronary Unit of the hospital, and once in their home three months after discharge;
  - 4 subjects answered twice, once during the 6th to 10th day in the Post Coronary Unit and once in their home three months after discharge;
  - 3 subjects answered twice, once on the week of discharge, and once in their home three months after discharge.

#### I. SELECTION OF THE STUDY GROUP

##### The Setting

The subjects were chosen from the population of patients with myocardial infarction in two general hospitals with the approval of the hospital administration.

Requests to conduct the study were made to five hospitals in the greater Vancouver area. A personal approach was made to either the director of nursing or the nursing supervisor of each hospital. After the presentation of the study proposal to the first hospital contacted, both the hospital administrator and the director of nursing granted permission. Two other hospitals were asked but permission was denied. One nursing director explained that the staff nurses of the unit feel protective towards their patients and do not want their patients to answer questionnaires. The other director of nursing said that the doctors involved felt that their patients were too sick to participate in the study. At the fourth hospital contacted, the proposal was presented to the doctors during their monthly meeting by a representative of the director of nursing. Approval was granted provided that each subject's personal physician granted permission. This arrangement did not prove to be a problem. After an explanation of the study was given, all of the doctors approached allowed their patients to answer the questionnaires. All of the doctors were aware of the study because the doctors' monthly bulletin included the information that a student from the University of British Columbia was conducting a study and would be approaching them for permission. Permission was obtained at the fifth hospital through the nursing supervisor. This hospital, however, was not included in the study due to the fact that shortly after the first patient had answered the first

set of questionnaires, a strike of hospital staff started and a picket line was set up outside the hospital.

### The Subjects

The subjects selected were 21 men suffering from myocardial infarction.

The criteria for the selection of subjects for the study were:

Subjects must have suffered their first myocardial infarction. Some writers say that the number of occurrences of the illness affects the rate of return to work.

Subjects must have suffered no other major illness while in the hospital or during the time interval between when the first set of questionnaires were answered and the last set of questionnaires were answered.

Subjects must be willing to participate in the study. Two potential subjects were asked to join but both refused because they felt tired. They were not included in the study.

Subjects must be able to read and write English. This was a necessity because the subjects had to answer several questionnaires.

Subjects must be 64 years of age or younger. This minimized the conflicting factor of retirement, especially for people over 65 years who were still working at the time of admission.

Subjects must have been employed for the six months previous to admission to the hospital. This was to make sure

that only those who were working were included in the study. Three months is the usual probationary period for work and if a person has worked for six months, it is usually an indication that he intends to stay or that the employer intends to keep him.

### Initial Contact With the Subjects

Patients' records were reviewed to determine eligibility of subjects for the study. The eligible subjects were then approached by the investigator at a time convenient for both the subjects and the hospital staff. The investigator introduced herself and stated that she was a graduate student at the University of British Columbia conducting a study on feelings and work resumption of patients with myocardial infarction. The questionnaire procedure was explained to each subject. He would be asked to answer: a) the Subject's Profile Questionnaire once while in the hospital; b) two other sets of questionnaires (Navran Dy and D-I Scale) twice in the hospital and once in their home; and c) the Work Resumption Questionnaire once in their home. Confidentiality was explained and reassurance was given that they could withdraw from the study at any time they so wished. Each was then asked to participate in the study and sign the Consent to Participate form. The Consent to Participate is shown in Appendix A.

## II. INSTRUMENTATION

Several instruments were used to obtain data in this study. The Subject's Profile Questionnaire for use in the hospital and the Work Resumption Questionnaire for use in the home, were developed. These were designed following a review of the literature and were intended to obtain information relevant to the research problem. The Navran Dy portion of the MMPI was used to measure the level of trait dependency and the Dependency Scale portion of the Dependency-Independence Scale of Derogarian and colleagues was used to measure the state dependency. The instruments used in this study are shown in Appendix B.

The questionnaires answered in the hospital and in the subject's home took between 20 and 45 minutes to complete. To ensure anonymity, numbers were used to identify data rather than the name of the subjects.

### Subject's Profile Questionnaire

Two of the questions in this questionnaire were included to obtain background information. Such questions concerned sex and marital status.

Some of the questions were used to obtain data to ensure that the respondents met the criteria of the study. These questions concerned age and employment.

Other questions were used to obtain information about factors mentioned in the literature as being implicated with work resumption of patients with myocardial infarction. These

were concerned with the kind and length of employment. Others were used to gather data to serve as a basis for comparison after the study. The latter question concerned number of hours worked each day before the illness.

#### Work Resumption Questionnaire

This questionnaire was prepared to collect data on the subject's resumption or non-resumption of work three months after his discharge. Questions asked included whether he was back to work, and reasons for not working if he was not back to work. Questions also included amount of time lapsed between discharge and work resumption; the kind of job he had, and the number of hours he was working. The answer to the last two questions were necessary for comparison with the subject's previous occupation as to the kind of job and number of hours worked.

#### Dependence/Independence Scale

The D-I Scale, a questionnaire developed by Derdiarian, Clough and Wittig, lists examples of types of behaviour which represent the ten component parts of dependence/independence identified by Beller.<sup>58</sup> Behaviours under the dependent components are: seeks physical contact, seeks proximity, seeks attention, and seeks recognition, praise and approval. Behaviors under the independent components are: takes initiative, overcomes obstacles, is persistent, seeks satisfaction from work, and wants to do things by oneself. Derdiarian and associates administered the questionnaire to 25 patients for surgery.

Using the Pearsom Product-Moment Correlation, the result was tested for reliability. The dependence portion has a reliability of  $r=.957$  and the independence portion has a reliability of  $r=.927$ . In this study, only the dependent components of the questionnaire will be used.

The scale asks the subject to rate himself on a scale of 1 to 5, according to the degree that the statement presently describes his behaviour. The mean scores of the dependent and independent components are calculated. The values, 1 to 5, distinguish between the non-dependent, slightly dependent, moderately dependent, fairly dependent and very dependent patients. They are 1, 2, 3, 4, and 5, respectively. Its constructs support state dependence.<sup>59</sup>

#### Navran Dy Portion of the MMPI

The Navran Dy constructs support trait dependence. It lists examples of dependent behaviours which the subject is asked to mark true or false as applied to him. In Navran's study, 16 judges chose the items from other pre-existing scales in the MMPI which they considered indicative of dependence, and specified the direction in which the dependent person would respond. Internal consistency was determined for 2 samples of 50 patients, and cross validation was done between the 2 sample populations. The final T-scores as given in the MMPI handbook were recorded for each raw score. Using the Kuder-Richardson Formula 20, the reliability for 100 patients is .91.

### III. PRE-TEST

The instruments developed were reviewed by a nurse-educator and an intensive care nurse. All the tools used were criticized in a research class of 13 graduate students and 2 research instructors. The Subject Profile Questionnaire and the D-I Scale were pre-tested on 11 subjects in one of the hospitals where the study was finally conducted. A few further adjustments were made on the Subject Profile Questionnaire to improve clarity.

The Work Resumption Questionnaire was pre-tested on one patient and a minor adjustment was done on it to reduce ambiguity. The questionnaire was pre-tested on one patient only as the four questions included in it were taken from the Subject Profile Questionnaire. The Subject Profile Questionnaire was already pre-tested on 11 subjects.

The pre-test helped the investigator gain proficiency in administering the questionnaires. It also helped to improve the clarity of the questionnaires.

### IV. ADMINISTRATION OF THE QUESTIONNAIRES

The first set of questionnaires were answered on the 6th to 10th day of stay in the hospital Post Coronary Unit. The questionnaires were answered in the morning or afternoon after the subjects' one hour nap unless the subject was otherwise engaged. The Subject Profile Questionnaire was administered first. The researcher then explained to the subject



the use of self-report instruments, the Navran Dy and the D-I Scale. The subject was then told that he was free to ask the investigator any questions regarding any part of the questionnaires. Questions asked were discussed carefully. The investigator collected the answered questionnaires when the subject was finished.

The subjects answered the second set of questionnaires during their last week in the Post Coronary Unit. The same procedure and explanation was done except this time the Subject's Profile Questionnaire was not included. After the questionnaires were answered, the subject was told that the investigator would telephone him about three months after discharge to make an appointment to take the final set of questionnaires to his home. Because some patients were discharged on their 1st to 5th day of stay in the Post Coronary Unit, these patients answered the questionnaires only once while in the hospital. Four subjects did not complete the second questionnaires.

The third set of questionnaires, Navran Dy and Dependency Scale of the D-I Scale, were answered in the subject's home about three months after discharge. Before he answered them, he was asked to answer the Work Resumption Questionnaire. He was then given the two sets of questionnaires with the same instruction as with the previous times. Again, any questions asked by the subject were discussed. This time inquiries of spouse were also discussed. The subject was then thanked for

his participation and those were expressed interest in knowing the results of the study were noted by the investigator. Three subjects were not able to answer the third set of questionnaires: two, who are both back to work, refused to answer for the third time; and one died of another heart attack.

Table 1 illustrates the schedule of administration of questionnaires.

TABLE I

SCHEDULE OF ADMINISTRATION OF QUESTIONNAIRES		
6th-10th day at PCU	Week of Discharge	Three Months After Discharge
Subject Profile which includes Work Profile Navran Dy Scale D-I Scale	Navran Dy Scale D-I Scale	Work Resumption Profile Navran Dy Scale D-I Scale

## V. STATISTICAL ANALYSIS

T test was used to determine effects of variables, hospital differences and hypothesis 1. Hypotheses 2 and 3 were tested by the Two-Factor Analysis of Variance.

## VI. SUMMARY

This chapter describes the methodology used in this study, the questionnaires used to gather information required for the study, the selection of the subjects, the administration of questionnaires, and enumerates the statistical analysis of the study.

## CHAPTER IV

### ANALYSIS OF THE DATA

Age, occupation, and number of days in the Coronary Care Unit and the Post Coronary Unit of the study population are described and shown in frequency tables and distributions. The differences of the hospital factors are assessed and described in tables and tabulation, and the presence of low and high trait dependency of the study population is assessed. Further analysis of the data is carried out to test the three hypotheses.

#### I TESTING HOSPITAL DIFFERENCE

The study population consisted of 21 patients with myocardial infarction admitted at two selected hospitals during the months of December to August. Fourteen subjects are from Hospital A and 7 are from Hospital B. Because the two hospitals are located in different municipalities catering to different populations and with different sets of specialists attending the patients, it was decided that subjects from the two hospitals be tested for any differences. To do this, T test was done on the subjects' age, number of days in the Coronary Care Unit, number of days in the Post Coronary Unit and their first Navran Dy score. At level 0.05, only the number of days in the Coronary Care Unit showed significant difference between the subjects from the two hospitals.

AGE

In Hospital A, the ages of the subjects ranged from 31 to 64 years, while in Hospital B the subjects' ages ranged from 41 to 60 years. Table 2 illustrates the frequency distribution of the study population from the two hospitals by age.

TABLE 2

FREQUENCY DISTRIBUTION OF THE STUDY POPULATION  
FROM TWO HOSPITALS BY AGE

AGE	HOSPITAL A FREQUENCY	HOSPITAL B FREQUENCY
30 or under	0	0
31-40	1	0
41-50	5	2
51-60	7	5
60-64	<u>1</u>	<u>0</u>
TOTAL	14	7

Mean of Hospital A = 3.57

Mean of Hospital B = 3.71

T = .45

P > 0.05

NUMBER OF DAYS IN THE CORONARY CARE UNIT

In Hospital A, the subjects stayed in the Coronary Care Unit from 2 to 7 days with a mean of 4.07 days. In Hospital B, the subjects stayed in the Coronary Care Unit from 3 to 9 days with a mean of 5.71 days. Table 3 illustrates the frequency distribution of the study population from two hospitals by the number of days in the Coronary Care Unit. At 0.05 level the number of days the subjects from Hospital A spent in the Coronary Care Unit is significantly less than that of the subjects from Hospital B.

TABLE 3

FREQUENCY DISTRIBUTION OF THE STUDY POPULATION  
FROM TWO HOSPITALS BY THE NUMBER OF CCU DAYS

NUMBER OF DAYS	HOSPITAL A FREQUENCY	HOSPITAL B FREQUENCY
2	1	0
3	3	1
4	6	2
5	3	1
6	0	1
7	1	0
8	0	0
9	0	2
TOTAL	<u>14</u>	<u>7</u>

Mean of Hospital A = 4.07

Mean of Hospital B = 5.71

T = 2.10

P < 0.05

#### NUMBER OF DAYS IN THE POST CORONARY UNIT

In Hospital A, the subjects stayed in the Post Coronary Unit from 4 to 19 days with a mean of 12.86. In Hospital B, the subjects stayed in the unit from 1 to 18 days with a mean of 9.14. Table 4 illustrates the frequency distribution of the study population from the two hospitals by the number of days in the Post Coronary Unit.

TABLE 4

FREQUENCY DISTRIBUTION OF THE STUDY POPULATION  
FROM TWO HOSPITALS BY THE NUMBER OF PCU DAYS

NUMBER OF DAYS	HOSPITAL A FREQUENCY	HOSPITAL B FREQUENCY
1-7	2	2
8-14	7	4
15-21	5	1
TOTAL	<u>14</u>	<u>7</u>

Mean of Hospital A = 12.86

Mean of Hospital B = 9.4

T = 1.69

P > 0.05

#### FIRST NAVRAN DY SCORES

The first Navran Dy Scores were used because it is the only testing occasion when every subject included in the study was able to answer. In Hospital A, the score ranged from 6 to 23 with a mean of 17.57, while in Hospital B, the score ranged from 5 to 24 with a mean of 16.29. Table 5 illustrates the frequency distribution of the study population from two hospitals by the Navran Dy Score.

TABLE 5

FREQUENCY DISTRIBUTION OF THE STUDY POPULATION  
FROM TWO HOSPITALS BY THE NAVRAN DY SCORES

SCORES	HOSPITAL A FREQUENCY	HOSPITAL B FREQUENCY
4-6	1	1
7-9	0	0
10-12	1	1
13-15	4	1
16-18	2	1
19-21	2	1
22-24	3	2
25-27	1	0
TOTAL	14	7

Mean of Hospital A = 17.57

Mean of Hospital B = 16.29

T = .08

P > 0.05

## II TESTING VARIABLES

During the data analysis, several variables were included to determine their effects on the subject's work resumption. Age was included because some of the literature claims that it affects work resumption of patients with myocardial infarction.<sup>61,62</sup> The number of days in the Coronary Care Unit and Post Coronary Unit were also tested to make sure that they do not have any bearing on the result of the analysis of the data. Working at 0.05 level of significance, T test did not show any significant findings among the variables.

### AGE

The age of the employed group ranged from 41 to 60 years, while the age of the unemployed group ranged from 31



to 64 years. Table 6 illustrates the distribution of the employed and unemployed study population by age.

TABLE 6

FREQUENCY DISTRIBUTION OF THE EMPLOYED AND UNEMPLOYED  
STUDY POPULATION BY AGE

AGE	EMPLOYED FREQUENCY	UNEMPLOYED FREQUENCY
31-40	0	1
41-50	5	2
51-60	3	9
61-64	0	1
TOTAL	<u>8</u>	<u>13</u>

Mean of Employed = 3.38  
 Mean of Unemployed = 3.77  
 $T = 1.34$   
 $P > 0.05$

NUMBER OF DAYS IN THE CORONARY CARE UNIT

The number of days of the employed group in the Coronary Care Unit ranged from 3 to 9 days with a mean of 4.75 days while the number of days of the unemployed group in the Coronary Care Unit ranged from 2 to 9 days with a mean of 4.54 days. Table 7 illustrates the frequency distribution of the employed and unemployed study population by the number of days in the Coronary Care Unit.

TABLE 7

FREQUENCY DISTRIBUTION OF THE EMPLOYED AND UNEMPLOYED  
STUDY POPULATION BY THE NUMBER OF DAYS IN CCU

NUMBER OF DAYS	EMPLOYED FREQUENCY	UNEMPLOYED FREQUENCY
2	0	1
3	1	3
4	5	3
5	0	4
6	1	0
7	1	1
8	0	0
9	0	1
TOTAL	<u>8</u>	<u>13</u>

Mean of Employed = 4.75

Mean of Unemployed = 4.54

T = .25

P > 0.05

NUMBER OF DAYS IN THE POST CORONARY UNIT

The number of days of the employed group in the Post Coronary Unit ranged from 10 to 19 with a mean of 14 days while the unemployed group ranged from 1 to 18 days with a mean of 10.15 days. Table 8 illustrates the frequency distribution of the employed and unemployed study population by the number of days in the Post Coronary Unit.

TABLE 8

FREQUENCY DISTRIBUTION OF THE EMPLOYED AND UNEMPLOYED  
STUDY POPULATION BY THE NUMBER OF DAYS IN PCU

NUMBER OF DAYS	EMPLOYED FREQUENCY	UNEMPLOYED FREQUENCY
1-3	0	1
4-6	0	3
7-9	0	2
10-12	2	2
13-15	4	3
16-18	1	2
19-21	1	0
TOTAL	<u>8</u>	<u>13</u>

Mean of Employed = 14  
 Mean of Unemployed = 10.15  
 T = 1.82  
 P > 0.05

### III TESTING THE HYPOTHESES

Mann Whitney U Test, a nonparametric test, was used to assess the relationship of employment to trait dependence as measured by the Navran Dy Scale. The employed group has scores ranging from 5 to 26 with a mean of 17 while the unemployed group has scores ranging from 11 to 23 with a mean of 17.23. Working at 0.05 level of significance, no significant difference was found. Table 9 illustrates the frequency distribution of the employed and unemployed study population by their Navran Dy scores.

TABLE 9

FREQUENCY DISTRIBUTION OF THE EMPLOYED AND UNEMPLOYED  
STUDY POPULATION BY THEIR NAVRAN DY SCORES

SCORES	EMPLOYED FREQUENCY	UNEMPLOYED FREQUENCY
0-5	1	0
6-10	0	1
11-15	4	3
16-20	0	5
21-25	2	4
26-30	1	0
TOTAL	<u>8</u>	<u>13</u>

Median = 17.5  
Mann Whitney U Statistics = .25  
P > 0.05

Among the 21 subjects who answered the questionnaires, only 14 answered the questionnaires three times, 4 answered the questionnaires on the first and third occasions, and 3 answered the questionnaires on the first and second occasions. This was due to several factors. Some subjects went home earlier than expected thus the researcher was not able to let them answer the second questionnaires, and others refused to answer the third questionnaire. One died between the second and third testing occasions.

Only those who answered the questionnaires three times and those who answered the third questionnaires on the first and third occasions were included in the data analysis to test hypotheses 1 and 2. Six of these 18 subjects are back to work while 12 are still resting.

Among the 12 who are not back to work, only 1 was prevented from doing so because of another heart attack. Three were not back to work because of doctor's advice. One of these 3 had mild ischemic symptoms such as occasional angina, one had no symptoms and expected to go back to work one week after the last set of questionnaires was answered, while one did not know when his doctor would let him go back to work. Two of the subjects went for angiogram a week after the last testing occasion. They had no pain, but their stress test did not show up to par so angiogram was used for further verification. Two did not go back to work because they felt they needed more rest, and one felt he was not prepared to go back to work yet. He had not had any pain since discharge.

Of the 6 who returned to work, 2 did not return full time to their former jobs. They were, however, increasing their four-hour days to full time work gradually.

During the first testing occasion, at the Post Coronary Unit, the state dependency scores measured by the D-I Scale ranged from 1.33 to 3.06 with a mean of 2.06, while during the third testing occasion, the scores ranged from 1.16 to 2.52 with a mean of 1.97. Table 10 illustrates the frequency distribution of the study population by their dependency scores during first and third testing occasions.

TABLE 10

FREQUENCY DISTRIBUTION OF THE STUDY POPULATION BY THEIR  
STATE DEPENDENCY SCORES DURING FIRST  
AND THIRD TESTING OCCASIONS

SCORES	FIRST OCCASION FREQUENCY	THIRD OCCASION FREQUENCY
1.00-1.25	0	2
1.26-1.50	2	1
1.51-1.75	4	4
1.76-2.00	2	1
2.01-2.25	3	5
2.26-2.50	5	2
2.51-2.75	1	3
2.76-3.00	0	0
3.01-3.25	1	0
TOTAL	18	18

Mean of first testing occasion = 2.00

Mean of third testing occasion = 1.97

The state dependency scores of the employed group ranged from 1.33 to 2.26 with a mean of 1.88 during the first testing occasion, while their scores ranged from 1.06 to 2.20 with a mean of 1.78 during the third testing occasion. The state dependency scores of the unemployed group ranged from 1.69 to 3.06 with a mean of 2.15 during the first testing occasion, while their scores ranged from 1.16 to 2.52 with a mean of 2.06 during the third testing occasion. Table 11 illustrates the frequency distribution of the employed and unemployed study population by their state dependency scores during the first and third testing occasions.

TABLE 11

FREQUENCY DISTRIBUTION OF THE EMPLOYED AND UNEMPLOYED  
STUDY POPULATION BY THEIR STATE DEPENDENCY SCORES  
DURING FIRST AND THIRD TESTING OCCASIONS

SCORES	EMPLOYED FREQUENCY		UNEMPLOYED FREQUENCY	
	FIRST	THIRD	FIRST	THIRD
1.00-1.25	0	1	0	1
1.26-1.50	1	1	1	0
1.51-1.75	2	1	2	3
1.76-2.00	0	0	2	1
2.01-2.25	1	3	2	2
2.26-2.50	2	0	3	2
2.51-2.75	0	0	1	3
2.76-3.00	0	0	0	0
3.01-3.25	0	0	1	0
TOTAL	6	6	12	12

Means of Employed Group  
First Testing Occasion  
Low Trait = 1.88  
High Trait = 1.97  
Third Testing Occasion  
Low Trait = 1.78  
High Trait = 1.97

Means of Unemployed Group  
First Testing Occasion  
Low Trait = 2.03  
High Trait = 2.28  
Third Testing Occasion  
Low Trait = 1.89  
High Trait = 2.23

Using the Two-Factor Analysis of Variance, there was no statistical significance in the changes of the state dependency scores of the employed and unemployed groups along the convalescence to employment period continuum.

To test hypothesis 3, the study population was divided into high and low trait groups. The trait dependency scores ranged from 5 to 26 during the first testing occasion and 5 to 41 during the third testing occasion. Those above the median score of 16, are considered high trait and those 16 and below are considered low trait. There are 10 low

trait subjects and 8 high trait subjects.

The state dependency scores of the low trait subjects ranged from 1.61 to 2.55 with a mean of 1.95 during the first testing occasion, while their scores ranged from 1.06 to 2.48 with a mean of 1.81 during the third testing occasion. The state dependency scores of the high trait subjects ranged from 1.68 to 3.06 with a mean of 2.2 during the first testing occasion while their scores ranged from 1.55 to 2.71 with a mean of 2.17 during the third testing occasion. Table 12 illustrates the frequency distribution of the low and high trait groups by their state dependency scores during the 2 testing occasions.

TABLE 12

FREQUENCY DISTRIBUTION OF THE LOW AND HIGH TRAIT  
STUDY POPULATION BY THEIR STATE DEPENDENCY  
SCORES DURING FIRST AND THIRD  
TESTING OCCASIONS

SCORES	LOW TRAIT FREQUENCY		HIGH TRAIT FREQUENCY	
	FIRST	THIRD	FIRST	THIRD
1.00-1.25	0	2	0	0
1.26-1.50	2	1	0	0
1.51-1.75	2	2	2	3
1.76-2.00	1	0	1	1
2.01-2.25	2	3	1	2
2.26-2.50	2	2	3	0
2.51-2.75	1	0	0	2
2.76-3.00	0	0	0	0
3.01-3.25	0	0	1	0
TOTAL	10	10	8	8



Means of State Dependency Scores

Low Trait

First Testing Occasion = 1.95

Third Testing Occasion = 1.8

High Trait

First Testing Occasion = 2.2

Third Testing Occasion = 2.17

Using the Two-Factor Analysis of Variance, no statistical significance was found in the changes of the state dependency of the low trait and high trait dependency groups along the convalescence to employment period continuum.

## CHAPTER V

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## I SUMMARY

This study involves an investigation of the relationship between dependency and work resumption of patients with myocardial infarction. In the process of studying this problem, information concerning the different levels of dependency during the convalescence through employment continuum was gathered. The purposes of the study are to add to the body of knowledge concerning the concept of dependency and to make nurses and other members of the health team aware of the implications of dependency behaviour in the process of resuming normal function of patients with myocardial infarction. Its long range purpose is to increase the sense of well-being and achieving of the patient with myocardial infarction by helping him resume his productive role, both through the help of members of the health team and members of his family. The study was planned to test the following hypotheses:

1. The employed patients with myocardial infarction will show lower dependency ratings than the unemployed patients in the Navran Dy Scale.
2. The employed patients with myocardial infarction will show progressive decrease in the D-I Scale dependency ratings along the convalescence to employment period continuum, while the unemployed patients with myocardial infarction will maintain a constant level of dependency ratings in the D-I Scale along the convalescence to employment period continuum.
3. Low trait dependents with myocardial infarction will show progressive decrease in the D-I Scale dependency ratings along the convalescence to employment period continuum, while high trait dependent patients with myocardial infarction will continue to show steady dependency

ratings in the D-I Scale along the convalescence to employment period continuum.

A review of the literature presented, in 3 parts, relevant theories and research pertinent to work resumption of patients with myocardial infarction and dependency. The first part showed the writer's concept of dependence developed as a result of several theories from the literature reviewed. The second part dealt with the different studies done on dependency during illness and rehabilitation. The third part examined studies done on unemployment of patients with myocardial infarction. The literature shows increasing significance of dependency during illness and rehabilitative periods of human life.

Instruments used to obtain data relevant to the study were: Navran Dy, used to measure trait dependency; D-I Scale, used to measure state dependency; and two structured questionnaires pertaining to subject profile and work profile after discharge. The last two questionnaires were developed after the literature was reviewed.

The study population consisted of 21 male patients who suffered their first myocardial infarction and who were confined in one of the two general hospitals selected for the study.

The study population was asked to answer questionnaires three times: on the 6th to 10th day after transfer to the Post Coronary Care Unit; on the week of discharge; and three months after discharge.

Age, the number of days in the Coronary Care Unit, the number of days in the Post Coronary Care Unit, the state dependency scores of the employed and unemployed groups, and the low trait and high trait groups were described and shown in frequency distribution tables. The data collected were further analyzed to test the three hypotheses: Mann Whitney U Test for hypothesis 1; and Two-Factor Analysis of Variance for hypotheses 2 and 3.

The results showed that:

1. Although the mean of the Navran Dy and the Dependency portion of the D-I Scales among the employed group are lower than that of the unemployed group, there is no statistical difference.
2. Although the employed group showed more changes in the Dependency portion of the D-I Scale than the unemployed group during the two testing occasions, there is no statistical significance.
3. Although the low trait group showed more changes in the Dependency portion of the D-I Scale than the high trait group during the two testing occasions, there is no statistical significance.

## II. CONCLUSIONS

After the analysis of the data, the following conclusions were made for this study population:

1. That patients with myocardial infarction show different degrees of trait and state dependency.

2. That trait dependency is not related to work resumption of patients with myocardial infarction. Regardless of the trait dependency of the subjects, some went back to work while others did not. It is possible that the small number of the study population has affected the analysis of the data.

3. That state dependency does not change significantly during different stages of illness of patients with myocardial infarction. This finding is contrary to the findings of previous authors like Derdiarian and Clough, who found in their study that state dependency varies during the prehospitization to post discharge continuum. There was, however, a difference in the total means of state dependency during the two testing occasions even though the difference was not statistically significant. The small number of the sample may have a bearing on the result of this study.

### III RECOMMENDATIONS

In view of the preceeding results and conclusions, the following recommendations are made:

1. Regarding research, that:

- a) a study of larger and more varied population be conducted.
- b) subjects should be asked to answer questionnaires while still in the Coronary Care Unit and three days after they are transferred to the Post Coronary Unit.
- c) questionnaires regarding work resumption be answered four months and eight months after discharge.

2. Regarding education, that:

- a) the concept of dependency should be taught to students so that they will be aware of its different degrees among patients, and they will be encouraged to conduct more research in this area.
- b) staff nursing development should include the concept of dependency in its program to make nurses aware of the varying degrees of dependency among patients.

3. Regarding nursing service, that:

- a) nurses should not only have an awareness of the presence of varied dependency among different patients but that they should respect this dependency by allowing less dependent patients to act with less help and more dependent ones with more help.
- b) literature on dependency should be made available to ward personnel.
- c) nurses should endeavor to make the family aware that their patients have dependency needs which must be met at home.

## FOOTNOTES

# FOOTNOTES

<sup>1</sup>Margaret Allemang, The Experiences of Eight Cardiac Patients During a Period of Hospitalization in a General Hospital, (Toronto: 1960).

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<sup>3</sup>Jane Secor, Coronary Care: A Comprehensive Nursing Specialty, (New York: Appleton-Century-Crofts, 1971).

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## APPENDIX A

## Consent to Participate

Code Number.....

Hospital Number.....

I, ....., agree to  
participate in a study at ..... hospital.

The study is about moods and feelings, and work resumption of  
patients with myocardial infarction.

I understand that:

- 1) the study will involve answering two sets of  
questionnaires.
  - a) on my 6th-10th day at the Post-Coronary Ward
  - b) on the last week before discharge
  - c) on the third month after my discharge
- 2) the questionnaires, which will take about half  
an hour, will be answered in my convenience.
- 3) no risks are involved and no names will be used.
- 4) I am free to withdraw from the study at any time.
- 5) on request, I will be informed of the results.

Signature of Participant:

.....

Signature of Researcher:

.....

Date:

.....

## APPENDIX B

## Subject's Profile Questionnaire

Code Number.....

Hospital Number.....

Kindly write the number of your answers on the right-hand side of the questionnaire.

1. Sex
  - 1) Female
  - 2) Male1.....
2. What is your marital status?
  - 1) Single      4) Separated
  - 2) Married    5) Divorced
  - 3) Widowed    6) Other2.....
3. What is your present age range?
  - 1) 30 years or under    3) 41-50 years
  - 2) 31-40 years          4) 51-60 years3.....
4. Are you presently employed
  - 1) Yes
  - 2) No4.....
5. Were you working fulltime before your hospitalization?
  - 1) Yes
  - 2) No
  - 3) Other (specify)5.....
6. How long have you been working fulltime?
  - 1) Less than 6 months    4) 10 to 15 years
  - 2) 6 months to 5 years    5) More than 15
  - 3) 5 to 10 years          years6.....
7. What is your usual occupation?
  - 1) High executive, proprietor of large concern and major professionals
  - 2) Business manager, proprietor of medium sized business and other professionals.
  - 3) Administrative personnel and proprietor of small independent business
  - 4) Clerical, salesworker and technician
  - 5) Skilled manual employee
  - 6) Machine operator and semi-skilled employee
  - 7) Unskilled employee
  - 8) Other (specify)7.....
8. How many hours each day did you work prior to your present admission?
  - 1) Less than 4 hours a day
  - 2) Between 4-8 hours a day
  - 3) More than 8 hours a day
  - 4) Other (specify)8.....

## Work Resumption Questionnaire

Code Number.....

Hospital Number.....

Kindly write the number of your answers on the right-hand side of the questionnaire.

## 1. Are you working now?

1) Yes

2) No

3) Other (specify)

1.....

If you are not working now, kindly state the reason(s) for not returning to work.

.....  
.....  
.....

## 2. How long have you been working since your discharge?

1) Not applicable

2) Less than 2 weeks

3) More than 2 weeks but less than a month

4) More than a month

2.....

## 3. Do you have the same job?

1) Not applicable

2) Yes

3) No (specify)

3.....

## 4. Do you spend the same number of hours at work as you did before your hospitalization?

1) Not applicable

2) Yes

3) No (specify)

4.....

Navran Dy

## TRUE - FALSE QUESTIONNAIRE

Code Number.....

Hospital Number.....

Please mark a "T" beside each statement that is true, or mostly true as applied to you, and an "F" beside each statement that is false or not usually true as applied to you. If a statement does not apply to you or if it is something that you don't know about, leave the space blank.

Remember to give your own opinion of yourself. Do not leave any space blank if you can avoid it. Try to make some answer to every statement.

- \_\_\_ 9. I am about as able to work as I ever was.
- \_\_\_ 19. When I take a new job, I like to be tipped off on who should be gotten next to.
- \_\_\_ 21. At times I have very much wanted to leave home.
- \_\_\_ 24. No one seems to understand me.
- \_\_\_ 41. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."
- \_\_\_ 65. I loved my father.
- \_\_\_ 67. I wish I could be as happy as others seem to be.
- \_\_\_ 70. I used to like drop-the-handkerchief.
- \_\_\_ 79. My feelings are not easily hurt.
- \_\_\_ 82. I am easily downed in an argument.
- \_\_\_ 86. I am certainly lacking in self-confidence.
- \_\_\_ 98. I believe in the second coming of Christ.
- \_\_\_ 100. I have met problems so full of possibilities that I have been unable to make up my mind about them.
- \_\_\_ 107. I am happy most of the time.
- \_\_\_ 138. Criticism or scolding hurts me terribly.
- \_\_\_ 141. My conduct is largely controlled by the customs of those about me.
- \_\_\_ 158. I cry easily.
- \_\_\_ 163. I do not tire quickly.
- \_\_\_ 165. I like to know some important people because it makes me feel important.

- \_\_\_ 170. What others think of me does not bother me.
- \_\_\_ 180. I find it hard to make talk when I meet new people.
- \_\_\_ 189. I feel weak all over much of the time.
- \_\_\_ 193. I do not have spells of hay fever or asthma.
- \_\_\_ 201. I wish I were not so shy.
- \_\_\_ 212. My people treat me more like a child than a grown-up.
- \_\_\_ 236. I brood a great deal.
- \_\_\_ 239. I have been disappointed in love.
- \_\_\_ 259. I have difficulty in starting to do things.
- \_\_\_ 264. I am entirely self-confident.
- \_\_\_ 267. When in a group of people I have trouble thinking of the right things to talk about.
- \_\_\_ 304. In school I found it very hard to talk before the class.
- \_\_\_ 305. Even when I am with people I feel lonely much of the time.
- \_\_\_ 321. I am easily embarrassed.
- \_\_\_ 337. I feel anxiety about something or someone almost all the time.
- \_\_\_ 338. I have certainly had more than my share of things to worry about.
- \_\_\_ 343. I usually have to stop and think before I act even in trifling matters.
- \_\_\_ 357. I have several times given up doing a thing because I thought too little of my ability.
- \_\_\_ 361. I am inclined to take things hard.
- \_\_\_ 362. I am more sensitive than most people.
- \_\_\_ 369. Religion gives me no worry.
- \_\_\_ 375. When I am feeling very happy and active, someone who is blue or low will spoil it all.
- \_\_\_ 382. I wish I could get over worrying about things I have said that may have injured other people's feelings.



- \_\_\_\_ 383. People often disappoint me.
- \_\_\_\_ 390. I have often felt badly over being misunderstood when trying to keep someone from making a mistake.
- \_\_\_\_ 394. I frequently ask people for advice.
- \_\_\_\_ 397. I have sometimes felt that difficulties were piling up so high that I could not overcome them.
- \_\_\_\_ 398. I often think, "I wish I were a child again."
- \_\_\_\_ 408. I am apt to hide my feelings in some things, to the point that people may hurt me without their knowing about it.
- \_\_\_\_ 443. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.
- \_\_\_\_ 487. I feel like giving up quickly when things go wrong.
- \_\_\_\_ 488. I pray several times every week.
- \_\_\_\_ 489. I feel sympathetic towards people who tend to hand on to their griefs and troubles.
- \_\_\_\_ 509. I sometimes find it hard to stick up for my rights because I am so reserved.
- \_\_\_\_ 531. People can pretty easily change me even though I thought that my mind was already made up on a subject.
- \_\_\_\_ 549. I shrink from facing a crisis or difficulty.
- \_\_\_\_ 544. If I were an artist I would like to draw children.
- \_\_\_\_ 564. I am apt to pass up something I want to do when others feel that it isn't worth doing.

# Dependency Portion of D-I Scale

Code Number.....

Hospital Number.....

PLEASE CIRCLE THE NUMBER THAT BEST MATCHES  
HOW YOU WOULD DESCRIBE YOURSELF PRESENTLY,  
IN EACH OF THE FOLLOWING STATEMENTS.

Presently, this statement best describes me:  
1 2 3 4 5  
not at a little moderately fairly very  
all well well

1. I put my arm around my friends, pat them on the back, or hold hands when we are conversing.
2. I ask my friends to hold my hand, or reach out to hold hands when I am upset or in pain.
3. I reach out for my friend's or loved one's hand when we are walking together or are alone.
4. I feel comfortable when someone I am close to reaches out to hold my hand or pat me on the back when we are conversing.
5. It makes me feel better when a friend or loved one reaches out to hold my hand when I am upset or in pain.
6. I feel comfortable when someone close to me puts an arm around my shoulder or holds my hand when we are walking together.
7. I sit near my friends or stay close to them when we are watching TV, going on walks together, or even when we are involved in different things.
8. I ask my friends or loved ones to stay with me or sit near me when I am depressed, upset, or in pain.

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

	Presently, this statement best describes me:				
	1	2	3	4	5
	not at all	a little	moderately	fairly well	very well
9. I call my friends on the phone, or, invite them over to visit.	1	2	3	4	5
10. I am soft-spoken.	1	2	3	4	5
11. I tell people that I am close to that their friendship means a lot to me.	1	2	3	4	5
12. I carry pictures of my family or friends in my wallet, and look at the pictures when I am lonely or depressed.	1	2	3	4	5
13. I call people by their first names, even when I don't know them well.	1	2	3	4	5
14. It makes me sad when my friends have to leave, and I will ask them if they can stay a little longer.	1	2	3	4	5
15. I stand out in a crowd because of my manner of dress or appearance.	1	2	3	4	5
16. I speak loudly, to the point that sometimes people ask me to lower my voice.	1	2	3	4	5
17. I do or say things just to see if it will shock people.	1	2	3	4	5
18. I say hello to people that pass me in the street or hallways even though I don't know them very well.	1	2	3	4	5

Presently, this statement best describes me:

1	2	3	4	5
not at all	a little	moderately	fairly well	very well

19. I ask for extra services when I am in a restaurant or other places that provide customer service, such as a beauty parlor, barber shop or hospital.
20. I like to have other people help me make decisions, and will ask for advice or suggestions.
21. I accept decisions made for me by others, or follow advice offered.
22. I wonder aloud when I'm with people I know, saying things like, "I wonder what the results of my test will be...whether I'll get that promotion..."
23. I ask for reassurance from others by saying things like, "Do you think I look all right?"
24. I find myself describing my difficulties at length to friends.
25. When I just don't feel like doing some things for myself, even though I am able to, I'm relieved when someone offers to help me do these things.
26. I ask people I'm close to if they would do things for me, even though I could do it myself, such as getting me some aspirin for a headache.

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

Presently, this statement best describes me:

1	2	3	4	5
not at all	a little	moderately	fairly well	very well

27. I tell people about accomplishments that close friends or family members have made.

1	2	3	4	5
---	---	---	---	---

28. I tell people about accomplishments I have made.

1	2	3	4	5
---	---	---	---	---

29. I try to help people, either by involvement in community projects or by offering direct assistance, especially when I am given recognition or praise for my efforts.

1	2	3	4	5
---	---	---	---	---

30. I do what is expected of me rather than complain, because people don't like a complainer.

1	2	3	4	5
---	---	---	---	---

31. I compare myself to others, and tell people that I did or can do a better job than the other person.

1	2	3	4	5
---	---	---	---	---