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Cardiac Rehabilitation: Client's Perceived Adequacy of Education Related to Adjustments Following Myocardial Infarction

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CARDIAC REHABILITATION: CLIENT'S PERCEIVED ADEQUACY OF EDUCATION RELATED TO ADJUSTMENTS FOLLOWING MYOCARDIAL INFARCTION

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ABSTRACT

CARDIAC REHABILITATION:
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Heart disease significantly impacts the lifestyles of clients. Psychosocial difficulties such as anxiety, depression, marital and family conflict are documented in the literature. Various methods and aspects of adjustment have been studied to assist the client with adaptation to changes in exercise, diet, weight reduction and smoking.

This descriptive study used a correlational design to investigate the relationship between the client's perceived adequacy of cardiac rehabilitative education with post-discharge fears and adjustments. Thirty clients participating in a cardiac rehabilitation program completed a self report questionnaire regarding level of preparedness in the areas of exercise, diet, work/activity, sexual functioning, and social changes. Two to three weeks post discharge, clients were mailed self-report questionnaire measuring levels of fears and adjustments.

It was hypothesized that clients with a perceived higher level of preparation would experience fewer fears and adjustments during the post-discharge period. Scores from both instruments were examined for a correlational relationship. Analysis of the data revealed the hypothesis was supported.

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Chapter 1

INTRODUCTION

Coronary artery disease currently affects approximately 6 million people in this country. In 1984, 978,000 Americans died from heart disease. This figure accounts for fifty percent of deaths from all causes. Nineteen percent of those deaths occurred before age 65. Developments of new technology and interventions have caused the mortality rate from myocardial infarction (MI) to decline. More people than ever before are surviving a coronary insult and returning to society. In 1984, 700,000 clients were discharged from hospitals with the diagnosis of acute myocardial infarction (Goldsmith, 1986).

Problem Statement

Survivors of myocardial infarction must make many physical and psychological adjustments during the rehabilitation period. Clients return to their homes often in a weakened condition with instructions to dramatically alter their life-styles. Many of them do not recover full potential because of physiological, psychological or sociological complications. Because of psychological factors, some do not return to work although physically able to do so. Anxiety and depression are often more disabling than medical complications. Loss of productivity is an important concern to the clients as well as to society.

Increased disability compensation and increased use of medical professional services is a significant cost factor. The client's own loss of self-esteem and perhaps financial need contribute to anxiety and depression. Although many clients and families experience severe distress or marital dysfunction, few clients seek counseling or assistance.

Cardiac rehabilitation programs have provided instruction to clients as a means of reducing anxiety and stress related to life-style changes, exercise tolerance, and social adjustment. Information on diet, exercise, smoking cessation, medications and sexual activity is provided. These programs have been shown to provide an effective and inexpensive method of secondary prevention. Groups receiving cardiac rehabilitation have shown a lower rate of reinfarctions, fewer uncontrolled hypertensives, and fewer smokers (Hedback, Perk, & Perski, 1985).

However, little information is available as to how clients perceive the adequacy of their rehabilitative education. Clients may or may not feel adequately prepared to cope with the emotional and social obstacles they must overcome. They may not know when and how to seek professional guidance and support if needed. Some common concerns and problems of clients may be addressed by hospital and rehabilitative personnel prior to discharge, and some may not. The client may or may not feel prepared to return to his or her previous role in society.

This investigation focused on the following issues:

(1) Common sources of fears and adjustments in the immediate post-discharge phase of recovery for clients with first-time myocardial infarction.

(2) Clients' perception of the adequacy of the rehabilitative education they receive.

(3) The relationship between the client's perception of the adequacy of preparation and the extent of fears and adjustments.

This study included clients' feelings of preparedness in relation to physical activity, psychosocial adjustments, sexual functioning and prescriptive changes regarding recurrence of symptoms. Fears and adjustments in the areas of physical activity, psychosocial adjustments, sexual functioning and prescriptive changes as related by the client were correlated with perceptions of preparation in those areas.

Chapter 2

Review of the Literature

Cardiac rehabilitation literature relating to educational needs, compliance, psychosocial issues, social support and activity tolerance was reviewed. Recent literature indicates that, to be effective, cardiac rehabilitative education must incorporate objectives which meet clients' needs. Professionals have identified the needs of clients during convalescence from myocardial infarction but little attention has been given to what clients perceive as important.

Moynihan (1984) conducted a study with seventeen cardiac rehabilitation clients via mailed questionnaire to assess myocardial infarction clients' self-perceived educational needs. Findings indicated clients found their instruction to be generally "sporadic" in nature. Boogard (1984), utilizing a semi-structured interview, compared the rehabilitative process of a group of ten males and a group of ten females according to physical activity, psychosocial aspects and family relationships. Several major differences between men and women were identified. Women began household activities one week post discharge but waited a longer time-span than men to return to work or sexual functioning. Families tended to overprotect men more than women and men experienced fewer "guilt" feelings than women did during the rehabilitative period.

McMahon, Miller, Wickoff, Garrett and Ringel (1986) studied one hundred and forty-one post-myocardial infarction clients from five different institutions. Utilizing the "Health Intention Scale" and the "Health Behavior Scale" the authors found that, although intentions for medical adherence were strong during hospitalization, a decline in behavior was noted in home, work, sports and social situations. The authors indicated a further need for investigations to determine which factors interfere with the prescribed regimen as MI patients return to a "normal" life. McMahon et al. (1986) also found clients returning home to be preoccupied with health, low work motivation, work and social stressors and negative attitudes toward life.

A British study of twenty-four discharged post-MI clients found unwarranted emotional distress, anxiety and depression in at least half of the clients (Wishnie, Hackett, & Cassem, 1971). Eleven felt totally unprepared for the physical limitations experienced and nine wished they were back in the hospital. Chief complaints of these clients were irritability, lack of structure in their lives and families' overprotection.

Dracup, Meleis, Baker and Edelfson (1984) found similar recurring themes. Sixty-two couples in four cardiac centers in Southern California participated in a family-focused cardiac rehabilitation program over a three-year period. Eighty-eight percent of the respondents indicated anxiety and depression three months after hospital discharge. Low

self-esteem, marital and sexual dysfunction along with psychosomatic symptoms were identified up to one year following myocardial infarction.

Hemodynamic studies of ten post-myocardial clients were preformed to evaluate their response to activities of daily living (Alteri, 1984). Measurements of vital signs and electrocardiogram tracings were documented after specified intervals of showering, stair-climbing and walking. Heart rates returned to resting baseline more quickly after stair-climbing (seven minutes) and less quickly after showering (thirty-minutes). Alteri found clients to be unprepared for the extreme weakness and resultant depression following myocardial infarction. She indicated recent emphasis on exercise and increased exercise tolerance may negate the client's need to rest and sleep in order to alleviate the fatigue and resultant frustration. Alteri concluded that exercise with appropriate rest intervals should be stressed during rehabilitation.

Over-protection by the spouse was a recurring theme in several studies. Wives especially tended to intervene if they felt their husbands were incapable of performing an activity. This often led to interpersonal friction and family stress. Twenty-five cardiac rehabilitative clients were given early exercise testing and then compared with routine exercise tested clients as to self-perception and subsequent physical activity. The clients with earlier

testing perceived themselves to be less ill and returned to routine activities more quickly (DeBusk et al., 1985).

Taylor, Bandura, Ewart, Miller and DeBusk (1985) studied thirty post-MI clients and their wives by dividing them into three groups for a treadmill exercise program. The average age of the clients was 52 $\pm$ 9 years. The first group of ten wives observed their husbands walk for three minutes on a motor-driven treadmill. The second group of ten wives did not observe their husbands perform on the treadmill. The last group of ten wives both observed their husbands' performance on the treadmill and participated themselves in the three-minute exercise. All groups attended post-exercise counseling sessions in which couples were informed of the husband's exercise capacity. Data were gathered via twelve self-efficacy scales which were completed before, immediately after exercise, and after counseling. Both the husband and wife participated from all three groups. Findings indicated that wives who performed the exercise along with their husbands felt their husbands to be stronger than those wives who only observed the training.

Capabilities of returning to work were studied by Nagle and Gangola (1971). One hundred fifteen clients who had been employed at the time of the MI were examined four months later at an out-patient clinic. Although clients ranged in age from 35-65 and were considered physically capable of returning to work, approximately half of this group had returned to work. No psychological testing was performed but

client complaints of anxiety and depression were recorded along with physician assessment of overt anxiety. Anxiety and depression were identified as major contributors preventing clients from returning to work. More recent studies (Greenland & Briody, 1984; Moynihan, 1984) indicate a higher percentage (77-80%) of clients who return to work.

Another study examined the psychological hazards of cardiac recovery (Wishnie, Hackett & Cassem, 1971). Twenty-four clients (18 males and 6 females) provided data through tape-recorded interviews from three months to one year following MI. Twenty-one clients rated themselves as anxious or depressed. In ten instances family members added "unstable" to describe the client's behavior. Pre-morbid tendencies of teeth grinding, foot and finger tapping were exacerbated. Twenty-three clients reported frustration with decreased activity at home, fifteen experienced serious sleep disturbances and 18 developed family conflicts related to wives' overprotection.

Neill et al. (1985) studied 100 post-MI clients over fourteen months and found the clients' own perception of cardiovascular status seemed to play an important role in functioning. Motor driven treadmill exercise-testing was done along with a self administered questionnaire measuring how frequently clients carried out a variety of activities over a previous week. No relationship was found between exercise capabilities and resumption of former roles and

responsibilities. Those physically capable of returning to work might have chosen early retirement or other options for non-medical reasons. The client's own perception of limitations varied for different activities.

Social support has been shown to contribute a positive effect on long-term compliance. Bramwell (1986) studied one hundred thirteen women who had participated in group cardiac rehabilitation discussion and information sessions along with their husbands. Data were collected over a ten-month period by semi-structured interview techniques. The families whose wives participated in discussion sessions reported more positive psychological adjustment than those in which only husbands participated.

Friis and Armstrong (1986) summarized the literature relating social support and coronary heart disease. Recurrent factors identified included quantity versus quality of support, satisfaction of support and intimacy and frequency of contact. A related study (Hilbert, 1985) lacked data to support a relationship between social support and compliance by myocardial infarction clients. The study involved 60 male clients and their wives. The men provided self-reports regarding their compliance and women provided estimates of their husbands' compliance. The authors indicated many husbands perceived their wives' involvement as non-supportive and that further studies are needed before conclusions can be drawn.

Another study (Holm, Funk, Christman, Reitz, & Ashley,

1985) involving both myocardial infarction clients and post-cardiotomy clients, found health beliefs, clients' satisfaction, and self-motivation strongly related to social support. Forty-one clients completed self-reports regarding severity of illness and general health motivation. The authors found that clients' perceptions of recurrence of coronary artery disease were negatively related to social support and self-motivation.

Cardiac rehabilitation has not shown a decrease in the mortality or morbidity among its participants (Hedback, 1985; Peterson, 1983, Stern, Gorman & Kaslow, 1983). Post-infarction participants do however, demonstrate a healthier life-style and greatly improved exercise tolerance (Giese, 1986; Oldrige, 1986). Naughton (1985) reported that anxiety and depression as measured by the Minnesota Multiphasic Personality Inventory were generally decreased compared to those who didn't participate in a rehabilitation program. An enhanced sense of well-being following cardiac reconditioning was also documented by lower levels of circulating catecholamines (Naughton, 1985). But cardiac rehabilitative education tends to focus on the prescriptive aspect of life-style changes and possibly not enough on the personal and emotional adjustments that must be made. A clinical study of 48 cardiac surgery clients over two years indicated that most of the clients felt well prepared for recovery in the areas of exercise, activities to avoid, and possible recurrence of

symptoms. Up to 40% of the clients, however, felt inadequately or poorly prepared in the areas related to sexual functioning, possible emotional reactions and changes in how others treated them (Stanton, Jenkins, Savageau, Harken, & Aucoin, 1984).

Summary and Implications for the Study

A review of the literature indicates that psychosocial variables play an important role in the post-myocardial infarction recovery period. Anxiety, depression, marital and sexual dysfunction, sleep disturbances and difficulty with other adjustments have been identified. Studies have included primarily post-myocardial infarction clients from ages 35-65 during the first year following infarct. Almost all studies included some type of physiological measurement of functioning along with self-report or interview techniques. Many studies included spouses and/or families of the client.

Very little information is available on clients' perceptions of their rehabilitative education, particularly as it pertains to emotional and social adjustments. Cardiac rehabilitation programs include information on psycho-social aspects of adjustment, but it is unclear as to whether that information prepares the client for post-discharge recovery. Clients' perceptions of how rehabilitative education meets their needs is an area for further investigation.

Chapter 3

Conceptual Framework

Orem's nursing theory of "self-care" provides a framework for nurses assisting clients in the cardiac rehabilitative process. Orem defines "self-care" as "learned behaviors that purposely regulate human structural integrity, functioning and human development" (Orem, 1985, p 36). Nursing intervenes when a "self-care deficit" exists -- "the relationship between the action that individuals should take and the action capabilities of individuals for self-care" (Orem, 1985, P. 38).

According to Orem, nursing systems can be "wholly compensatory", "partially compensatory" or "supportive-educative" (Orem, p. 38). The supportive-educative system best describes nursing's role in assisting the cardiac client to adjust to an altered life-style. Orem states the supportive-educative system applies to "situations where the patient is able to perform or can and should learn to perform required measures of externally or internally oriented therapeutic self-care but cannot do so without assistance" (Orem, p. 156). The nurse's role in supporting and educating the client occurs throughout his or her hospitalization, but upon discharge the client alone must manage his or her care. Many unexpected adjustments must be made leading to unanticipated decisions. Extreme weakness and feelings of depression further complicate the situation. Clients, many

accustomed to full-time employment, find themselves at home for several weeks with spouses who may be overly protective. Any deviation from the expected recovery pattern may cause the spouse and/or client to worry. Questions may arise that the client feels are too insignificant with which to "bother" the physician. Uncertainty over self-care decisions can lead to marital friction and stress. Fear of "doing the wrong thing" may immobilize the client in decision-making regarding his or her care. A self-care deficit develops -- the client feels unable to manage his or her care. Assisting clients in anticipating difficult situations and preparing them to manage those situations with confidence must be done prior to hospital discharge. Clients may look forward to discharge without realizing how different their life-styles may be during rehabilitation. During hospitalization health-care workers are readily available to answer questions and concerns, but the client might not realize what questions may arise once he or she must follow the prescriptive changes necessary for successful rehabilitation.

This study identified the areas of recovery which require more significant adjustments. It was anticipated that common areas of worry and concern would emerge. It was assumed that addressing areas of common concern prior to discharge would avert unnecessary fear and provide the client with information and confidence to increase the ability to perform self-care. Clients who perceived their

rehabilitative education as preparing them to perform self-care would likely experience fewer fears regarding their home adjustment period. Likewise, clients who perceived their rehabilitative education as not preparing them to perform their own care would likely find it difficult to make decisions regarding self-care. Clients who could perform self-care were likely to experience more fears and experience a more difficult home adjustment.

Hypothesis

Specifically, this study tested the following hypothesis:

> The higher the level of perceived adequacy of rehabilitative education in specific areas, the lesser the degree of fears and adjustments following myocardial infarction.

Operational Definitions

Cardiac Rehabilitative Education referred to in this study is the Phase I Cardiac Rehabilitative Program provided through a 529-bed midwestern hospital. The program includes classes and materials regarding diet, exercise, risk factor modification, stress and sexuality.

Perceived adequacy of education is the client's perception of the adequacy of the Cardiac Rehabilitative Education Program, Phase I, at this midwestern hospital. Perceived adequacy was measured by the client's score attained on the Preparation for Recovery instrument.

Fears are the self-reported concerns clients experience such as death, complications of heart disease and treatment, sexual functioning and psychosocial issues. Fears were measured by the Home Questionnaire, Fears and Adjustments Scale, questions 1-15.

Adjustments are the self-reported life-style changes clients experience in regard to travel, activity, retirement, losing weight and smoking cessation. Adjustments were measured by the scores clients attain on questions 16-28 of the Home Questionnaire.

Chapter 4

Methods

Design

A descriptive correlational design was chosen for this study. Clients completed a Likert-type self-report instrument on Preparation for Recovery 1-2 days prior to hospital discharge. Two to three weeks post-discharge, clients were mailed a Likert-type self-report instrument for completion. The Home Questionnaire focused on "fears" (concerns or worries) clients experience as well as difficulty with adjustments in life-style. The relationship between the client's score on the Preparation for Recovery and the score on the Home Questionnaire was examined.

The two major variables in the study were: (1) the client's perceived adequacy of rehabilitative education and (2) the client's fears and adjustments following myocardial infarction. Extraneous variables identified for the purposes of this study were age, previous health status, obesity, smoking history, previous education, work environment (if employed), and social support. Information regarding extraneous variables was obtained on the demographic data sheet (see Appendix C).

Study site and subjects

Research was conducted at a mid-size acute-care hospital in Western Michigan. The study was approved by the Nursing Research Committee of the hospital and the University Human Subjects Review Board. Subjects were recruited from a list of participants in the Cardiac Rehabilitation Program. This group provided an excellent non-probability convenience sample because the clients had experienced nearly similar hospitalization progression and standardized rehabilitative instruction. Clients participated in the Phase I Cardiac Rehabilitative program of the hospital. Classes and written material regarding diet, exercise, risk factor modification, stress and sexuality were provided. Clients followed an established exercise pattern with minor variations for age and tolerance. Hospital stay was generally 7-10 days for this group with progression from intensive care to intermediate care to medical-surgical care. Cardiac rehabilitation nurses met with clients on an individual basis early in the program and prior to discharge to answer questions and concerns.

Subjects met the following criteria:

(1) First-time myocardial infarction

(2) English speaking

(3) Able to read and write English

(4) Between ages 25-75

(5) Subjects who had received interventions with percutaneous, transluminal coronary angiography (PTCA) and/or streptokinase infusion were included in the study if cardiac damage had been documented by Creatinine Pnosphokinase (CPK) isoenzyme measurement (greater than 4% m.b. elevation)

(6) Subjects who had experienced open-heart, PCTA, or streptokinase interventions on prior admissions were included if this were the first admission in which cardiac damage was documented by CPK isoenzyme measurement (greater than 4% m.b. elevation).

(7) Clients who had participated previously in a cardiac rehabilitation program were not included.

Addresses for home mailings were obtained from the clients at the time consent for participation in the study was obtained.

Instruments

Two instruments were used for this project: the Preparation for Recovery Questionnaire (see Appendix B), and the Home Questionnaire (see Appendix C). Both tools are self-report, Likert type instruments that yield scores to be used as interval data. The instruments were used with permission of the authors (Babette Stanton, and C. David Jenkins, Boston University Medical Center). The authors developed the Fears and Adjustments Scale and patient education questions for use in a study of 248 clients

recovering from major heart surgery (Stanton, et al., 1984).

A reliability factor of r = .90 multiple correlation value was reported (Stanton et al., 1984, p. 526). In developing this instrument the authors surveyed post aorto-coronary by-pass clients regarding fears and difficult adjustments following hospital discharge. The clients were also asked to prioritize fears and adjustments as to severity and frequency of the fear or adjustment. From these data Stanton and Jenkins developed the instrument based on the fears and adjustments most frequently cited by the participants. Cardiac rehabilitative personnel from the Phase I program also indicated the instrument reflected frequently expressed fears and adjustment concerns of the recovering MI client. This instrument seemed an appropriate means to examine the clients' own views of functional status. For this study minor revisions of the instrument were made along with added questions about smoking and weight loss as suggested by the authors.

The Preparation for Recovery Questionnaire (see Appendix B) solicits information regarding preparation for physical activity (questions 1 and 3), sexual functioning (question 4), prescriptive changes in life-style (question 2), psychosocial adjustments (questions 5 and 7), and decisions regarding recurring symptoms (question 6). The response scale on the Preparation for Recovery Questionnaire is as follows: 5, very well prepared; 4, well prepared; 3, fairly

well prepared; 2, poorly prepared; 1, very poorly prepared. A response of 5, very well prepared, was assigned a score of 5 points. A response of 4, well prepared was assigned a score of 4 points, etc. The maximum number of points (or score) for the Preparation for Recovery tool was 35 points. The lowest possible score was 7 points. A higher score indicated a more positive perception of preparation than a lower score. All of the respondents answered all of the questions on the "Preparation" instrument. A percentage score was assigned based on a maximum possible score of 35 points. For example, a client answering all "fairly well-prepared" responses, the third category, (3 points each) earned a score of 21/35 or 60%.

The Fears and Adjustments Scale includes questions in these five categories as well: physical activity, questions 4,10,16,20,22,24,25,26; sexual functioning, question 9; prescriptive changes, questions 11,19,21,27,28; psychosocial adjustment, questions 5,6,7,8,16,17,18,23; recurring symptoms, questions 2,3,12,13,14,15. The response scale for the Fears and Adjustments Scale is as follows: 3, frequently; 2, sometimes; 1 rarely; 0, never; NA, not applicable. The maximum number of points (or score) possible on the Fears and Adjustments Scale was 84 points. The lowest possible score was 0. A higher score indicated more frequent occurrences of fears and adjustment concerns than a lower score. The authors included the first question referring to finances based on a pilot study done to identify those concerns most

common to post-discharge cardiac clients. Concerns about paying medical bills were the most commonly cited fear. Authors of the Fears and Adjustments Scale indicated financial concerns to be an important issue related to post-cardiac fears. For the present study this question was retained for purposes of maintaining the tool intact, but for this study financial concern was treated as an extraneous variable. For this study the "Fears and Adjustments Scale" was labeled "Patient Home Questionnaire" when mailed to clients' homes. The name "Fears and Adjustments" might have held negative connotations for the client and a less value-laden title was selected.

Questions 1-15 on the Home Questionnaire related to "fears", questions 16-28 refer to "adjustments" in life-style. A total score for the Home Questionnaire was assigned by calculating a percentage score based on the number of questions the participant had answered. If a question was left blank the total percentage score was based on fewer questions. Also an item identified as "not applicable" was omitted when calculating the percentage score. The number of points "earned" was divided by the number of possible points (dependent on the number of questions answered).

Procedure

A list of subjects who met the criteria of the study was obtained from the cardiac rehabilitative nurses who co-

ordinated the Phase I program. Clients were approached in their hospital rooms where the researcher explained the purpose and the procedure for the study. The researcher emphasized the voluntary nature of the study and provided a verbal explanation along with the written consent form for the client's consideration, (See Appendix A). Clients who chose not to participate were identified by code and their reason(s) for non-participation were recorded. For clients who chose to participate, consent was obtained. The principal researcher witnessed the informed consent signature and provided the client with a copy.

The client then completed the Preparation for Recovery Questionnaire and the demographic data sheet. This process took approximately 15-20 minutes. Next, the researcher explained that the follow-up questionnaire would be mailed to the client's home in approximately 2-3 weeks. This questionnaire required 10-15 minutes of the client's time.

Clients' anonymity was protected by use of coded questionnaires and coded demographic data. Code books with names and addresses were stored separately from the questionnaires. Initial meetings were conducted in clients' hospital rooms with only the client and researcher present unless the client requested the spouse or significant other to be present. All clients requested the spouse remain in the room while they completed the questionnaire.

Questions and concerns raised by the client were answered by the researcher. Problems that the researcher was

unable to address were referred to staff nurses, cardiac rehabilitation personnel and/or the physician. A record of questions clients introduced was kept along with the researcher's response. These data are reported along with results of the study.

A self-addressed stamped envelope was included with the home mailing for clients' responses. The researcher mailed a follow-up reminder letter (see Appendix F) if the Home Questionnaire was not returned within 10-14 days.

Chapter 5

Results

Characteristics of Subjects

Forty three candidates were first time myocardial infarction victims and met the requirements for this study. Referrals to the study were made by cardiac rehabilitation nurses over a four month period. Four of these candidates were discharged on the fourth hospital day, earlier than the researcher anticipated, thus being lost to the study. Of the thirty nine remaining candidates, one female refused to participate since she had been newly diagnosed as an insulin requiring diabetic and felt she could not "concentrate on more than one thing at a time". Thirty eight candidates readily consented to participate in the study and completed the Preparation for Recovery questionnaire within one to two days of anticipated hospital discharge. Of the thirty eight clients completing the Preparation for Recovery instrument, only thirty completed the second requirement of the study the Home Questionnaire (Fears and Adjustments Scale). Of those eight subjects not completing the second questionnaire, two required open-heart surgery, five did not respond to the Home Questionnaire after reminder letters and one client was deceased as the result of a second myocardial infarction within two weeks. Thirty participants who fulfilled all criteria for the study and who completed both questionnaires within the appropriate time frame were included in the study.

Cronbach's alpha was utilized to determine a reliability index for internal consistency of both instruments. The Preparation for Recovery instrument consisting of seven questions yielded a reliability coefficient of .8368. The Home Questionnaire (Fears and Adjustments Scale) yielded a reliability coefficient of .9370. The Home Questionnaire is a twenty-eight item instrument.

Age criteria for study participation was 25-75 years. Table 1 illustrates age range for the total group as well as the range for men and the range for women.

Table 1

Age range of subjects

Group	Range	Mean	S.D.
All subjects (N=30)	32-75	55.20	11.84
Men (N=19)	32-70	51.10	-----
Women (N=11)	43-75	59.29	-----

Ethnic background was predominantly white. Two participants were black and one subject specified "other" identifying his background as Sicilian.

Educational background was varied. Fifteen of the subjects had a partial college education. Eight had completed high school; five had a partial high school education while two respondents completed grades 7-9. Table 2 shows the educational levels of the participants.

Table 2

Education Level of Subjects

Educational Level	Subjects	Percent
Fewer than 7 years of school (grades 1-6)	0	--
Junior high school (grades 7-9)	2	6.7
Partial high school (grades 10-11)	5	16.7
High school (completed 12th grade)	8	26.7
Partial college education (3 years or less	15	50
College education (4 years)	0	--
Beyond 4 years of college	0	--

Data regarding occupational categories indicated the majority of respondents were laborers, clerks or technicians. The next largest group, by occupation, were involved with business and/or management. No participants listed professional positions (ie. law, health professions, education, etc.) as an occupation. No one identified herself or himself as unemployed, although one participant left this category blank. Table 3 reports the occupational categories of the respondents.

Table 3

Occupational Categories

Category	Frequency	Percent
Labor/clerk/technician	10	33.30
Business/management	8	26.70
Homemaker	6	20.00
Retired	5	16.70
Missing data	1	3.30

Table 4 gives the annual income per household of the respondents. The majority of respondents fell in the two categories $5,000 - 24,999 and $25,000 - 49,000 respectively. Seven clients elected not to report that information, although categories were broad and non-specific.

Table 4

Annual Income of Subjects' Households

Level	Frequency	Percent
Less than $5,000.	2	6.70
$5,000 - 24,999	8	26.60
$25,000 - 49,999	10	33.30
More than $50,000	3	10.00
Missing data	7	23.30

Living situations and social support systems varied among the group as illustrated in Table 5. Social support was closely related to living arrangement. Seventy percent of the participants lived with a spouse or a spouse and children. Seventy percent identified their spouse as the person to provide them with the most support during their recovery.

Table 5

Living Situation and Social Support

Response	Frequency	Percent
Situation		
With spouse and children	11	36.70
With spouse	10	33.30
Alone	5	16.70
With children	2	6.70
Other	2	6.70
Social Support		
Spouse	21	70.10
Child/Other family	6	19.90
Neighbor	2	6.70
Missing data	1	3.30

Twenty-five of the thirty clients (83.4%) reported no previous indication of heart disease. Four clients, however,

(13.3%) had experienced a cardiac catheterization prior to this hospitalization for first-time myocardial infarction. One client (3.3%) reported a history of open-heart surgery 10 years prior to this admission. None of the clients with previous indications of heart disease reported receiving cardiac rehabilitative education prior to this hospital admission.

Pre-admission health maintenance practices were self-reported, specifically weight control, smoking, and regular exercise. As indicated by clients, 33.3% of the subjects were overweight, 43.3% were smokers and 63.3% participated in no form of regular exercise. Subjects also indicated self-perception of previous health status on a four point scale: excellent, good, fair or poor. Table 6 demonstrates clients' self-perception of health status prior to myocardial infarction.

Table 6

Health Status Prior to MI

Scale	Frequency	Percent
Excellent	9	30.00
Good	14	46.70
Fair	5	16.70
Poor	2	6.70

Table 7 demonstrates the frequency of various medical interventions employed with this client population. All clients received a cardiac catheterization at some point during their hospitalization. The next most frequently used intervention was percutaneous transluminal coronary angioplasty (PTCA), commonly referred to as balloon dilatations. Eleven subjects had successful dilatations and coronary circulation was re-established although cardiac muscle damage was demonstrated by a rise in CPK isoenzyme greater than 4%. Two subjects experienced unsuccessful dilatations in which coronary blood flow was not re-established. One subject experienced an unsuccessful dilatation, but, when the intervention was repeated, coronary flow was re-established. Tissue plasminogen activator (TPA) was utilized with eight of the thirty subjects. No participants in the study received streptokinase.

Table 7

Medical Interventions this Admission

Intervention	Yes	No
Cardiac Catheterization	30	-
Percutaneous Transluminal Coronary Angioplasty (PTCA)	11	16
-unsuccessful	2	-
-repeated successful	1	-
Tissue Plasminogen Activator (TPA)	8	22
Streptokinase Infusion	-	-

Analysis of the Research Hypothesis

The hypothesis that the higher the level of perceived adequacy of rehabilitative education in specific areas, the lesser the degree of fears and adjustments following myocardial infarction was supported. ($r = -.3491$, $p = .029$).

Pearson's correlation coefficient was applied using a computerized SPSSX statistical package. Scores achieved on the Preparation for Recovery instrument were correlated with scores achieved on the Home Questionnaire (Fears and Adjustments Scale). The correlation coefficient describes the magnitude and direction of the relationship between the test scores of the two variables. The mean score for the Preparation for Recovery instrument was 64.53% with a standard deviation of 20.14%. The mean score for the Home Questionnaire (Fears and Adjustments Scale) was 46.33% with a

standard deviation of 23.17%. Therefore, it can be concluded that a correlation was established between clients' perceived adequacy of rehabilitative education and the degree of fears and adjustments following myocardial infarction.

Figure 1 depicts the relationship between the percentage scores of the Preparation for Recovery instrument with percentage scores of the Fears and Adjustments scale by means of a scatter-plot representation.

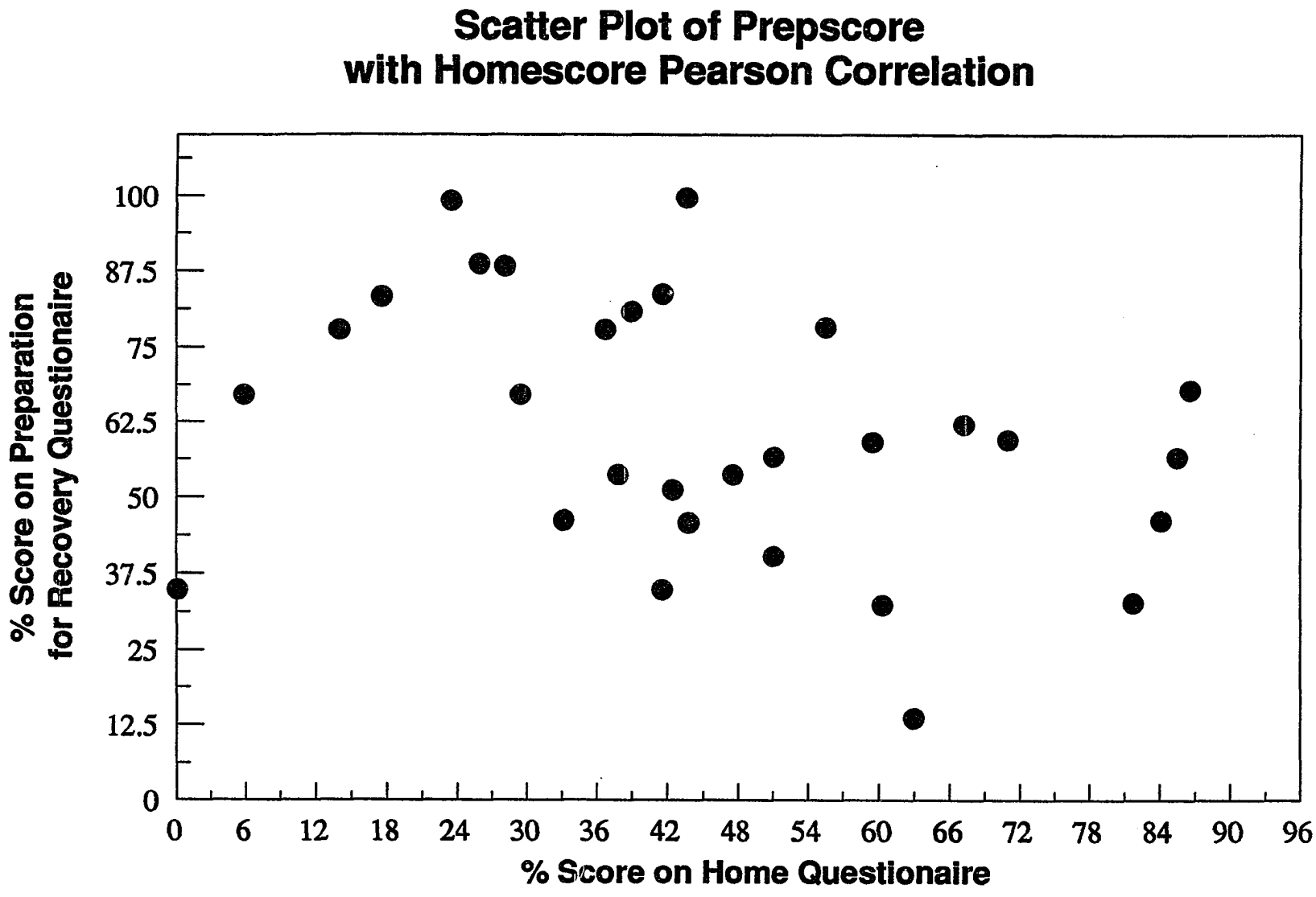
Scatter Plot of Prepscore
with Homescore Pearson Correlation
% Score on Preparation
for Recovery Questionaire
100
87.5
75
62.5
50
37.5
25
12.5
0
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
% Score on Home Questionaire

figure 1

Other variables in the study (physical activity, psychological adjustments, sexual functioning, prescriptive changes and recurring symptoms) were examined for a correlational relationship using Spearmans Rho, non-parametric correlation. Questions from each instrument were grouped according to applicable topic content. Responses for each grouping were correlated between the Preparation for Recovery instrument and the Fears and Adjustments scale. For example, responses for questions related to physical activity on the Preparation instrument were correlated with responses to questions regarding physical activity on the Home questionnaire. The purpose in examining individual topics was to note any specific areas which might have a strong relationship. Spearman's Rho was used to examine the relationships between similar concepts on the questionnaires. Responses from each of the seven questions of the Preparation for Recovery instrument were correlated with responses relating to that particular topic on the Fears and Adjustments Scale. Some areas showed significant correlation.

Exercise was an area in which no significant correlation was demonstrated. However, the preparation question "things to avoid doing" was correlated with Fears and Adjustments Scale responses regarding "limiting activities", "having no energy" and "overexertion". Table 8 demonstrates the relationship between these concepts.

Table 8

Non-parametric correlation: Things to avoid doing

		(Fears and Adjustments Scale)		
		Limiting Activities	Having no energy	Overexertion
Things to	r=	-.3338	-.3277	-.3214
avoid doing	p=	.036	.039	.042
(Preparation Scale)	N=	30	30	30

Responses to the preparation questions "When I should return to work" were correlated with fears and adjustments related to limiting activities, having to slow down and how people will react to the clients' heart condition. This correlation showed a slightly stronger relationship as reported in Table 9.

Table 9

Non-parametric correlation: Return to work

		(Fears and Adjustments Scale)		
		Limiting activities	Having to slow down	How people will react
Return to	r=	-.3817	-.5884	-.4497
work	p=	.023	.000	.009
(Preparation Scale)	N=	28	28	27

The preparation question regarding return to sexual functioning was correlated with fears and adjustments questions regarding heart problems during intercourse, physical or emotional abandonment by the spouse, and becoming dependent on the spouse. Of the four areas correlated with the return to sexual functioning only one area indicated a significant relationship. Of the twenty-five respondents answering that question (five respondents marked "not applicable") a correlation was established between preparation for returning to sexual functioning and the fear of having problems with the heart during sexual intercourse ($r= -.438$, $p= .014$).

No significant correlations were identified between the preparation questions regarding "possible emotional reactions" and fears or adjustments relating to the concept. Also no correlation was found between the preparation question "changes in how others might treat me" and fears or adjustments relating to that concept.

Another area of significant correlation for this study was between the preparation question of "possible symptoms and what to do about them" and "having complications from medications ($r= -.515$, $N= 29$, $p= .002$). The more prepared a client indicated he or she was on the Preparation for Recovery instrument in relation to "possible symptoms and what to do about them", the lower the clients Fears and Adjustments related to complications from medication.

Chapter 6

Discussion and Implications for Nursing Practice

Summary of Results

The research hypothesis was supported. Some of the variables examined in this study (psychosocial adjustments, sexual functioning, and recurring symptoms) also showed significant correlations between perceptions of predischarge preparation and post discharge fears and adjustments.

Discussion

Although the relationship identified in this study was not as strong as one might suspect, the client's perceived level of preparation does impact his or her post discharge level of fears and does facilitate adjustment. Issues most impacted by preparation were returning to work, returning to sexual functioning, activities to avoid, and complications from medications. All of these issues in some way relate to resumption of the clients' previous life styles. Information given to clients prior to hospital discharge in these areas does impact home adjustments.

During the course of this study a new outpatient education program was instituted, and some of the clients (14) participated. It is unclear what effect this may have had on clients post discharge fears and adjustments. Clients who were having regular contact with the cardiac rehabilitative team may have scored poorly on the

Preparation for Recovery instrument but experienced a lower level of fears and adjustment from the education received on an outpatient basis.

The participants of the study were well educated with a strong base of social support. Seventy percent of the clients lived with their spouses and identified their spouse as the person to help them most with recovery. Almost all clients identified someone to assist them with recovery from the myocardial infarction. It might be possible that a strong support system could lower fears and make adjustment less difficult. Since the group was generally well educated, it is possible that these clients knew how to obtain information from the health care system should fears and concerns arise.

All but one client approached for this study agreed to participate. Many clients expressed satisfaction at being asked their perception of preparedness for self-care. Several clients wrote comments on the Home Questionnaire (Fears and Adjustments Scale) such as "yes" or "all the time". There was no consistency however as to question or topic for which comments were written. The high response rate and willingness to participate indicated home adjustment is of concern to the clients.

Implications for Nursing Practice

Orem's nursing theory of "self-care" was utilized as a conceptual frame work for this study. The supportive-

educative aspect of nursing care can impact the client's ability to manage his or her own care. Clients who perceive themselves to be better educated regarding recovery issues experience fewer fears and can approach resumption of previous activities with greater confidence. Clients can be prepared to anticipate adjustment difficulties and be given information to manage those situations when they arise.

The education of the myocardial infarction client by the nurse can affect the client's self-care ability. But with limited hospital stays, restricted resources, and the client's need to rest following myocardial infarct, it is difficult for the nurse to find opportunity for client (and spousal) education. Several clients indicated the numerous pamphlets and booklets of information that had been studied but indicated a feeling of helplessness at recalling the correct information at the appropriate time. Almost all clients were adjusting to the idea of having a cardiac event and relived, through the discussion with the researcher, the circumstances surrounding the myocardial infarction. Retention of information presented in some instances was poor and was remembered by the spouse and not the client. Some spouses verbalized frustration with the client's answer of "poorly prepared" and indicated the cardiac rehabilitation staff had covered the topic in detail.

One male participant was heavily sedated when first approached. His wife suggested returning the following day

since the "tranquilizers" were being decreased. The client was alert and eager to participate the following day. Fatigue was another frequent situational factor. Many clients related weariness from frequent nursing assessment (including being awakened during the night) along with the number of medical and paramedical visits by various staff members. Clients' time was monopolized by visits from physical therapists, dieticians, nurses, rehabilitative personnel, and physicians. This researcher had to revisit clients 3-4 times over the course of a day in order to find twenty minutes in which to explain the study and obtain consent for participation. One client stated, "I'm so busy here I don't have time to eat!"

It might be concluded that anxiety, sedation and fatigue are factors that hinder or inhibit client learning in the acute care setting. Clients may be able to learn the material presented but may have difficulty with retention due to the volume of material presented in a short time span.

Other clients may have perceived themselves to be better prepared due to various factors. One client verbalized, "The nurses and doctors here really know what they are doing, I must be well prepared to go home". Another client indicated the nurse had "spent a lot of time with me" and gave herself scores of "very well prepared".

Overall, clients did not report a high level of fear or concern about home adjustments as indicated by the Home Questionnaire (Fears and Adjustments Scale). A contributing

factor to lower scores may have been the number of medical interventions (PTCA, TPA, cardiac catheterization) performed during the hospitalization period. All clients received cardiac catheterization, and 63.4% received other interventions as well. Clients may have perceived the heart problem to be corrected and not experience concern over adjusting to a cardiac condition. Several clients who received the interventions of PTCA (Percutaneous transluminal coronary angioplasty) or TPA (Tissue plasminogen activator) discussed with the researcher how these interventions had greatly decreased or precluded damage to their hearts. Several clients stated they would have no adjustments to make since they "really didn't have a heart attack". These responses may have implications for nursing since clients who perceive themselves as being "fixed" may not recognize the need for changes in life style unless they understand the physiology of heart disease and risk factor modification.

Limitations of the Study

Sample size may have been a hindrance to demonstrating a strong correlation between the variables of this research project. Some participants scored very low on both questionnaires indicating they felt poorly prepared and had no fears and adjustments. A larger sample size may have offset the effects of those scores.

The participants of the study were mostly white, middle-

class, well educated, with strong social support. A larger group with a varied ethnic background and differing social support systems may produce different results. The psychological status and perhaps religious beliefs may have affected results. Two clients verbalized that their situation was "in God's hands" and this external locus of control may have affected results. An instrument to measure personality traits would have been useful for this study. Other information for validation of preparation would be a test to measure retention of information presented by rehabilitative personnel.

The time frame of this study was too confined. Much of the information given to clients occurred just prior to discharge, particularly, how much to exercise, when to return to work, and which medications would be continued at home. Several clients indicated their physicians had not discussed the topic of returning to work in spite of several questions and concerns of the client about work. Some clients stated the topic would be discussed prior to hospital discharge and had been told by their physicians "not to ask" when they would be allowed to return to work. Clients frequently answered the question regarding return to work as an area in which they felt poorly prepared. Some clients discussed the anxiety this situation created for them. Others assumed the physician might insist they take an early retirement since the topic of returning to work had not been discussed.

The "Home Questionnaire" (Fears and Adjustments Scale) was mailed 2-3 weeks after discharge. Most clients had not yet returned to work or a normal social pattern until 6 weeks post infarction. A 2-3 week time-frame was chosen for measuring post-discharge adjustments since this has been documented in the literature as a stressful time with factors such as spousal over protection, anxiety and family conflict. Major concern of clients seemed to relate to adjustments to previous activities. As clients had not yet resumed those activities, a better time frame for the administration would be between six to eight weeks post myocardial infarction.

Recommendations for Future Research

This study should be repeated with a larger sample size. The information obtained from the clients should be greatly expanded. A cognitive test should be administered to elicit information regarding clients' retention of rehabilitative material. This information could be correlated with the client's perception of preparedness to validate that measurement. A personality profile may be of help in identifying the coping patterns of clients and perhaps quantify that variable. The time frame of the study should be expanded. The Preparation for Recovery instrument should ideally be presented with or after discharge materials for a more accurate measurement of preparation. The Home Questionnaire (Fears and Adjustment Scale) should be

presented at approximately six weeks post infarctions, when clients are resuming a more usual activity schedule.

An interesting aspect of the client interview was the need to discuss the events surrounding the myocardial infarctions. The clients in the younger age category seemed eager to discuss the situation in detail with the researcher and to identify why they had experienced a heart attack. Identifying coping mechanisms of the younger MI client might provide useful information to care-givers.

A measurement of compliance might also be utilized for this study. Clients who must make more changes in lifestyle might experience more fears and difficulty with adjustments than those who must make only minor changes. Clients who are not complying with a prescribed regimen are less likely to experience adjustment difficulties since few changes in lifestyle are being made.

Conclusion

Heart disease impacts the lifestyles of clients significantly. Prescriptive changes in exercise, diet, smoking cessation and occupational factors often require major life adjustments. Psychosocial difficulties such as anxiety, depression, marital and family conflict are documented in the literature. Various methods and aspects of adjustment have been studied to assist the client with adaptation. This study identified a relationship between clients' perception of preparedness for discharge and post discharge fears and adjustments. An inverse correlational

relationship was identified; the higher the perceived level of preparation for discharge, the lower the level of fears and adjustments following hospital discharge. The areas identified as potentially having the most impact in client teaching are related to activity, return to work, sexual functioning and knowledge of medications. The study needs to be repeated with additional data collection, altered time-frame and a larger sample size.

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Appendix A

CLIENT CONSENT FORM

I would like your help in conducting a study involving the adjustments heart attack patients make when returning home. I am interested in knowing how well prepared you feel to resume your previous activities. My goal is to improve care to patients with cardiac problems.

No extra cost will be added to your bill should you participate. I know of no detrimental effects of this study.

A nurse researcher will ask you to complete a questionnaire prior to your discharge. This will take approximately 15-20 minutes. A follow-up questionnaire will be mailed to your home 2-3 weeks later. The questionnaire requires another 10-15 minutes. Participation in this study is voluntary and refusal to participate will not affect your care.

You are free to withdraw from this study at any time without penalty. Confidentiality and anonymity will be maintained by coding of information. For your protection this study has been approved by the Human Subjects Review Board of Grand Valley State College.

Appendix A Con'd

Your signature below signifies that this study and your participation have been explained to you and that you freely consent to participate. A copy of the results of this study will be provided for you if you so desire.

_____

Mary E. Flikkema RN

Signature _____

Date _____

I would like to be informed of the results of this study.

_____Yes _____No

I would be willing to be contacted regarding further studies.

_____Yes _____No

Appendix B

Code # ____ (1-3)

Preparation for Recovery: Client Questionnaire

Soon you will be going home. Most people have some feelings regarding the information they have about their heart attack. Below are some questions about things you may do or experience when you return to your usual activities. Please indicate how you feel about the amount of information you have regarding the following areas.

Put a circle around the number that best describes how well prepared you are to deal with the following issues:

	Very Well Prepared	Well Prepared	Fairly Well Prepared	Poorly Prepared	Very Poorly Prepared
____ (21) 1. How much exercise I should do	5	4	3	2	1
____ (22) 2. Things I should avoid doing	5	4	3	2	1
____ (23) 3. When I should return to work	5	4	3	2	1
____ (24) 4. When I should return to sexual functioning	5	4	3	2	1
____ (25) 5. Possible emotional reactions I might experience	5	4	3	2	1
____ (26) 6. Possible symptoms and what to do about them	5	4	3	2	1
____ (27) 7. Changes in how others might treat me	5	4	3	2	1

Appendix C Code #_____ (1-3)

Below are a few questions concerning yourself and your background. Please respond to the best of your ability by filling in the blank or by circling the response that best describes you.

_____ (4) 1. Sex
a) Male
b) Female

_____ (5-6) 2. Age:_____

_____ (7-8) 3. Ethnic Background:
a) White
b) Black
c) Hispanic
d) American Indian
e) Other_____

_____ (9) 4. Total Annual Income: (Family or Household)
a) Less than $ 5,000/year
b) $ 5,000 - $24,000/year
c) $25,000 - $49,000/year
d) More than $50,000/year

_____ (10) 5. Level of Schooling Completed:
a) Fewer than seven years of school (grades 1-6)
b) Junior High School (grades 7-9)
c) Partial High School (grades 10-11)
d) High School (Completed 12th grade)
e) Partial College Education (3 years or less)
f) College Education (4 years)
g) Beyond 4 years of college

_____ (11) 6. Has your doctor prescribed a weight reduction diet for you? _____Yes _____No

_____ Was not overweight

_____ (12) 7. Have you been advised to stop smoking?
_____Yes _____No

_____ Did not smoke

_____ (13) 8. Did you exercise regularly prior to your heart attack _____Yes _____No

_____ (14-15) 9. Occupation_____

____ 10. Do you live
(16-17) a) Alone
b) With spouse
c) With family (Spouse and children)
d) With family (Son or daughter)
e) Other (please specify)_____

____ 11. Describe your relationship with the person who will
(18-19) help you with your recovery at home.
(e.g. wife, son, friend, neighbor, etc.)

_____

____ 12. How would you describe your health prior to this
(20) heart attack?
a) Excellent
b) Good
c) Fair
d) Poor

Place a check mark in front of those items which apply to you.

13. On this admission to the hospital I have had

(56) _____ cardiac catheterization

(57) _____ balloon dilitation

(58) _____ streptokinase infusion

(59) _____ (TPA) tissue thromboplastin activator

(60) _____ none of the above

14. Prior to this hospitalization I have had

(61) _____ open heart surgery

(62) _____ balloon dilitation

(63) _____ streptokinase infusion

(64) _____ cardiac catheterization

(65) _____ none of the above

Appendix D

, 198

About two weeks ago you participated in a study on adjustments of heart attack patients. The time has come for you to fill out the second questionnaire for that study. Your willingness to participate is greatly appreciated. Your opinions expressed on the questionnaire are very important to the results of this investigation.

After completing the questionnaire please place it in the enclosed, stamped envelope and mail it at your earliest opportunity.

Thank you again for your invaluable assistance.

Sincerely,

Mary E. Flikkema, RN
Masters Nursing Student
Grand Valley State University

Appendix E

Code # ____ (1-3)

CLIENT HOME QUESTIONNAIRE

PLEASE PLACE A CIRCLE AROUND THE APPROPRIATE NUMBER TO THE RIGHT OF EACH ITEM LISTED BELOW

	Do you have concerns about:	Frequently	Sometimes	Rarely	Never	Not Applicable
____ (28)	1. Paying for medical expenses	3	2	1	0	NA
____ (29)	2. Possiblility of job loss as a result of health conditions	3	2	1	0	NA
____ (30)	3. Not recovering fully	3	2	1	0	NA
____ (31)	4. Having to limit activities	3	2	1	0	NA
____ (32)	5. Having to depend on spouse too much emotionally	3	2	1	0	NA
____ (33)	6. Having to depend on spouse too much financially	3	2	1	0	NA
____ (34)	7. Being emotionally abandoned by spouse	3	2	1	0	NA
____ (35)	8. Being physically abandoned by spouse	3	2	1	0	NA
____ (36)	9. Having problems with your heart during sexual intercourse	3	2	1	0	NA

(go on to next page)

Apendix E Cont'd

Code # ____ (1-3)

		Frequently	Sometimes	Rarely	Never	Not Applicable
____ (37)	10. Over-exertion, possibly causing harm e.g. injuring heart vessels or muscles	3	2	1	0	NA
____ (38)	11. Complications from medications	3	2	1	0	NA
____ (39)	12. Worry about having another heart attack	3	2	1	0	NA
____ (40)	13. Having irregular heart beats	3	2	1	0	NA
____ (41)	14. Dying from heart condition	3	2	1	0	NA
____ (42)	15. Possiblility of having open heart surgery	3	2	1	0	NA
____ (43)	16. Traveling away from home	3	2	1	0	NA
____ (44)	17. How people might react now that you've had a heart attack	3	2	1	0	NA
____ (45)	18. Having problems with sleeping	3	2	1	0	NA
____ (46)	19. Having side effects to medications	3	2	1	0	NA
____ (47)	20. Not having enough energy to do the things wanted	3	2	1	0	NA

(go on to next page)

Appendix E Cont'd

Code # ____ (1-3)

		Frequently	Sometimes	Rarely	Never	Not Applicable
____ (48)	21. Having to limit activities	3	2	1	0	NA
____ (49)	22. Learning to slow down and pace more	3	2	1	0	NA
____ (50)	23. Being overly sensitive and upset over irritating incidents	3	2	1	0	NA
____ (51)	24. Retirement	3	2	1	0	NA
____ (52)	25. Being too eager to return to stressful job	3	2	1	0	NA
____ (53)	26. Feeling need to hurry to make up for lost time	3	2	1	0	NA
____ (54)	27. Difficulty losing weight (if not attempting to lose weight, circle NA, not applicable)	3	2	1	0	NA
____ (55)	28. Difficulty stopping smoking (if not attempting to stop circle NA, not applicable)	3	2	1	0	NA

Appendix F

A few weeks ago you received a home questionnaire for the study I am conducting about adjustments of patients during recovery from a heart attack. If you have already completed and returned it, please accept my sincere thanks. If not, please do so today.

Your opinions and participation are extremely important to the results of this study.

If by some chance you did not receive the questionnaire, or it was misplaced, please call me right now, collect (616) 453-9551 and I will get another one in the mail to you today.

Sincerely,

Mary E. Flikkema, RN
GVSU Masters Nursing Student